

EMERGENCY ELECTRICITY

There are many ways in which to generate electric power during an emergency or for self-sufficiency during normal times. Many people ask about the generation of power for ventilation systems, lighting, and other uses in their civil defense shelters and for self-sufficiency or post-disaster use. Some of the possibilities are these:

1. Gasoline electric generators - as are found in most large hardware stores and discount equipment stores.

For short power outages and for portable power needs during normal times these have some advantages. The units are relatively inexpensive, light-weight enough to be easily portable, and require the same gasoline (sometimes with oil added) that is used in most automobiles. These generators are not, however, suitable for long term use. They have poor fuel efficiency and are not well enough constructed to give reliable service in continuous use. Moreover, gasoline is dangerous to store and has a short storage life. These disadvantages could be overcome, but there are better alternatives available.

If you can afford a small gasoline generator, buy one. You will probably find many uses for it. Do not, however, think of it as a civil defense power source or as a potential tool for electric self-sufficiency.

2. Solar Power.

Solar power should be the method of choice for home generation of electric power. If the roof of an ordinary home is shingled entirely with solar panels, in most cases this will provide plenty of electricity for all household uses other than heating. In many cases, it will also provide enough power for a family electric car. These panels and the associated inverters, switches, and other required attachments are available now. So why are we building homes with shingles instead of solar panels covering the roofs? Why are we still connecting our homes to the power grid and paying high electric bills?

We are doing these things because of the ridiculously high cost of solar panels. The cost of these panels which convert sunshine into electricity at low but quite usable efficiencies is approximately \$6 per watt. Although energy requirement varies with climate, usage, and other factors, solar panels for a modest American home would cost about \$30,000 or more. One large refrigerator can consume the power generated by \$10,000 worth of solar panels.

This high cost is probably not necessary. For many years there have been production techniques available that experts estimate should allow the marketing of solar panels at \$1 per watt or even \$0.50 per watt. At these prices, each new home could simply be shingled with solar panels and never connected to the power grid.