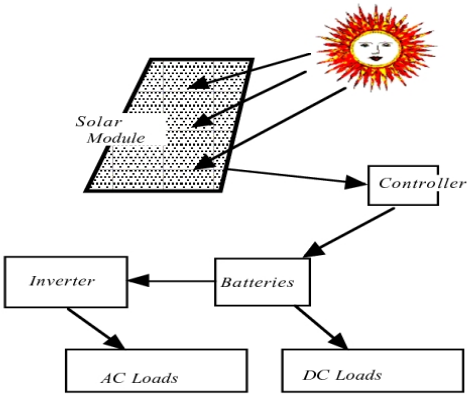
Wholesale Solar, Inc.
www.wholesalesolar.com

About Solar

The Basics of Solar Electricity Are Simple

The basics of how solar systems work can be seen in the diagram at right. The sun shines on solar modules that produce DC current. The current goes through a controller that regulates the amount of power that goes into the batteries. The batteries store DC power for use when needed. DC appliances run off energy straight from the batteries. You can choose to use AC appliances instead of DC—or in addition to DC—but the energy from the batteries must first be changed to AC voltage by an *inverter*.

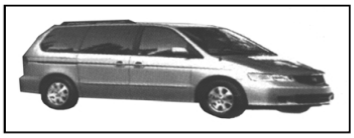


Solar system design is not just about using the sun for electricity. It is about using this energy efficiently. Things as simple as window placement and flooring and window covering materials can affect how well your design will function. The ability to understand how energy is created, stored and used in your home is important. Many books are available on passive solar home design, and various statewide solar energy associations can be found on the Web along with the national solar energy association. Our New Mexico Solar Energy Association is located at: http://www.nmsea.org.

Energy conservation is the first area to consider. You will now be the power company as well as the power consumer. Your choices in appliances, lighting, cooking and heating will greatly affect the cost of your power plant. Use less power and you can buy a smaller power plant. *It really is simple.*

Developing an overall strategy for energy independence is the most important first step. Many people want to purchase equipment based on a budget. That is only part of the equation. It is better to make a plan of where you want to go with the money that you have to spend....and the money that you will want to spend later. The most economical step in going off-grid is to lower the amount of energy you use. You may be better off to start out with a new energy efficient stove, refrigerator and computer than to buy a small solar system that won't be able to run the inefficient appliances that you use now. Even if you purchase a grid-tied system to reduce your electric bill, you will realize a great savings with *energy efficiency,* even before you buy any solar equipment.

We've been doing solar energy systems for ten years and will be happy to help you design yours!



"What's the payback time on a solar electric system?"

	Car	Solar
Initial Cost	*$20,000*	*$20,000*
Gas & Maintenance per month	*$250*	*$50*
Insurance per month	*$100*	*$0*
Bill reduction per month	*$0*	*$100*
Depreciation	*18% per yr.*	*5% per yr.*
Life expectancy	*5 yrs.*	*20 yrs.*
Lifetime net cost	*$41,000*	*$8,000*

This may be the question we hear the most. In addition to the environmental, social and personal security benefits, the investment in solar does make economic sense. The chart at left compares a solar investment with another investment we are familiar with—the purchase of a new car.

When you finance a car purchase, because you pay interest up front, it takes 40 months of a 60 month note to actually own any equity in your car. That means that for almost 4 1/2 years you owe more than the car is worth. This chart uses a fixed gasoline cost for the life of a car, even though chances are gas prices will increase. Remember what you were paying for gas five years ago?

Solar electric systems have been shown to increase the value of a home by more than 85% of the system price or just about equal to the actual equipment cost! This chart uses a fixed electric company rate for the next 20 years to reflect the savings per month. Think you will be paying the same for electricity in the next five, ten or twenty years?