GPECOM 2026

8th Global Power, Energy and Communication Conference

Naples/ITALY

June 3-5, 2026

Special Session on

Resilient and Sustainable Smart Grids for Next-Generation Clean Energy Systems

The rapid global transition toward low carbon and climate resilient energy systems is driving the need for advanced sustainable technologies within electrical infrastructure. Modern power networks are increasingly integrating renewable energy sources such as solar, wind, biomass, and small hydro, while also adopting energy storage, smart grid technologies, and digital intelligence to ensure reliability and efficiency. Decarbonizing electrical infrastructure requires disruptive innovations in generation, transmission, distribution, and consumption patterns. This special session aims to bring together researchers, industry experts, and practitioners to share cutting edge developments, challenges, and solutions that support the design, optimization, and deployment of sustainable energy technologies for a net-zero future. The session encourages contributions on modeling, control, optimization, power electronics, grid integration, and interdisciplinary approaches that accelerate the decarbonization of electrical power systems.

Topics of interest include, but are not limited to:

- Renewable and Sustainable energy resource forecasting.
- Cyber physical systems for low carbon power system planning, optimization and operation.
- Smart grid technologies for decarbonized electrical infrastructure.
- AI, IoT and ML based sustainable energy management systems.
- Sustainable energy storage systems and hybrid energy storage technologies.
- Power electronics applications for high efficiency sustainable energy systems.
- Renewables based micro grids for rural and remote electrification.
- Electric vehicles, charging infrastructure for net zero carbon production.
- Hydrogen production using renewable energy.
- Cybersecurity and resilience in decarbonized smart grids.
- Policies, standards and techno-economic analysis for sustainable energy.
- Waste to energy technologies for municipal and industrial waste management.

Organizer(s):

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Deadlines of the special session:

Full paper submission (maximum 6 pages):	**March 15, 2026**
Notification of acceptance:	**April 12, 2026**
Final submissions due:	**April 26, 2026**

All the instructions for paper submission are included at the conference website.
https://gpecom.org/2026/guidelines/