



CSIRO Energy Systems

Accelerating the energy transformation

Kate Cavanagh | 25th October 2022

Australia's National Science Agency





I would like to begin by acknowledging the Traditional Owners of the land that we're meeting on today, and pay my respect to their Elders past and present.





Energy efficiency

Minimum Energy Performance Standard (MEPS) AS/NZS 3823



Large flexible load in Australia





Distributed Energy Resources research capability

Renewable Energy Integration Facility (REIF):

Power grid simulator

Programmable solar PV emulators

Programmable load bank

Domestic and commercial solar inverters (micro & string)

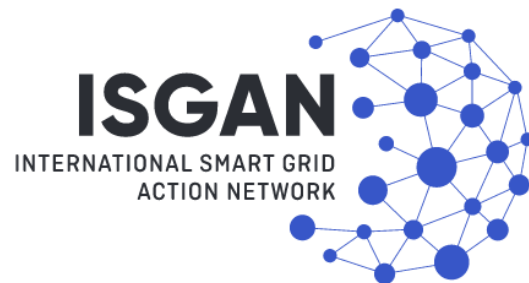
Battery energy storage system

Electric vehicle emulator (EVE)





International Smart Grid Action Network (ISGAN)



Smart Grid International Research Facility Network - SIRFN

Test Protocols for DER Functions

Develop interoperability test protocols for Distributed Energy Resources (DER)

Evaluation of DER devices and test protocols

Adoption of certification protocols by international standards organization

Microgrids Testing

Evaluation of microgrid requirements (on/off-grid)

Definition of microgrid functionalities (on-grid)

Development of testing procedure for microgrid testing

Power System Testing

Interdependencies identification in power system control

Testing approach for holistic system testing

Define requirements for real systems testing

Advanced Lab Testing Methods

Enhanced lab testing & testing methods (Hardware-in-the-Loop)

Creating standardized testing procedures

Establishing novel research areas for real-time / HIL application



Thank you

Energy

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