



**UNSW**  
SYDNEY

## Low Carbon Microgrids: Modelling and Simulation

**Assessment of microgrid concepts using a state-of-the-art real-time simulation suite, capable of modelling and simulating microgrid systems for food hubs. This helps identify unusual behaviours prior to commissioning and thereby reduces risk and uncertainty.**

### Competitive advantage

- Development of microgrids using a wide-range of inverter control systems, conventional rotational generation, and energy storage
- A wide array of modelling capabilities, including conventional RMS, EMTP and transient system modelling
- The most powerful digital simulation laboratory in Australia. UNSW's 18-rack real-time simulator is capable of modelling large- and small-scale microgrids at the finest timescales required for protection and high-speed control systems

### Impact

- The ability to assess microgrid system behaviour in real time
- Reducing the uncertainty and risk in projects through digital simulation

### Successful applications

- Using microgrid simulation and modelling techniques for LECO, the electrical distribution operator in Colombo, Sri Lanka

### Capabilities and facilities

- A state-of-the-art inverter and microgrid test platform
- An 18-rack RTDS real-time simulator
- An OPAL-RT system for high-speed power electronics simulation in real time

### Our partners

- Electranet
- Tasnetworks
- AEMO
- Empower
- Sungrow

### More Information

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