Renewable Energy & Engineering

Renewable Energy and Challenges

- Location: London
- Date: From 22/9/2025 To 26/9/2025
- Investment: $5950 (Excluding VAT)

LONDON ROYAL ACADEMY

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Course Introduction

This 5-day intensive course delves into the critical challenges facing the widespread adoption of renewable energy technologies and explores innovative solutions to overcome these obstacles. Participants will gain a comprehensive understanding of the technical, economic, social, and environmental hurdles hindering the transition to a sustainable energy future and develop strategies for navigating these complexities.

Training Method

- Pre-assessment
- Live group instruction
- Use of real-world examples, case studies and exercises
- Interactive participation and discussion
- Power point presentation, LCD and flip chart
- Group activities and tests
- Each participant receives a binder containing a copy of the presentation
- slides and handouts
- Post-assessment

Course Objectives

Upon successful completion of this course, participants will be able to:

- Understand the fundamentals of various renewable energy sources: Solar (photovoltaic and thermal), wind (onshore and offshore), hydro (including pumped hydro), geothermal, biomass, tidal, wave, and ocean thermal energy conversion.
- Analyze the technical challenges associated with renewable energy integration: Intermittency, grid stability, energy storage, and grid modernization.
- Evaluate the economic and financial barriers to renewable energy deployment: Levelized cost of energy (LCOE), financing mechanisms, investment risks, and market barriers.
- Assess the social and environmental impacts of renewable energy projects: Land use, wildlife impacts, community acceptance, and environmental justice.
- Understand the policy and regulatory frameworks governing renewable energy development, including feed-in tariffs, renewable energy certificates, and net metering.
- Develop strategies for overcoming the challenges and accelerating the transition to a renewable energy future, such as policy innovation, technological advancements, and public engagement.
- Communicate effectively about the challenges and opportunities of renewable energy to various stakeholders, including policymakers, investors, and the general public.

Who Should Attend?

This course is designed for a diverse audience, including:

- Energy professionals: Engineers, project developers, investors, grid operators, and utility professionals.
- Policymakers and government officials: Those involved in energy policy, regulation, and planning.
- Researchers and academics: Scientists, engineers, and policy analysts working in the field of renewable energy.
- Business leaders and entrepreneurs: Individuals involved in the renewable energy industry or interested in investing in renewable energy projects.
- Environmental scientists and activists: Professionals concerned with environmental sustainability and climate change mitigation.
- Students and educators: Those interested in learning about renewable energy technologies and their role in a sustainable future.

Course Outline

Day 1: Foundations of Renewable Energy Technologies

- Introduction to Renewable Energy Sources: Overview, History, and Potential
- Solar Energy: Photovoltaic (PV) systems, Concentrated Solar Power (CSP)
- Wind Energy: Onshore and offshore wind power, wind turbine technology
- Hydropower: Hydroelectric dams, pumped hydro storage

Day 2: Technical Challenges and Grid Integration

- Intermittency of Renewable Energy Sources: Solar and wind variability
- Grid Integration Challenges: Balancing supply and demand, grid stability, frequency regulation
- Energy Storage Technologies: Batteries, pumped hydro, compressed air energy storage
- Smart Grid Technologies: Enabling the integration of renewable energy

Day 3: Economic and Financial Considerations

- Levelized Cost of Energy (LCOE) and its implications
- Financing Renewable Energy Projects: Debt financing, equity financing, government incentives
- Investment Risks and Return on Investment (ROI) analysis
- Market Barriers and Policy Incentives: Feed-in tariffs, tax credits, net metering

Course Outline

Day 4: Environmental and Social Impacts

- Environmental Impacts: Land use, wildlife impacts, water use, noise pollution
- Social Impacts: Community acceptance, local economic development, job creation
- Addressing Environmental Concerns: Environmental impact assessments, mitigation measures
- Social Equity and Environmental Justice

