

# Canadian Solar Microgrid Test Centre



## Microgrid Test Centre (MTC) Facility Core Objective

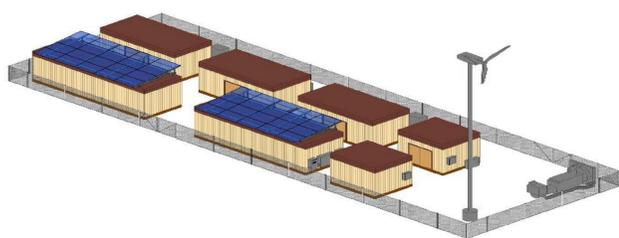
The core purpose of the Renewable Energy (RE) Microgrid Test Centre (MTC) is to provide for effective project development and performance validation tool of optimally designed and engineered high penetration renewable energy (wind and solar PV) resource based microgrid power systems.

### MTC Facility is Constituted of:

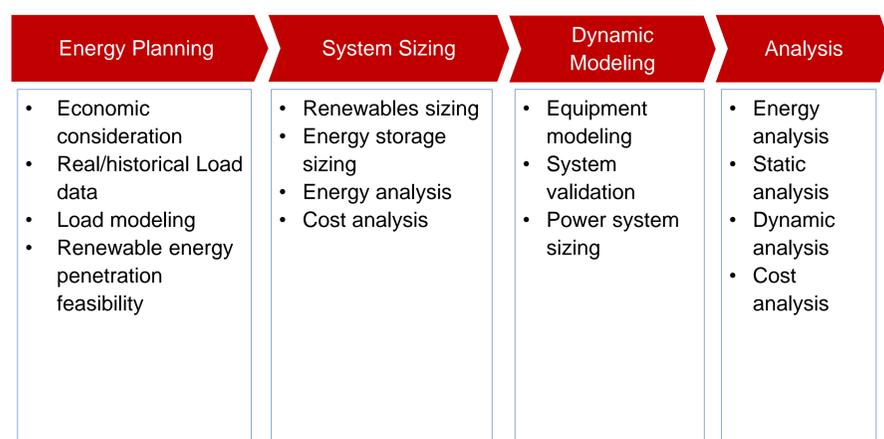
- Multileveled microgrid control system, dynamic and Energy Management System (EMS) levels
- Test bed for 3rd party microgrid control systems evaluations
- Grid and RE resource simulators: Utility grid, PV array and wind turbine simulators
- Energy Storage Systems (ESS): Li-ion battery
- Diesel generator with asset level control system
- Test loads: Capacitor banks, RL loads and EV chargers
- Actual RE resources: PV solar system and wind turbine

## Design Highlights

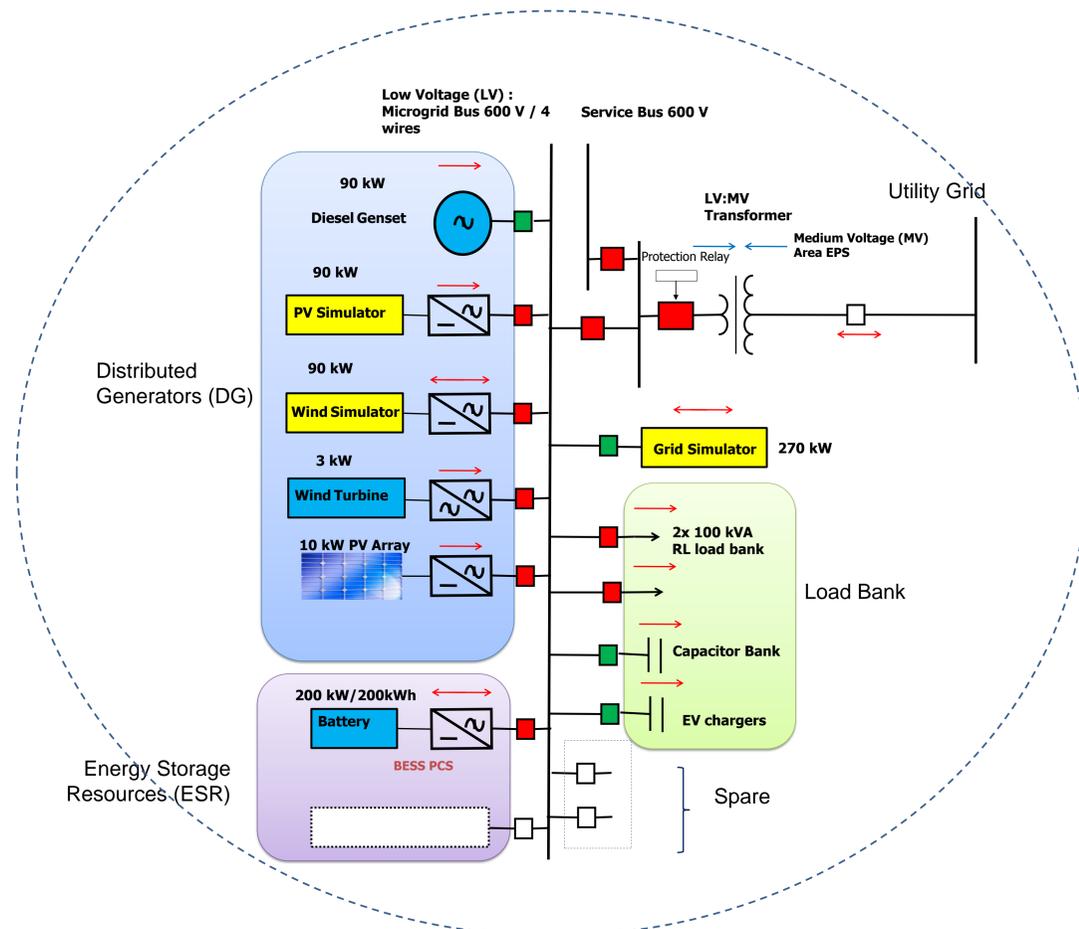
- Containerized design solution for remote project site accessibility demonstration
- Web based remote control and access to performance data of the system testing scenario demonstrations



