



# 2025 IEEE INTERNATIONAL CONFERENCE ON ENERGY TECHNOLOGIES FOR FUTURE GRIDS #ETFG2025

7-11 December 2025, Wollongong, NSW, Australia

[attend.ieee.org/etfg-2025](https://attend.ieee.org/etfg-2025) ARC Future Grids Training Centre

Challenges, Solutions and Opportunities for Industrial Transformation

## CALL FOR PAPERS

The 2025 IEEE International Conference on Energy Technologies for Future Grids (IEEE ETFG 2025) is a biennial hybrid conference organized by the ARC Future Grids Training Centre in collaboration with Government Organizations, Universities, and Industries in Australia. The conference will provide a forum for researchers, policy makers and industry professionals to share their knowledge and experience in the latest technologies available in modernizing grid infrastructures and energy technologies.

IEEE ETFG 2025 is 100 per cent financially sponsored by the IAS and technical co-sponsored by the IES and the PES. The conference agenda spans 5 days and will offer plenary talks and keynotes featuring insights from industries and global leaders, special sessions, panel discussions, technical paper presentations, tutorials/short courses, as well as exhibitions and showcases.

## CONFERENCE TRACKS

### Future Grid Energy Technologies

- Renewable energy (solar, wind, biomass, wave, fuel-cells)
- Distributed generation
- Energy storage systems (batteries, pump hydro, superconducting, flywheels, hydrogen)
- Virtual power plants and grid integration of small-scale and large-scale renewable resources
- Hydrogen storage to support power grids
- Renewable energy to power electrolyzers
- Black Start Capability of Renewable Power Plants

### Power Electronics for Power Grids

- Power electronics and grid-forming Inverters
- Medium voltage multi-level converters
- Smart solid-state transformers (Magnetic link and bus)
- Smart-grids and micro-grids and Smart meters
- Inductive and conductive power charging
- Power converters for electrolyzers and fuel-cells
- Data driven control for smart inverters
- Hybrid inverters and their controls for grid integration
- Converter Efficiency and Reliability

### Future Grids with Electric Vehicles

- Plug-in Electric vehicles (bicycle, car, bus, train)
- Electric vehicle charging stations
- Impact of electric vehicles to power grids
- Grid infrastructure for hosting electric vehicle fleets
- Hybrid electric vehicles
- Vehicle to grid and vehicle to home
- Hydrogen-powered vehicles
- Utilisation of hydrogen in transportation
- Electric motors for light and heavy electric vehicles
- Electric buses, electric trains, electric aircrafts, and electric ships

### Power and Energy Transformation and Utilisation

- Smart Grids and micro-grids
- Wide area interconnected clean energy highway
- Power grid infrastructure planning
- Supply and demand management and Industrial drives
- Load modelling
- Energy savings and energy efficiency
- Building energy management system
- Distributed control in power systems
- Volt/VAr optimisation, control and coordination

### Power Grid Planning and Operation

- Distribution system operation and control
- Application of AI to power systems
- Advanced optimization techniques, and energy policies
- Complex, resilient and intelligent systems
- Electricity markets and regulatory issues
- Power system reliability and flexibility
- Planning for future power systems
- Advanced protection systems
- Climate change adaptability in energy infrastructure

### Smart Grid Operation and Control

- Smart sensing for smart grids
- Internet of Things (IoT) for smart grids
- Wireless power transfer and Smart grid communications
- IoT for critical energy infrastructure
- Smart grids with renewable energy and energy storage
- Data communications for virtual power plants
- Wireless communication for electric vehicles
- Application of networks, sensor devices and data technologies
- Optical fibre sensors for power applications
- Power quality and reliability for smart grids

## ABOUT WOLLONGONG



Wollongong is a coastal city in Australia, south of Sydney along the Grand Pacific Drive with rich history and beautiful natural attractions. It has beautiful beaches and a dramatic backdrop of green and sandstone of the Illawarra Escarpment and is only 80km away from Sydney Airport.



## AUTHOR INFORMATION

Prospective authors are invited to initially submit their full manuscript (6 pages max) according to guidelines available on the conference website. The presented papers will be published on the IEEE Xplore subject to the IEEE standards and quality check, and will be eligible for further review for publication in IEEE Transactions on Industry Applications and IEEE Industry Applications Magazine. For further information, visit [attend.ieee.org/etfg-2025](https://attend.ieee.org/etfg-2025)

## IMPORTANT DATES

Paper Submission Open 1st October 2024	Paper Submission Closing 1st March 2025	Notification of Acceptance 1st July 2025	Early Bird Registration 1st October 2025
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### Honorary Chairs

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## CONTACT US

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