

## On Grid and Off Grid Systems

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On grid means that you attach your system to the utility. Off grid means that you live independent of the utility and provide all your own power.

An on-grid system doesn't need a battery because you use electricity and sell your extra to the grid and use grid electricity when your wind system doesn't produce enough. In effect, the grid is your safety backup.

If you disconnect from the grid, it means that you need extra capacity to make sure you can charge your batteries, and that your batteries have enough capacity to carry you through periods of no wind and no sun, if you own solar. Having wind and solar together gives you a greater chance of being able to recharge your batteries.

You have to determine the capacity of your batteries by looking at your electric usage and by knowing how long, in the worst case, you might have no wind (or no solar) energy feeding the battery. To go off-grid, you should plan on having extra energy capacity and extra battery capacity for worst case scenarios.

In an off-grid system, your wind turbine's output passes through a charge controller into a battery and from there into an off-grid inverter, which synchronizes to the voltage (120 or 240) of your house or building without synchronizing to the grid.