Day 5: Policy, Innovation, and the Future

- Renewable Energy Policies and Regulations: Global and national perspectives
- The Role of Government in Promoting Renewable Energy Development
- Technological Innovation and Research & Development in Renewable Energy
- The Future of Renewable Energy: Emerging technologies, grid modernization, and a sustainable energy future
- Case Studies and Real-World Examples
- Q&A and Wrap-up Session

Registration & Payment

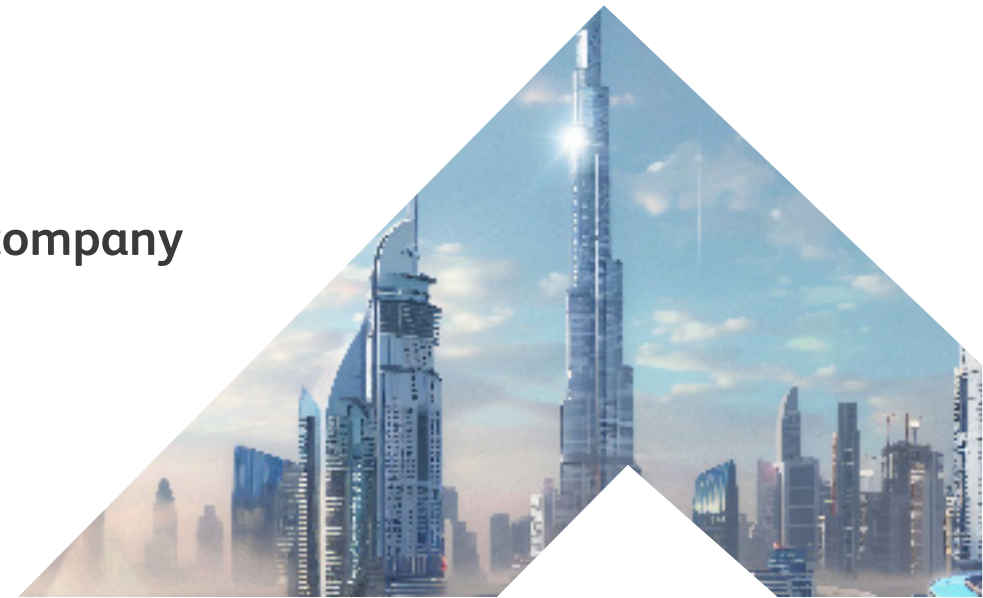
Complete & Mail to London Royal Academy or email registration@londonra.com

Registration Form

- Full Name (Mr / Ms / Dr / Eng) .....
- Position .....
- Telephone / Mobile .....
- Personal E-Mail .....
- Official E-Mail .....
- Company Name .....
- Address .....
- City / Country .....

Payment Options

- ☐ Please invoice me
- ☐ Please invoice my company



Terms & Conditions

Complete & Mail to London Royal Academy or email

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Cancellation and Refund Policy

Delegates have 14 days from the date of booking to cancel and receive a full refund or transfer to another date free of charge. If less than 14 days' notice is given, then we will be unable to refund or cancel the booking unless on medical grounds. For more details about the Cancellation and Refund policy, please visit
www.londonra.com/terms-and-conditions/

Registration & Payment

Please complete the registration form on the course page & return it to us indicating your preferred mode of payment. For further information, please get in touch with us

Course Materials

The course material, prepared by the LRA, will be digital and delivered to candidates by email

Certificates

Accredited Certificate of Completion will be issued to those who attend & successfully complete the programme.

Travel and Transport

We are committed to picking up and dropping off the participants from the airport to the hotel and back.

VENUES

- LONDON
- BARCELONA
- KUALA LUMPER
- AMSTERDAM
- ISTANBUL
- SINGAPORE
- PARIS
- DUBAI

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THANK YOU

CONTACT US

+44 2080898183

info@londonra.com

Mayfair Office:1 Mayfair Pl, 1st Floor,
W1J 8AJ London, UK

City Office :124 City Road,
EC1V 2NX London, UK

Dubai Office :Park Towers,
DIFC Office 7

CH No: 15668865

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