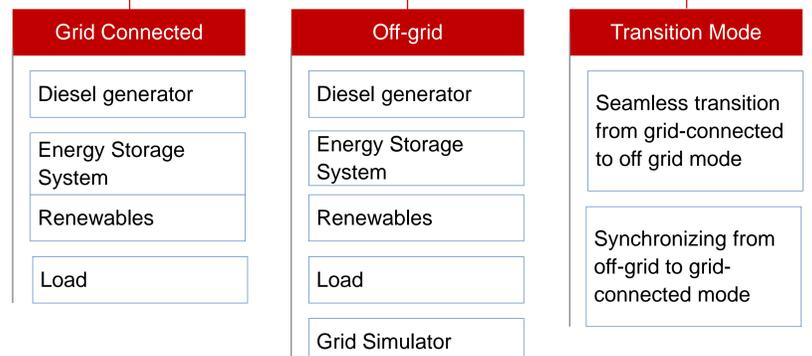
## Software Simulation



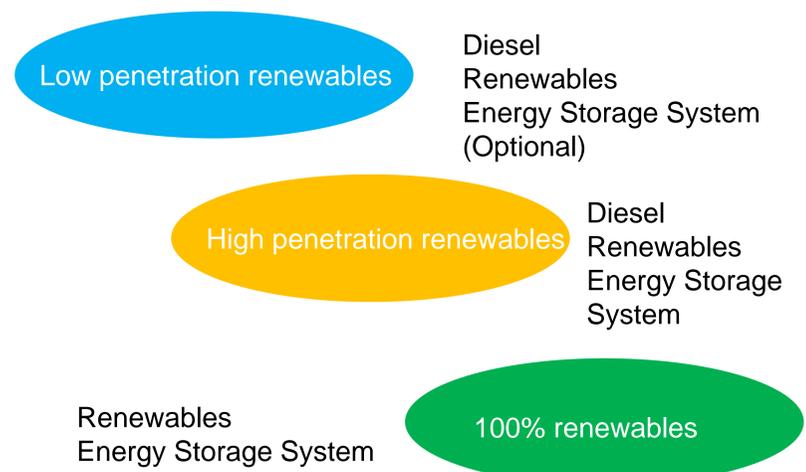
Comprehensive approach for software simulation



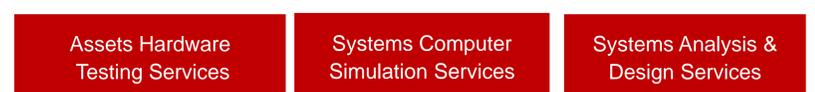
### Mode of Operation



## Allowable Renewable Penetration Levels



## Microgrid Test Centre Services



- Hardware capability and system performance testing
- Power system simulation and analysis
- Project feasibility assessment and system design services

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