

Applying Renewable Energy: Large-Scale Systems

COURSE OVERVIEW

This course explores the design, implementation, and management of large-scale renewable energy systems. It focuses on integrating renewable energy technologies into existing power grids and infrastructure, addressing technical, economic, and environmental challenges. Participants will gain insights into the latest advancements in large-scale renewable energy projects, including solar, wind, hydro, and bioenergy systems, and learn how to optimize their performance and scalability.

WHO SHOULD ATTEND?

This course is designed to support energy professionals, policymakers, researchers, utility operators, business executives, sustainability advocates, and students aiming for careers in renewable energy. It caters to engineers and specialists working on large-scale projects, government officials influencing energy policies, and academics researching sustainable power systems. Additionally, it provides valuable insights for grid operators, investors in renewable energy, and environmental advocates driving clean energy initiatives.

COURSE OUTCOMES

Delegates will gain knowledge and skills to:

- Understand large-scale renewable energy systems (solar, wind, hydro, bioenergy).
- Assess project feasibility, cost-benefit analysis, and funding.
- Evaluate environmental and social impacts (biodiversity, land use, community).
- Develop strategies for grid integration, smart grids, and energy storage.
- Gain hands-on experience with design and management tools.
- Analyze case studies of successful renewable energy projects.
- Explore future trends and innovations in renewable energy.

KEY COURSE HIGHLIGHTS

At the end of the course, you will understand:

- How utility-scale solar, wind, hydro, and bioenergy systems are designed and deployed
- Technical requirements for grid integration, smart grids, and storage systems
- Tools for modeling energy yield, system performance, and load balancing
- How to conduct feasibility studies, cost-benefit analysis, and ROI modeling
- Key challenges in land use, grid capacity, and environmental permitting
- Real-world project breakdowns—from procurement to commissioning
- The role of hybrid systems, microgrids, and digital controls in future expansion
- Emerging technologies like floating solar, offshore wind, and green hydrogen

All our courses are dual-certificate courses. At the end of the training, the delegates will receive two certificates.

1. A GTC end-of-course certificate
2. Continuing Professional Development (CPD) Certificate of completion with earned credits awarded