

Applying Renewable Energy: Small-Scale Systems

COURSE OVERVIEW

This course focuses on the design, implementation, and management of small-scale renewable energy systems for residential, community, and small business applications. It covers technologies such as solar PV, small wind turbines, micro-hydropower, and bioenergy systems. Participants will learn how to assess energy needs, select appropriate technologies, and integrate these systems into existing infrastructure. Emphasis is placed on cost-effectiveness, sustainability, and practical implementation in real-world scenarios.

WHO SHOULD ATTEND?

The course is designed for professionals, entrepreneurs, and enthusiasts interested in small-scale renewable energy solutions, including engineers, technicians, and system installers working on residential and commercial projects. It also benefits policymakers, sustainability advocates, and community planners involved in decentralized energy initiatives. Researchers, academics, and students studying renewable energy can gain technical and practical insights, while business owners and investors exploring off-grid and distributed energy opportunities will find valuable knowledge on system design, feasibility, and implementation.

COURSE OUTCOMES

Delegates will gain knowledge and skills to:

- Grasp the principles and uses of small-scale renewable energy systems.
- Assess energy requirements and select appropriate renewable energy solutions for various situations.
- Design, size, install, and maintain small-scale renewable energy systems.
- Evaluate the economic and environmental advantages of small-scale renewable energy projects.
- Explore regulatory and policy frameworks that promote small-scale renewable energy adoption.
- Study case studies and best practices from successful small-scale projects around the world.

KEY COURSE HIGHLIGHTS

At the end of the course, you will understand:

- How to design and deploy solar, wind, hydro, and bioenergy systems at small scale
- Sizing tools for matching system output to residential or community energy needs
- Cost-benefit analysis methods for off-grid and distributed setups
- Installation, maintenance, and troubleshooting best practices
- How to navigate local policies and incentives for small-scale projects
- Real-world case studies on rural electrification and community energy hubs
- System integration with batteries, inverters, and hybrid controllers
- Trends in DIY systems, microgrids, and modular renewable tech

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