BOOST
THE LEADING TRAINING PROVIDER

Health, Safety and Environment

Green Energy and Sustainability Masterclass

Course Introduction

This training course is designed to participants with a comprehensive understanding of renewable energy sources and their practical applications through real-world case studies. This course covers a range of green energy technologies, including solar power, wind energy, biomass, hydropower, and geothermal energy. Participants will explore successful green energy projects, analyze their implementation strategies, and learn from the challenges faced during their development. The course combines theoretical knowledge with practical insights from case studies to provide a holistic understanding of green energy solutions.

Target Audience

- Health and Safety Managers
- All professionals use health and safety requirements in their work processes.

Learning Objectives

- Understand the principles and importance of green energy in sustainable development.
- Analyze successful case studies of green energy projects and extract valuable insights.
- Evaluate the technical and economic feasibility of green energy solutions for specific applications.
- Identify the key factors and strategies that contribute to the success of green energy initiatives.
- Identify effective strategies for integrating green energy solutions into existing infrastructure.
- Assess the environmental impacts and benefits of green energy projects.

- Develop a comprehensive plan for implementing green energy initiatives.

Course Outline

- **DAY 01**

  Introduction to Green Energy and Solar Power

  - Overview of green energy and its role in addressing climate change.
  - Green energy and its significance in addressing environmental challenges.
  - Introduction to solar power: technology, types of solar panels, and applications.
  - Solar power system design considerations.
  - Solar power installation and maintenance
  - Key considerations in solar power project development.
  - Technical aspects and challenges in solar energy implementation.
  - Financial analysis of solar energy projects.
  - Government policies and incentives for solar energy adoption

- **Day 02**

  Wind Energy and Biomass

  - Introduction to wind energy:

  types of wind turbines, wind resource assessment, and site selection.

  - Wind energy and its potential
  - Wind farm design and optimization.
  - Wind energy integration into the grid.
  - Biomass energy sources, conversion technologies, and applications.

• Biomass power plant design and operation.

• Environmental considerations and sustainability of biomass projects.

- **Day 03**

  Hydropower and Geothermal Energy

• Hydropower as a renewable energy source.

• Hydropower generation: types of hydropower systems, design principles, and environmental impact assessment.

• Hydropower plant operation and maintenance.

• Micro-hydropower systems and their applications.

• Geothermal energy exploration and utilization .

geothermal power plant design and operation.

• Geothermal district heating systems.

• Introduction to emerging green energy technologies, such as tidal and wave energy.

- **Day 04**

  Energy Storage, Grid Integration, and Grid Management

• Integration of renewable energy into the grid.

• Energy storage technologies: batteries, pumped hydro, and compressed air energy storage.

• Role of energy storage in supporting renewable energy integration.

• Case studies of energy storage implementation.

• Grid management and balancing with intermittent renewable energy sources.

• Grid integration of renewable energy: challenges and solutions.

• Smart grid technologies for efficient energy management.

• Demand-side management and demand response programs.

- **Day 05**

Future Trends and Green Energy Project Planning

• Emerging trends and technologies in green energy.

• Green energy project planning: feasibility studies, financial modeling, and risk assessment.

• Environmental impact assessment and regulatory considerations.

• Case studies of successful green energy projects.

• Developing effective green energy project proposals.

• Future trends and developments in green energy.

• Role of green energy in achieving sustainable development goals.

• Green energy policies and global initiatives.

Confirmed Sessions

FROM	TO	DURATION	FEES	LOCATION
May 4, 2025	May 8, 2025	5 days	4250.00 $	KSA - Al Khobar
July 21, 2025	July 25, 2025	5 days	4250.00 $	UAE - Dubai
Oct. 6, 2025	Oct. 10, 2025	5 days	4950.00 $	Spain - Barcelona