

RENEWABLE ENERGY: Grid-tie versus Grid-tie with storage capacity



Fronius Inverter



SMA Sunny-Boy
Inverter



Xantrex
Sun-Tie
Inverter

GRID-TIE INVERTERS (without battery storage capacity)

- Cost is about 30% less than system with back-up and less complex.
- Most systems operate at high voltages and must be installed by professional electricians.
- Without battery storage, there is a limited ability to produce usable power—only during daylight hours from solar panels. If utility power fails, you have no stored electricity.
- Wind generators cannot be used with this type of system.
- These systems cannot be modified in any way. There are other technical guidelines that must be followed - call for more information.

POWER PACKAGE SYSTEMS - GRID-TIE OR STAND-ALONE (with battery storage capacity)

- Systems operate at lower voltages (24-48vdc) while maintaining 96% efficiency.
- Inverters are stackable to create high power output.
- Programmable to provide utility grid-tie, stand-alone, load-sharing or peak-shaving operations all in one unit.
- Provides battery back-up with auxiliary generator input for extended outages.
- The Power Packages are modular and can be disconnected and moved, if needed.
- Systems are designed to integrate power from solar panels and wind generators.
- Provides continuous power with self-back capability independent of power out-put.



Xantrex SW-Plus
Inverter has 4000-
5500 Watts output



Xantrex C-40/C60 Charge
Controllers for PV inputs -
allows for installation of solar
in modular blocks



Whisper H-40, H-80
Digital Controller
System design allows for
combining multiple inputs
from wind generators



Kohler Back-up Generator
Systems allow input from
back-up generator set for
extended outages

IMPORTANT NOTE CONCERNING BATTERY STORAGE:

A popular misconception is that when batteries are incorporated into a system there is a decrease in overall system efficiency and an increase in maintenance. However, when using high quality AGM-type, sealed, maintenance-free batteries, system efficiency increases and battery maintenance is not an issue.