

SERVICES CURRENTLY OFFERED BY THE INFRASTRUCTURE

Some of the services offered by our facilities are:

The experimental microgrid is used for research and experimental activities which include:

- EC funded projects
- Evaluation and testing of new technologies from manufacturers (i.e. load controllers, inverters, control algorithms, power quality issues)
- Autonomous and interconnected operation of microgrids
- Implementation of demand side and energy management and optimisation scenarios
- Control of components and the complete system local or remote.
- Research activities especially for students working on their doctorate or diploma thesis.

The PV testing lab offers:

- Laboratory testing of PV cells and modules, regarding IV curve and related characteristics as well as
- Outdoor evaluation of performance of PV modules or arrays.
- Long-term PV module testing under real conditions

Testing of inverters consists of:

- Measurement of efficiency curve
- Measurement of power quality of electrical output of inverters
- Testing of inverters regarding requirements for connection to the grid (harmonics, DC injection, anti-islanding protection etc.)

Testing and characterisation of batteries:

- According to standards (Capacity test, Endurance test, cold cranking test etc.)
- According to customised specifications (to simulate the operation of battery in particular conditions)
- Characterisation of various battery technologies

Our department performs also evaluation of solar irradiance potential at sites by installing appropriate equipment and monitoring for specific time duration.



Fig. 1 Measurements of environmental conditions