

# Applying Renewable Energy: Solar Technologies

## COURSE OVERVIEW

This course offers a comprehensive study of solar energy technologies, covering their design, application, and implementation across different settings. Participants will explore photovoltaic (PV) systems, solar thermal energy, and concentrated solar power (CSP). It highlights the technical, economic, and environmental considerations of solar solutions, their integration into current energy systems, and their significance in global energy transitions.

## WHO SHOULD ATTEND?

The course is designed for energy professionals, engineers, and technical specialists involved in solar energy projects, as well as policymakers and government officials shaping renewable energy strategies. It also benefits researchers and academics studying solar technologies, utility operators managing grid integration, and business leaders exploring investment opportunities in the solar sector. In addition, sustainability advocates, environmental consultants, and students pursuing careers in renewable energy can gain valuable insights into solar energy applications, design, and implementation.

## COURSE OUTCOMES

Delegates will gain knowledge and skills to:

- Understand solar energy principles and its role in sustainability.
- Differentiate between photovoltaic (PV), concentrated solar power (CSP), and solar thermal systems.
- Assess the technical and economic feasibility of solar projects, including costs and financing.
- Design and implement solar systems for residential, commercial, and utility-scale use.
- Learn regulatory frameworks, policies, and standards affecting solar energy.
- Evaluate environmental impacts and benefits through life cycle analysis.
- Stay updated on trends, challenges, and innovations in solar technologies.

## KEY COURSE HIGHLIGHTS

At the end of the course, you will understand:

- How PV, CSP, and solar thermal systems work and when to use each
- Key design principles for rooftop, commercial, and utility-scale solar projects
- Tools for sizing, modeling, and optimizing solar system performance
- How to conduct financial and ROI analysis for solar investments
- Standards and codes for solar compliance and grid integration
- How to assess lifecycle emissions and environmental impacts
- Real-world case studies on urban, rural, and off-grid solar applications
- Emerging tech like bifacial panels, perovskite cells, and solar-plus-storage systems

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