

Co-benefits from Artificial Intelligence (AI) in Renewable Energy

COURSE OVERVIEW

This course delves into the impact of Artificial Intelligence (AI) on improving the efficiency, reliability, and sustainability of renewable energy systems. It also highlights the societal and environmental advantages of AI-driven renewable solutions, including lower carbon emissions, job creation, and expanded energy access. By the end of the course, participants will explore how AI technologies like machine learning, predictive analytics, and optimization algorithms enhance cost-effectiveness, energy management, and grid integration. Through case studies, practical exercises, and expert perspectives, participants will also gain a deep understanding of AI's role in accelerating the renewable energy transition.

WHO SHOULD ATTEND?

The course benefits energy engineers, data scientists, and AI specialists applying AI in renewable energy. Project developers and managers who optimize operations with AI, while business leaders explore cost-effective AI solutions. Policymakers who understand AI's role in energy policies, as well as academics, researchers, and students who seek to deepen their knowledge of AI applications. Environmental consultants and sustainability officers can also explore AI's potential to enhance environmental outcomes.

COURSE OUTCOMES

Delegates will gain knowledge and skills to:

- Comprehend key AI concepts and technologies relevant to renewable energy systems.
- Apply AI techniques to optimize renewable energy generation, storage, and management.
- Evaluate the cost reductions, efficiency gains, and operational improvements enabled by AI in renewable energy projects.
- Identify the societal and environmental benefits, such as reduced emissions and expanded energy access, from AI-driven renewable energy solutions.
- Develop strategies for integrating AI into renewable energy projects, addressing opportunities and challenges.
- Discuss data privacy, ethical issues, and barriers to successful AI implementation in renewable energy.
- Stay updated on emerging AI trends and technologies that enhance renewable energy systems.

KEY COURSE HIGHLIGHTS

At the end of the course, you will understand:

- How AI boosts efficiency in solar, wind, and grid systems
- Ways to apply machine learning for forecasting and energy management
- Cost savings and performance gains from AI integration
- Environmental and social benefits—lower emissions, better access, more jobs
- Real-world use cases in smart grids, storage, and predictive maintenance
- Challenges around data privacy, ethics, and implementation barriers
- Future AI trends shaping the renewable energy landscape

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