MI-GRID

Tetra West Solar

HOW DOES MI-GRID SAVE 90% FUEL ?

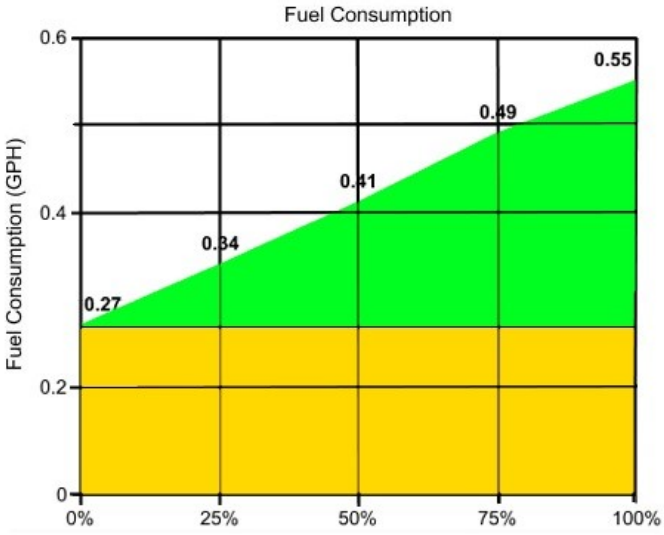
A generator running all the time is not very efficient. Generators must be sized for maximum load, even if that load only lasts a tenth of a second. This is startup surge. Surge current is the bane of generators; generators must be sized for maximum starting surge, like starting a motor or air conditioner. Electric motors can take up to 5 times operating power to start them. All regular loads plus surge loads must be added together to decide on the generator minimum size.

This means the generator runs most of the time at low loads. Look at the chart. At 25% load, over a gallon per hour is used just to run the generator, while about 1/3rd gallon is used to produce electricity.

Mi-Grid instead cycles the generator, using it only to recharge the batteries as needed. The rest of the time the generator is shut off.

For example: an RV air conditioner operates with 1650 Watts, but needs 4000 Watts to Start.

Over 24 hours, the AC runs on average 30% of the time. 70% of the time the generator is idle. A 4Kw generator may use over 7.4 gallons of fuel per day, producing only 12kWh of electricity. If the generator runs only at full load (4000 Watts), it would need run only 3 hours to produce the 12kWh, using less than 2 gallons of fuel. Even with conversion losses (10% in and 10% loss out), there is a reduction by 60% fuel consumption, simply by running the generator at maximum load. To further reduce fuel consumption, add 1000 Watts of solar panels attached to the RV. The solar panels will produce 6.5 kWh of electricity per day. This will further reduce the amount of power produced by the generator to 5.5 kWh per day. The generator will run less than 1.5 hours per day using .55/gal per hour, or about 0.825 gallons. This example shows a reduction



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