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Week 39 of 52: Alternative Power Sources

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Those who are moving to retreat properties make it a point to look for land with its own source of fuel in order to accommodate future needs. Whether those sources are an ample wood supply, a natural gas well, or a surface coal seam, these resources will ensure that you can continue to power your home and your equipment.

Those of us who do not have these resources readily available to us on our own land may eventually run out of stored [fuel sources](#) ^[1]. A way to avoid this future issue is to consider investing in devices that collect renewable energy to supply our homes and retreats with a continual supply of power. Therefore, consider the following, and keep in mind that all of these items would be ideal for [barter situations](#) ^[2]:

Batteries - Most of our emergency devices require batteries, and having an abundance of them with the capability of being recharged is a good investment in your long-term livelihood. The best batteries on the market right now are NiMH (Nickel-Metal Hydride) that have a low self-discharge (LSD). To prolong the charge of your batteries, store them in a sealed bag in the back of your refrigerator. This prevents condensation and extends the life of the battery.

Also, consider purchasing lead-acid deep-cycle (DC) batteries (also called solar batteries). Solar batteries provide energy storage for solar, wind and other renewable energy systems. Different from a car battery, a deep cycle battery is capable of surviving prolonged, repeated and deep discharges which are typical in renewable energy systems that are "off grid". Having multiple DC batteries hooked up and working together creates a battery bank and allows you to run more of your household appliances using solar energy. Deep cycle batteries can be a large expense for a sizeable off grid system, but with proper care and maintenance, they should last 5-10 years.

Solar Energy - Harnessing the sun's magnificent power has become quite the craze lately. And why wouldn't it be? In some states, having photovoltaic panels can make you eligible for a 30 percent federal tax credit!

A solar power system has three components: Solar panel(s) + Charge controller + Batteries. As the sun's rays hit the solar cells on a photovoltaic (PV) panel, the power is transferred to a silicon semiconductor. The power is then changed into (DC) direct current electricity and passed through connecting wires to enter a storage battery.

- **Solar Panels** come in all sizes ranging from enormous to small enough to fit on the hood of your car for charging small devices. If you are considering purchasing some supplies for a solar power, consider starting out with a basic set and then add additional items to the existing set up. To learn more about the equipment required to create a solar paneling system, [click here](#) ^[3].
- **Solar Generators** have many advantages. A few being, they don't produce dangerous fumes, they run quietly, they are energy efficient and no fuel is required to run them. The best part is these generators can last 25 years or longer! Although the initial expense can be high, there is no additional cost to run the generator, so it's a great investment. And for that matter, who says that a solar generator can only be used during disasters? Running your solar generator regularly will keep your electricity bills down.
- **Mobile Solar Power Systems** would be ideal for bug out bags. Keep in mind that these systems can easily be stolen, hence the word portable solar power systems. They should be placed in a secure, well guarded area.

- **Solar Battery Chargers** use trickle charging, and can be somewhat time consuming. To expedite the process, many preppers buy two or three chargers to use simultaneously. However, there are solar chargers that can be connected to a photovoltaic panel and can make a huge difference in recharging batteries and providing power to small scale appliances. Those that live in humid or rainy environments may want to consider a charger that is [weather resistant](#) ^[4]. Lastly, ensure your solar battery charger can charge a variety of battery sizes and has smart capability.

To learn more about the equipment required to create a solar paneling system, [click here](#) ^[5].

Inverters - An inverter is an electronic device that converts DC power into AC power. Ensure that you find a inverter that can handle your initial needs and anticipated needs. You can get the wattage by looking at the manufactures label on the appliance or if only the amps are there use the formula (amps x 115 volts= wattage) to convert to watts. To learn more about inverters, [click here](#) ^[6].

To see a video on how all of these items working in conjunction with one another, [click here](#) ^[7].

Natural Power Sources - The power from wind and water has been used for centuries and can easily be adopted to fit most self reliant lifestyles.

