

*Renewable Energy & Sustainable Living Solutions*

**MIDDLE EARTH**  
S O L A R



## **THE OFF GRID AUTONOMOUSE HOME**

Off grid generally refers to living without being connected to a centralized electric utility grid, while producing your own power at your house site. Off grid homes are often rurally based, built by people wanting a more sustainable independent lifestyle. When building an off grid house there are many things to keep in mind. Following are the most important regarding energy.

The average North American home drawing power from the grid consumes upwards to 15,000 Kilowatt hours (kwh) of electricity per year. This translates to about 41 kwh per day. Natural home based power systems can produce between 5 and 10 kwh per day. How do you live on only 10% to at most 30% of the electricity others do! Here's how.

The amount of available home based power depends on the equipment you have for gathering energy, and the total energy sources you have from your site location each day. While wind and hydro can produce electricity 24 hours per day, solar electric modules produce power only when exposed to sunlight. Direct sunlight will produce the most energy, while cloud cover diffused sunlight produces less. Deciding how much electricity you will need each day is the first step to planning your off grid project. Calculation must be made for powering lights, tv's and computers as well as pumping your water, and running a refrigerator. Other intermittent power loads like work shop tools can also be worked into the equation. If you need help calculating your energy needs and designing your system please do not hesitate to contact us.

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