€TRAINING

Renewable Energy Systems

29 December 2024 -
2 January 2025
Istanbul (Turkey)
Sheraton Istanbul Levent

Renewable Energy Systems

REF: L1349 DATE: 29 December 2024 - 2 January 2025 Venue: Istanbul (Turkey) - Sheraton Istanbul Levent Fee: 6375 Euro

Introduction:

The Renewable Energy Systems training program educates on implementing and managing various renewable energy technologies. Participants gain practical skills for developing sustainable power systems through theoretical instruction, hands-on demonstrations, and practical exercises.

Program Objectives:

At the end of this Program, the participants will be able to:

- Understand the importance and roles of renewable energy in this modern age.
- Learn how to maximize the natural resources and convert them into renewable energy.
- Understand the components architecture between the solar and wind power generations.
- Create awareness in understanding the types of renewable energy.
- Appreciation of the benefits of harvesting renewable energy.
- Understand the characteristics and operations of each type of renewable energy.
- Explore the suitability of introducing renewable energy generation to your premises.

Targeted Audience:

- Electrical Engineers.
- Maintenance Technicians.
- Management Professionals.
- Project Engineers.
- Transmission Engineers.
- Power Generation Engineers.

Program Outlines:

Unit 1:

Renewable Energy: A Crucial Component of the Global Energy Landscape:

- World energy scenario and place of renewable for energy generation.
- Review of renewable energy technologies.
- Place of PV in the context of the world and its importance.

Unit 2:

Wind Energy:

- Classification of wind turbines.
- Types of rotors.
- Energy extraction from wind.
- Wind power systems.

Unit 3:

Fundamentals of Semiconductors:

- Semiconductors as materials for solar cells.
- Carrier concentration and distribution.
- Generation-recombination processes.
- Continuity Equations.
- PN diodes: introduction to solar cells.

Unit 4:

Design of Solar Cells:

- Upper limits of cell parameters.
- Losses in solar cells.
- Design of parameters for a high-efficiency solar cell.

Unit 5:

Heterojunction, Thin Films, and Other Promising Solar Cells:

- GaAs-based tandem cells.

- Amorphous Si-based thin films.
- CIGS and CdTe based cells.
- Emerging cells.