

EFASOLAR Hybrid System

The **EFASOLAR Hybrid System** is a platform specially designed for hybrid solutions with the capability of integration of several energy sources, namely, diesel, photovoltaic, electrical grid, energy storage, wind and hydro. This system can be implemented in an existing installation or in a new project, ensuring a stable operation and optimizing the energy produced by the photovoltaic plant. It is a profitable investment with fast payback in installations where the energy supply is ensured by diesel/gas gensets.

Customer Benefits

- Maximize the PV generation
- Optimized for PV + diesel/gas systems
- Minimizes the energy costs
- Multiple inverters and gensets management
- Web interface to monitor and control the installation

Key Benefits

- Stable grid operation
- Same controller for all systems
- Compatibility with new or existing systems/equipment
- Reactive power control
- Configurable according project requirements

Main Features



Smart Management

- Integrated management
- Optimal gensets operation
- Customized to each project requirements
- Active grid feed-in protection (optional)



Scalable

- Modular solutions using the EFASOLAR inverter range
- Single controller for multiple inverters
- Allows multiple gensets
- Able to integrate different genset controllers



Cost Savings

- Manages and minimizes fuel consumption
- Fast payback and high projects IRR
- Profitable and secure investment
- Reduce maintenance costs



Stable Operation

- Active load supply management
- Optimized PV+Diesel performance
- Grid quality management
- Genset spinning reserve management



Plug & Play

- Simple installation and O&M
- Compatible with all main genset models
- Compatibility with existing systems / equipment



Monitoring

- Presents all data from system
- Remote access and control of entire system
- Capacity to integrate data in management systems
- Cross-platform interface

Technical Data

The **EFASOLAR Hybrid System** is optimized for joint operation with the Efacec solar inverters and bi-directional battery inverters, defining appropriated power production based on gensets operation profile and load measurements.

With its control strategy, the **EFASOLAR Hybrid Controller** assures enough spinning reserve on gensets to ensure system reaction capability and stability to sudden variations in loads or in PV power, allowing a reliable load supply.

The **EFASOLAR Hybrid Controller** implements a smart control concept, with flexible and adaptative plug and play installation. This controller maximizes renewable generation while maintaining a stable network operation, considerably reducing fuel/gas consumptions thus securing a short payback period.

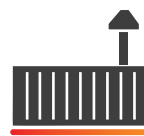
This platform allows the integration on different system topologies/ configurations with one or more generators of each source. As an example, two hybrid systems operation topology are illustrated below.



PHOTOVOLTAIC



POWER GRID



DIESEL GENSETS



ENERGY STORAGE

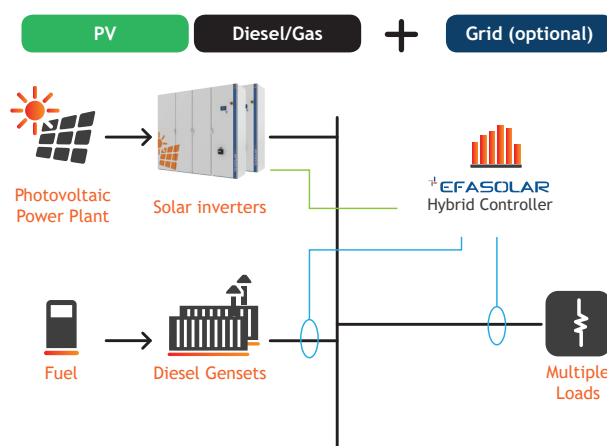
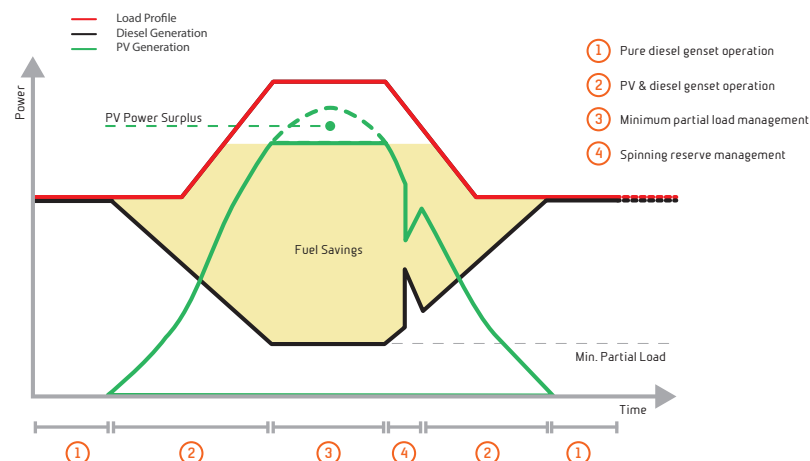


WIND

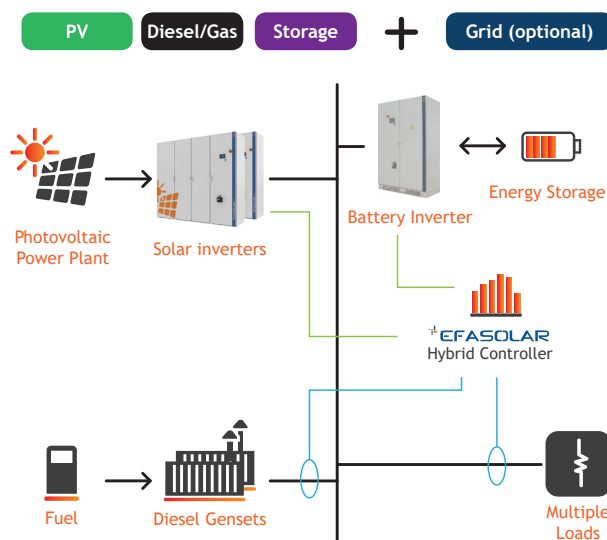
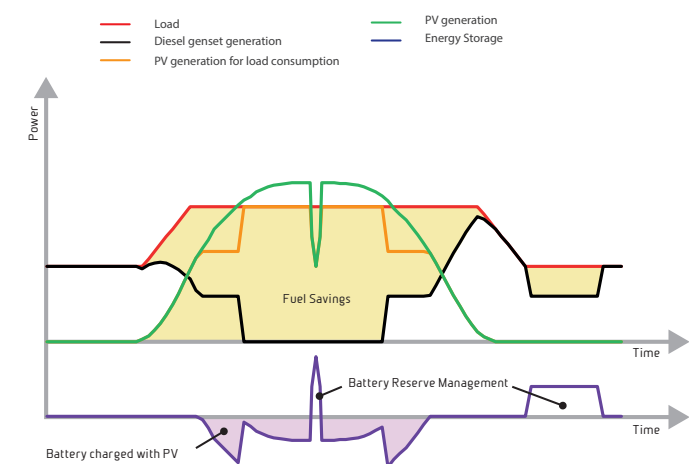


HYDRO

PV + Diesel System



PV + Diesel + Storage System



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