MERCURY

Green Energy and Environmental Technology Conference

16 – 20 May 2027
Muscat (Oman)



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Amman - Jordan: +962 79 712 3347

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Ref: 121725_1074482 **Date:** 16 – 20 May 2027 **Location:** Muscat (Oman) **Fees:** 5500 Euro

Introduction

Green energy and environmental technology represent a critical shift in how modern societies produce and consume energy while protecting natural ecosystems. This Green Energy and Environmental Technology conference explores the integration of renewable energy systems with advanced environmental solutions to address global sustainability challenges. It provides an understanding of clean energy transitions, smart technologies, and sustainable infrastructure development. Participants will examine how innovation supports reduced carbon emissions and improved resource efficiency. The program highlights practical applications across industries, including energy, construction, and urban planning. It strengthens strategic thinking toward a low-carbon and environmentally responsible future.

Targeted Groups

This Green Energy and Environmental Technology training targets professionals seeking knowledge and skills:

- Energy engineers working in renewable and traditional systems.
- Environmental specialists and sustainability officers in organizations.
- Government planners are involved in climate and energy policy.
- Facility and infrastructure managers are responsible for energy use.
- Consultants in green building and environmental compliance.
- Researchers and academics in clean energy technologies.
- Corporate leaders focused on sustainability transformation.

Conference Objectives

Participants will achieve the following objectives by completing the Green Energy and Environmental Technology Conference:

- Understand core principles of renewable energy systems, including solar, wind, hydro, and emerging clean technologies.
- Analyze environmental challenges linked to climate change and develop solutions for carbon reduction.
- Enables evaluation of energy efficiency strategies across industrial and urban environments.
- Learn how environmental technologies support sustainable resource management and reduce ecological impact.
- Gain the ability to assess green infrastructure projects and apply sustainability frameworks effectively.
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Enhances strategic decision-making in energy transition planning and supports the integration of smart technologies into environmental systems.

Targeted Competencies

Participants will gain the following competencies during the Green Energy and Environmental Technology program:
Ability to evaluate renewable energy systems and environmental impact effectively.

- Skills in analyzing carbon footprint reduction strategies across industries.
- Competence in applying green technology solutions for sustainable operations.
- Understanding of environmental monitoring tools and energy performance indicators.
- Capability to design energy-efficient systems aligned with sustainability goals.
- Integrate clean energy technologies into existing infrastructure and planning frameworks.

Studying Scenarios

In this Green Energy and Environmental Technology training, participants develop skills through the following scenarios:

- Assess real-world renewable energy project designs and evaluate their efficiency and environmental impact.
- Analyze industrial energy consumption patterns and propose carbon reduction strategies.
- Optimizing smart building systems to reduce energy waste and improve sustainability.
- Examine environmental risk cases related to pollution and resource depletion.
- Develop solutions for integrating solar and wind energy into urban infrastructure systems.

Conference Content

Unit 1: Foundations of Green Energy and Environmental Technology

- Understanding global energy transition and sustainability concepts.
- Introduction to renewable energy systems and classifications.
- Overview of environmental technology and its applications.
- Examining climate change drivers and ecological impact.
- Fundamentals of carbon footprint and emission sources.
- Relationship between energy consumption and environmental health.
- Key principles of sustainable development in modern industries.

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Unit 2: Renewable Energy Systems and Technologies

- Solar energy systems design and photovoltaic principles.
- Wind energy technology and turbine performance analysis.
- Hydropower systems and sustainable water energy use.
- Biomass energy conversion and biofuel applications.
- Geothermal energy systems and underground heat utilization.
- Emerging renewable technologies and hybrid energy systems.
- Integration of renewable energy into national grids.

Unit 3: Environmental Technology and Monitoring Systems

- Environmental monitoring tools and sensor technologies.
- Air-quality measurement and pollution-control systems.
- Water treatment technologies and wastewater management.
- Smart environmental data collection and analytics systems.
- Waste management technologies and circular economy models.
- Environmental risk assessment and mitigation techniques.
- Use of digital platforms in environmental tracking systems.

Unit 4: Energy Efficiency and Carbon Management

- Principles of energy efficiency in industrial systems.
- Energy auditing methods and performance optimization.
- Carbon management strategies and emission reduction plans.
- Green building technologies and sustainable architecture.
- Smart grid systems and intelligent energy distribution.
- Resource optimization in manufacturing and operations.
- Environmental compliance and sustainability reporting systems.

Unit 5: Policy, Innovation, and Future Energy Trends

- Global energy policies and sustainability frameworks.
- Government regulations supporting the clean energy transition.
- Innovation in environmental technology and green engineering.
- Role of artificial intelligence in energy optimization systems.
- Future trends in renewable energy and smart cities.
- Investment opportunities in green energy markets.
- Strategic planning for long-term environmental sustainability.

Final Insights & Key Takeaways

Green energy and environmental technology form the foundation of modern sustainability strategies across all sectors. Mastery of these concepts enables organizations to transition effectively toward low-carbon and resource-efficient systems.