

2026 IEEE 26th International Conference on Communication Technology

OCTOBER 16-18, 2026

ZHUHAI, CHINA

Special Session 8

Green Networking: Energy-Efficient Design and Optimization

With the rapid proliferation of ICT infrastructure and the impending rollout of 5G-Advanced and 6G networks, the communication technology sector faces an unprecedented challenge in mitigating energy consumption and carbon emissions. This special session, "Green Networking: Energy-Efficient Design and Optimization," is dedicated to advancing sustainable communication paradigms across the protocol stack. It solicits cutting-edge research on novel architectures, algorithms, and optimization frameworks that minimize energy expenditure without compromising network performance, reliability, or quality of service. Topics span from energy-efficient hardware design and sleep scheduling mechanisms to AI-driven network resource orchestration and carbon-aware traffic engineering. We particularly welcome contributions that offer rigorous theoretical models, practical deployment strategies, and cross-layer optimization solutions for next-generation networks. The session aims to foster a collaborative platform for researchers and engineers to address the tension between exponentially growing data demands and the global imperative for environmental sustainability, ultimately paving the way for a carbon-neutral digital ecosystem.



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Topic of Interest

- Energy-Efficient Routing and Forwarding Protocols in Multi-Hop Networks
- AI/ML-Driven Power Management and Dynamic Resource Allocation
- Sleep Scheduling and Duty-Cycle Optimization in IoT and Sensor Networks
- Green Data Center Architectures and Cooling Infrastructure Optimization
- Energy Harvesting and Wireless Power Transfer for Sustainable Communications

- Carbon-Aware Traffic Engineering and Network Load Balancing
- Energy-Efficient Network Virtualization, Slicing, and Softwarization
- Green Edge Computing and Energy-Optimized Task Offloading Strategies
- Cross-Layer Optimization for Low-Power 5G/6G and Massive MIMO Systems
- Carbon Footprint Modeling and Life-Cycle Assessment of ICT Infrastructure

Important Dates

Submission Due:	2026-July 1st
Notification Due:	2026-July 25
Camera-ready Due:	2026-August 10

Submission



Submission Link:

<https://easychair.org/conferences/?conf=icct2026>
(Please choose Special Session 8)