Emerging Trends & Technologies in Renewable Energy

VIRTUAL WORKSHOP | 26–27 NOVEMBER 2025

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RIT Rochester Institute of Technology of Dubai

OVERVIEW

The renewable energy landscape is transforming rapidly, shaped by ambitious global agreements, regional commitments, and exponential technological progress. This immersive workshop delves into the most critical drivers, innovations, and policy mechanisms shaping the energy transition, offering participants the tools to navigate and lead in this evolving domain.

Set against the backdrop of the COP28 UAE Consensus, national net-zero targets, and breakthroughs in energy storage, digitalization, and circularity, this course provides a strategic and technical lens on the future of renewables.

OBJECTIVES

By the end of this workshop, participants will:

- Understand global and regional energy transformation drivers and their implications.
- Explore frontier technologies in solar, wind, storage, hydrogen, and digital energy systems.
- Analyze financing models, policy enablers, and climate investment mechanisms.
- Apply circular economy principles to renewable infrastructure planning.
- Gain insights into innovation ecosystems and sectoral impacts such as green jobs and clean tech investments.

METHODOLOGY

This highly interactive program combines:

- Expert-led presentations
- Real-world case studies
- Scenario-based group assignments
- Hands-on practical exposure through simulation exercises
- Breakout group activities to reinforce learning and peer engagement

WORKSHOP STRUCTURE

- **Mode:** Virtual Cohort (Live Sessions)
- **Date:** 26 & 27 November 2025
- **Timings:** Start At 09:00 AM – 12:00 PM (GMT+4)
- **Duration:** 5 Hours total | Two sessions/day
- **Breaks:** 30-minute break

WORKSHOP OUTLINE

1. Strategic Context & Energy Transformation Drivers (60 min)

- Overview of global renewable energy growth and COP28 outcomes, including the UAE Consensus on tripling RE capacity and doubling energy efficiency.
- Key regional (GCC) policy frameworks: unified strategy toward net-zero emissions by 2050, with intermediate targets by 2035–2050.
- Economic and geopolitical rationale behind accelerating renewable energy transitions, including diversification of fuel sources and green economy growth.

2. Technology Frontiers & Infrastructure Integration (60 min)

- **Solar & Wind Innovations:**
  - Emerging technologies: floating solar PV, offshore wind, perovskite/organic cells, and BIPV.
  - Large-scale deployment strategies
- **Energy Storage & Green Hydrogen:**
  - Storage systems: solid-state, flow, sodium-ion batteries; gravity/thermal mechanisms.
  - Green hydrogen pathways: pilot projects producing hydrogen via solar electrolysis.
  - Integration of storage solutions in solar-heavy grids
- **Digital & Intelligent Energy Systems:**
  - Smart grid implementation, AI/ML forecasting, digital twins, IoT-based load balancing, and blockchain-led peer trading initiatives.
- **Practical Exposure/Group Activity:**
  - Conceptual design: hybrid storage and hydrogen-enabled solution for a major solar facility or industrial hub.

3. Policy, Finance & Enabling Frameworks (60 min)

- Climate finance mechanisms and PPA models; green bond initiatives and investment vehicles supporting renewable projects.
- Demand-side management strategies for efficiency
- Structuring bankable projects under national frameworks, including independent power producer (IPP) schemes.
- **Breakout Activity:**
  - Drafting a project financing model: designing a solar-wind hybrid or green hydrogen scheme using bond or PPA frameworks.

4. Circular Economy, Sustainability & Resource Stewardship (60 min)

- Lifecycle considerations: recycling of solar panels, wind turbine components, and battery minerals.
- Critical mineral sourcing, reuse strategies, and e-waste policies aligned with circular economy goals.
- Alignment with regional sustainable development frameworks: waste-to-energy projects, desalination powered by renewables.
- **Activity:**
  - Build a lifecycle/circularity assessment template for a renewable infrastructure project.

5. Innovation Trends & Sectoral Impact (60 min)

- Emerging trajectories in clean tech: fusion, artificial photosynthesis, advanced hydrogen systems, carbon capture.
- Innovation ecosystem dynamics: collaboration between governmental, academic, and private-sector accelerators.
- Economic implications: creating green jobs, export potential in hydrogen, and leadership in global clean-tech investment landscapes.

