Introduction

- Growing concerns about climate change, carbon footprint, and energy production need clearer understanding.
- The course explores energy production, its environmental impacts, waste management, and global challenges.
- Emphasis on moving toward a low-carbon future and ensuring organizations stay informed about environmental science and energy.

Is Carbon Bad for the Environment?

- Excessive carbon emissions contribute to climate change and global warming.
- The course covers carbon management, activated carbon treatment, and their roles in reducing emissions.
- Prepares participants for challenges in the energy sector and advances in energy production technologies.

Targeted Groups

- Energy Managers
- Facilities Managers
- Environment Managers
- Environmental Representatives

Course Objectives

- Explore various energy production types, their environmental impacts, cost comparisons, and IPCC recommendations.
- Understand sustainability, energy economics, carbon management, and energy efficiency.
- Learn how to calculate carbon footprints and understand waste management and water issues.
- Grasp the significance of global climate change and the importance of integrated waste management systems.

Targeted Competencies

- Knowledge of risk reduction strategies.
- Psychological advantages for employees taking environmental responsibility (UNEP recommendations).
- Understanding of integrated waste management systems and ISO 18001.

Course Content

Unit 1: Types of Energy and Their Relationships with the Environment

- Explore various forms of energy used for electricity production and their environmental effects.
- Understand fossil fuels (oil, natural gas, coal) and alternative sources like geothermal.

Unit 2: Forms of Energy Used for Electrical Production

- Study nuclear, hydroelectric, biomass, wind, fuel cells, and emerging technologies.
- Learn about the combined cycle and electrochemical systems (batteries).

Unit 3: Carbon Footprints

- Examine the carbon footprints of different energy forms used for electricity production.
- Understand environmental risks, health, safety issues, and KPI contributions.

Unit 4: GHGs (Greenhouse Gases)

- Learn about greenhouse gases, sustainability issues, and international environmental treaties.
- Discuss water availability and concepts like water banking.

Unit 5: Climate Change

- Understand climate change, its significance for Gulf Coast countries, and the need for integrated waste management.
- Focus on zero waste, environmental ethics, and the shift to a low-carbon future.