

Opportunities for Clean Energy and Risk Assessment

Possibilities for Using in a Sustainable Future

Introduction

The success or failure of clean energy initiatives is determined by a number of interdisciplinary factors that are combined in this training course on clean energy opportunities and risk analysis. Gaining this multifaceted information is essential for comprehending investments, future trends, and the global clean energy business. A thorough comprehension of the technical, financial, economic, and environmental elements of renewable energy projects is necessary for their successful implementation and viability.

An overview of resource assessment projects, management procedures, and renewable energy technology is provided in this multidisciplinary training course. For viable, bankable, and competitive clean energy projects, technical, economic, policy, legislation, investment, feasibility, investment, and market environment issues are reviewed and shown. There is also discussion of the various risks that arise throughout funding, construction, commissioning, operation, maintenance, and decommissioning. An outline of the qualitative and quantitative risk analysis and assessment technique is provided along with a discussion of the effects of various risks on project implementation and success. During the initial phases of project feasibility and appraisal, this kind of evaluation is crucial. Market penetration is facilitated by the provision of clean energy's management and technological components. Enhancing system efficiency, production yield, and financial returns all depend on the project development process. Selecting the best technology for a given site and analysing the various project choices are made simple by modelling and simulation tools.

Objectives

Participants in this training course on Opportunities for Clean Energy and Risk Assessment will be able to:

- Get a summary of the various renewable energy technologies and their relative merits.
- Become familiar with international trends concerning energy transition, investments, and implementation of renewable energy.
- Recognise the various policies and programmes that are in place to promote renewable energy technologies.
- Know the procedures for project development and management.

- Learn about the risks, market conditions, investment opportunities, policy, economics, technical, and risk aspects of renewable energy projects.
- Learn the skills necessary to organise and oversee renewable energy projects from inception to completion, including design, contracting, building, commissioning, operating, maintaining, and decommissioning.
- Evaluate the financial viability of renewable energy projects by doing a life cycle assessment.
- Learn how to model and simulate for profitable, successful renewable energy initiatives.

Training Methodology

Participants in this training session on Opportunities for Clean Energy and Risk Assessment will employ a range of tried-and-true instructional strategies. An introduction and a presentation of the main technical ideas will precede each segment. PowerPoint presentations, movies, pictures, actual case studies, and practical exercises are all part of it. Ultimately, a group discussion (Q&A) will take place at the conclusion of each section.

Organizational impacts

The following are direct and indirect benefits that the organisation (developers, contractors, and project owners) of the delegates attending this training course on Opportunities for Clean Energy and Risk Assessment will experience:

- Choosing and sizing Clean Energy systems and components appropriately
- Boosting project income and improving the economic effect
- Proving the organization's reduced carbon footprint has a beneficial environmental impact
- Reducing the risks related to technology, building, funding, and site selection
- Boosting the organization's competitiveness, marketing, and image
- Lowering of running and upkeep expenses

Personal Impact

The following are some of the ways that the delegates to this Course N Carry training session on Opportunities for Clean Energy and Risk Assessment can benefit greatly:

- Become more knowledgeable about the theory and design of sustainable energy initiatives.
- Recognise the hazards involved in the project development process.
- Boost your own technical understanding of O&M procedures and various project risks.
- Become more knowledgeable about project economics and life cycle assessments for various technologies.
- Recognise the regulations and environmental advantages of clean energy initiatives.
- Assistance in professional development and advancement
- Obtain experience with project simulation and boost your own competitiveness.

Who should attend?

A wide spectrum of professionals can benefit substantially from this Course N Carry Opportunities for Clean Energy and Risk Assessment Training Course, but they will especially benefit from:

- Engineers
- Managers
- Traders on Investors
- The economists
- Environmentalists
- Companies that Provide Insurance
- Upper and Middle Level Executives
- Project Owners and Developers
- Advanced Technologists (O&M)
- Financial Establishments

Course Outline

Day 1

Technologies for Renewable Energy

- Potential for renewable energy globally
- Renewable energy resource assessment: trustworthy measurement and modelling
- Pillars of effective strategies and initiatives including renewable energy
- PV (photovoltaic) and solar thermal technologies
- Onshore and offshore wind turbine technologies
- Wave, tidal, geothermal, and biomass energy

Day 2

The State of the World and Upcoming Patterns

- International programmes (such as regional interconnectivity, desert solar breeder, and DESERTEC)
- Scenarios of the energy transition: climatic change
- Production of green hydrogen and ammonia using renewable energy
- Electric-powered transportation
- Mobility of Hydrogen
- Global status, massive projects, and upcoming trends in clean energy investments, industry, innovation, and legislation

Day 3

First Risk Analysis

- Categorization of risks in renewable energy initiatives
- Risks associated with resource assessment: measurement and modelling errors
- Natural hazards
- Technological hazards
- Risks associated with arbitration and conflicts
- Grid hazards associated with the transmission of electricity

Day 4

Second Risk Analysis

- Risks associated with investments and finances
- Risks associated with currency hedging
- Risks of terrorism and political unrest
- Risks to one's health and safety from the environment
- Matrix of risks, their severity, and their frequency
- The Monte Carlo technique for evaluating risks

Day 5

Project Modelling and Feasibility Assessment

- Global outlook for renewable energy investments, industry, and policies
- Elements of a techno-economic feasibility study
- Risks and effects of clean energy project implementation on the environment
- Analysing costs and benefits
- Case studies for viability are simulated using the ret screen and SAM tools.