PRICING

- **Price of AED 275 excluding all of taxes.**

WORKSHOP EXPERTS

PROF. GHALIB Y. KAHWAJI

Topic: Strategic Context & Energy Transformation Drivers

Prof. Ghalib Y. Kahwaji is the Director of the Sustainability & Energy Center at the Rochester Institute of Technology of Dubai, with over three decades of academic, research, and industry leadership in energy systems, air conditioning, green buildings, and sustainability. He has held senior roles including Chair of the Mechanical Engineering Department at RIT Dubai, Engineering Manager at TRANSCO (Abu Dhabi Water & Electricity Authority), and academic leadership positions at the University of Mosul. A Ph.D. graduate in Mechanical Engineering from Colorado State University, he has published more than 60 papers on innovative techniques in heat transfer, refrigeration, and sustainable energy systems, winning recognition such as the MENA Green Building Council Research of the Year Award (2022). Prof. Kahwaji has led numerous funded research projects with international and regional partners, established the Sustainability & Energy Center and Positive Zero Lab at RIT Dubai, and contributed to policy-level initiatives including the UAE's SDG-11 Global Council on smart cities. He continues to advance research, teaching, and industry collaboration in sustainability, renewable energy, and climate-responsive technologies, mentoring the next generation of engineers and sustainability leaders.

HENRY FARAROOYI

Topic: Technology Frontiers & Infrastructure Integration
Innovation Trends & Sectoral Impact

Henry Fararooyi is an experienced Energy & Sustainability Consultant with over 5 years of expertise in building energy modeling, sustainable design, and regulatory compliance. He has successfully delivered more than 200 energy models for diverse building types and consulted globally on energy efficiency and sustainable solutions. Henry brings hands-on experience with cutting-edge simulation tools and a deep understanding of international energy codes such as ASHRAE, LEED, NECB, and Title 24. His work spans academic, business, and industrial sectors, with a 100% client success rate. Known for blending technical depth with strategic insights, Henry will guide participants through emerging innovation trends and their real-world impacts across sectors, drawing on case studies and practical examples from his global consulting experience.

WORKSHOP EXPERTS

DR. R. SEETHARAMAN

Topic: Policy, Finance & Enabling Frameworks

Dr. R. Seetharaman, Former CEO of Doha Bank (2007–2022), is a distinguished global banker, economist, and sustainability advocate with over 40 years of experience in finance and leadership. A Chartered Accountant and gold medalist in Commerce, he holds multiple PhDs and honorary doctorates for his contributions to governance, sustainability, and global economics. Recipient of the Pravasi Bharatiya Samman Award and numerous international honors, he established the Seetharaman School of Sustainable Development to advance UN Sustainable Development Goals. He currently serves as an Independent Board Member of L&T Finance Limited and on the Board of Governors at Shri Sharda Institute of Indian Management, while remaining a sought-after thought leader featured on global media such as BBC, CNN, CNBC, and Bloomberg.

CHARLENE NAWAR

Topic: Circular Economy, Sustainability & Resource Stewardship

Charlene Nawar is a seasoned sustainability and impact consultant with over a decade of experience across corporate, academic, and non-profit sectors. She specializes in climate education, ESG, circular economy, and stakeholder engagement, and has delivered impactful training across the GCC. Actively supporting sustainable transformation, Charlene advises on B Corp certification, GRI reporting, and decarbonization strategies. As a Climate Fresk trainer and Masdar WiSER mentor, she brings deep expertise in systems thinking and behavioral change. In this session, Charlene will explore practical frameworks for lifecycle management, e-waste policy alignment, and resource stewardship within renewable energy projects—bridging policy, innovation, and community action to advance Net Zero infrastructure.

FOR REGISTRATION

To proceed individually, click the 'Pay Now' button or scan the QR Code.

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To initiate company registration, kindly complete the nomination form and submit it via email to support@ed-watch.org, ensuring the training name and dates are clearly stated in the subject line.

Nomination Form						
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Note: Please complete the details below if your nomination is through a company.

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Company Address:		

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Designation:	Contact No:	

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