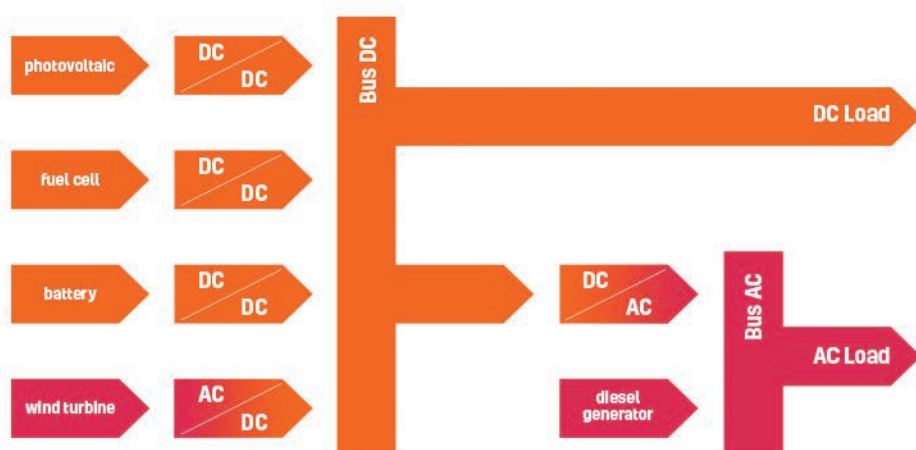


GRES

green renewable energy smartgrid

Kemtecnica builds its success from the Research and Development. We test all of new proprietary developed products, in our laboratories placed in Huelva University facilities (Control and Robotic Team) in Spain. Our Smart Grids prototype has a hierarchical structure. The Smart Grid is capable to generate dozens of kilowatts from several sources and store as chemical energy to be used under any weather conditions. All whole system is controlled and monitored by an unique SCADA software to improve the management of power.

EXAMPLE FOR ISOLATED SMART GRID



Primary Sources

- ▶ PV panels (up to 20 kW) from three different technologies: Mono/Polycrystalline silicon and Thin film.
- ▶ 5 kW wind turbines among vertical and horizontal technologies.

Secondary Sources

- ▶ Battery bank. Over 40 kWh.
- ▶ Modular Fuel Cell: 12 kW implemented from four individual identical stacks.

Chemical Energy Back-Up

- ▶ Excess energy can be stored through one or two electrolyser as hydrogen.
- ▶ Hydrogen Storage. High pressure gas storage tank or as metal hydride can be used.

**Customizable design to achieve a wide range of power generation*

FEATURES

- ▶ 100% Renewable Energy Smart Grid.
- ▶ Full Autonomy for isolated facilities.
- ▶ Low maintenance and low cost of.
- ▶ Remote control and monitoring of whole system.
- ▶ Integrated SCADA for all subsystems as a global unit.
- ▶ Automatic management of the power-flow.
- ▶ Short payback.
- ▶ Long service life.
- ▶ Modular set for all productions rate.
- ▶ Customizable for any weather conditions.
- ▶ Customizable for any power supply.

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