Renewable Energy Terms

Inverter–

Device for Converting Direct Current into Alternating Current

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Derivation: After asking people in the inverter industry, I can still only speculate on why an inverter is called an inverter. Some people said that it describes the reversing of DC polarity when making the AC waveform. But other folks could not make a direct correlation between the common meaning of the word "invert" and the name "inverter."

Inverters take direct current (DC) electrical energy and turn it into alternating current (AC) electrical energy. DC electrical energy can be stored in batteries, while AC cannot be effectively stored. Inverters allow us to store energy in batteries, and then use it in standard 120 VAC appliances. Before we had inverters, we could use only DC appliances in our RE systems. Access to common, full-featured, and inexpensive appliances is the prime reason to add an inverter to your system.

When it comes to advising newcomers, I generally recommend going to a primarily AC system. It's still worth considering running some special loads (refrigeration is high on this list) on DC, even though this complicates the system. I've lived for over 15 years with a three voltage (12 VDC, 24 VDC, and 120 VAC) system, and I wouldn't wish this madness on anyone. Inverters help make renewable energy a mainstream technology, since they allow renewable energy equipment to power standard 120 VAC appliances.

By adding just a little more PV and sizing your battery bank just a bit larger, you can compensate for the inefficiency of the inverter and use simple, reliable, and conventional electrical power. Then you won't have to turn your life upside down to use renewable energy.

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