- **Wind** energy can be harnessed by mounting [wind turbines](#) ^[8] in high locations such as a rooftop. (Having a professional mount the turbine would be beneficial.) Many preppers do not recommend wind turbines because of their high maintenance and the risks associated with tower climbing. However, if you happen to live in an area that is very windy with lots of cloud coverage it could be a suitable option. To learn more about recommended wind turbines, [click here](#) ^[9].
- **Water** energy has a lot of power - anyone who has seen Niagara Falls knows what I'm talking about! Steep parcels of land with large creeks running through them can be ideal spots for water turbines. A water turbine or hydro generator has the capacity to produce 10 amperes around the clock and matches the usable power generated by over 40 amps of solar modules. The power system itself is the same as solar, except that only diversion type charge controls can be used with hydro. [Click here](#) ^[10] for more information.

There are many reasons to invest in alternate power sources. If the subject of peak oil isn't enough, consider the [fragility of the grid](#) ^[11]. As it stands, our country cannot exist without the electrical grid, and sometime in the not-so-distant future our lives could change drastically by a single event or disaster. While there is no way to predict when or if this will happen, we would be wise to prepare for the possibility.

Portions of this article were adapted from [How to Survive the End of the World As We Know It](#) ^[12] by James W. Rawles

Preps to Buy:

- Rechargeable batteries in assorted sizes – in quantity
- DC Batteries – in quantity
- Solar Battery Chargers
- Solar Photovoltaic Panel (5 watts or more)
- Generator (Solar powered, diesel ran generators are preferable. Also, keep in mind that a typical size for a home backup generator is 4,500 watts continuous and 5,500 watts peak.)
- Inverter
- Seasoned Firewood
- Extra parts for any alternative energy equipment and generators
- Extra fuel sources you regularly use (propane, gasoline, diesel, etc.)
- Fuel stabilizers if using gasoline (such as Sta-bil), or diesel fuel supplements to prevent gelling and a diesel antibacterial additive to prevent both growth and gelling.

Action Items:

1. Make a spreadsheet of the total wattage the household uses.
2. Purchase your alternative power supply devices and keep in mind if they are compatible to your needs.
3. Purchase spare parts for your equipment.
4. Ensure that your equipment is kept in a secure location and is unable to be stolen if in use. Hardened bolt-cutter-resistant security chains and a padlock can do wonders!
5. When using any alternative power supply, monitor your supply to ensure that the power is not about to run out.

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[1] fuel sources: http://readynutrition.com/resources/the-6-most-popular-types-of-fuel-to-store-for-emergencies_20092011/

[2] barter situations: http://readynutrition.com/resources/the-barter-boom_01122009/

[3] click here: http://readynutrition.com/resources/prepping-to-survive-the-nautical-series-pt-3-solar-power_21022012/

[4] weather resistant: <http://www.wayfair.com/SOLAR-Battery-Charger-For-Marine-Trickle-1002-IGT1046.html?refid=GPA49-IGT1046&gclid=CJjNjYCSj68CFQFgTAodfG63yA>

[5] click here: http://readynutrition.com/resources/solar-powered-equipment-for-disaster-preparation_28032012/

[6] click here: http://readynutrition.com/resources/prepping-to-survive-the-nautical-series-pt-5-shtf-inverters_05032012/

[7] click here: <http://youtu.be/XYC4RR9jq5g>

[8] wind turbines: <http://www.hydrogenappliances.com/Hornet1000.html>

[9] click here: http://readynutrition.com/resources/prepping-to-survive-the-nautical-series-pt-4-wind-turbines_27022012/

[10] Click here: <http://www.backwoodssolar.com/catalog/hydropower.htm>

[11] fragility of the grid: http://readynutrition.com/resources/when-the-grid-goes-down-you-better-be-ready_10022012/

[12] How to Survive the End of the World As We Know It: <http://www.amazon.com/How-Survive-End-World-Know/dp/0452295831>

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