



# Training Course: Combined-Cycle Power Plant Efficiency

3 - 7 March 2025 Liverpool (UK)



## Training Course: Combined-Cycle Power Plant Efficiency

Training Course code: SC235205 From: 3 - 7 March 2025 Venue: Liverpool (UK) - Training Course Fees: 5775 🛘 Euro

#### Introduction:

The Combined-Cycle Power Plant Efficiency training program is designed to provide participants with comprehensive knowledge and practical skills in optimizing the efficiency of combined-cycle power plants. This program is intended for professionals working in the power generation industry and those seeking to enhance their understanding of combined-cycle power plant operations.

#### **Target Audience:**

#### This training program is suitable for:

- · Power plant engineers and operators
- · Energy and utilities professionals
- Maintenance and reliability engineers
- · Project managers in the energy sector
- Graduates and students pursuing careers in power generation

#### Objectives:

#### By the end of this training program, participants will be able to:

- Understand the principles of combined-cycle power generation.
- Identify key components and systems in combined-cycle power plants.
- Analyze and optimize the efficiency of combined-cycle power plants.
- Implement best practices for maintenance and reliability.
- Improve safety and environmental compliance in power plant operations.

#### **Outlines:**

#### Day 1: Introduction to Combined-Cycle Power Plants 5 hours

Overview of power generation technologies



- Introduction to combined-cycle power plants
- Basic thermodynamics and efficiency concepts
- · Components of a combined-cycle power plant
- Gas turbine technology and operation

#### Day 2: Steam Turbine and Heat Recovery Steam Generators HRSG 5 hours

- Steam turbine technology and operation
- HRSG design and function
- Combined-cycle process and integration
- · Efficiency calculations and analysis

#### Day 3: Operation and Control of Combined-Cycle Plants 5 hours

- Control systems in combined-cycle plants
- Start-up and shutdown procedures
- Load-following and grid integration
- Troubleshooting common operational issues

#### Day 4: Maintenance and Reliability 5 hours

- Preventive and predictive maintenance strategies
- Condition monitoring and diagnostics
- · Risk assessment and safety protocols
- Environmental compliance and emissions control

#### Day 5: Optimization and Future Trends 5 hours

- Efficiency enhancement techniques
- Combined-cycle plant performance analysis
- Emerging technologies in power generation
- · Case studies and best practices



• Course review and Q&A



### Registration form on the Training Course: Combined-Cycle Power Plant Efficiency

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