**Physical Preparation for Crisis, Part III: Energy**

We have all experienced periods where we have lost electrical power to our homes or businesses. Most of those instances have been only minor disruptions of short term duration. **But, as we have seen in the recent shakings in Japan and in the storm ravaged areas of our own country, we need to consider preparing for the possibility of major disruptions**. Some of the things that could significantly disrupt the power grid are: storms, earthquakes, flooding, solar disturbances, civil unrest, terrorist events.

In personal preparedness planning there are a number of questions that you must answer in order to form an action plan. You will need to prepare for alternative **heating**, **cooking** and **lighting** and, possibly, electrical power.

**I Are you planning for short term disruption of the power grid or for disruption over an extended period of time**? How you answer this question will help you determine the scope and depth of your preparations; i.e., what you will use for alternative energy resources and how much you will want to have on hand. Also, you need to determine what electrically powered appliances you would want to be able to utilize (i.e., refrigerator, washing machine, etc.)

**II What alternative energy resources will you put in place?** There are a range of possible energy resources that you can place at your disposal, each one having positive and negative qualities.

1. **Wood**- Soft woods such as pine burn quick and hot and are the best kindling. Hard woods such as oak burn more slowly. Store outside and shielded from the weather. A chain saw, axe, sledge hammer and wedges will be required to harvest wood.
2. **Coal**-Burns dirtier than wood but has 3-5 times as much energy as a comparable volume of wood. It burns hotter than wood. It should be stored in a dark, dry place. Paper and wood are used to kindle it.
3. **Kerosene**-Would be hard to find in an extended crisis. It is very stable and can be stored for an extended period of time. It has a flashpoint much higher than gasoline and if spilled is hard to clean up because of its low volatility. It burns hot, clean, silently and with low odor when used in its purest form (1-K grade). The 2-K grade must be used in vented appliances so stick with the 1-K grade.
4. **Gasoline**-Its value will be for use in autos, chain saws, and generators. It is very volatile and caution must be utilized in its storage and use. If stored over a period of months it must have a stabilizer added or it becomes unstable.
5. **Liquid Petroleum gas (propane and butane)** -Would be hard to obtain during a prolonged crisis. Can be stored in tanks for a number of years. The portability of the tanks gives flexibility in its use.
6. **Natural gas**- Could be in short supply during a protracted crisis. Many homes already have fireplaces that utilize this resource.
7. **Electricity**-
	1. **Fuel driven power generators**-The size generator needed must be calculated according to your own specific needs (i.e., what appliances or tools you plan to power up and their power requirements). The limitation is that gasoline, propane or some other fuel must be available depending on the fuel required for your generator.
	2. **Solar Cells**
	3. **Wind powered generators**

**III What contingencies should you plan for?** You should have at least one contingency for each category and even consider having a second contingency as a backup.

1. **Alternative heating**- Be aware of the hazards of carbon monoxide buildup with any fuel burning modality!
	1. **Fireplace**-They are typically inefficient, however. Wood, coal or accessibility to natural gas must be available.
	2. **Wood or coal burning stove**-These must be installed properly or you can burn your house down. Also, they must be shielded so children don’t burn themselves.
	3. **Kerosene heater**- They give off a slight kerosene odor when burning and are very efficient. They are great for short term periods and until the supply of kerosene is unobtainable. Light output is equal to a 40-60 watt bulb.
	4. **Propane heater**- There are attachments that can be placed right onto propane tanks that use combustion to give off heat.
2. **Alternative sources of light** - Need for light can be critical at times and the ability to utilize alternative sources of light would be very important in a crisis situation.
	1. **Kerosene lamps**- These give off bright light and burn silently with minimal odor. They burn about 48 hours on a gallon of kerosene.
	2. **Candles**- These are more for short term emergency use.
	3. **Battery powered Flashlights**
		1. Disposable batteries
		2. Rechargeable batteries
			1. Solar rechargeable
			2. Mechanically rechargeable
			3. Electrically rechargeable
3. **Alternative mechanisms for cooking** – The ability to cook food and heat water will be very important in a crisis situation.
	1. **Propane stoves** (like Coleman camping stoves)- Only good as long as there is availability of propane.
	2. **Gas grills**-These are good only as long as there is availability of propane.
	3. **Fireplace**- You will need a fixed arm or chains to hang cast iron cookware on, however.
	4. **Open fire**- You will need cast iron cookware with this kind of cooking.
	5. **Wood /coal burning stoves**- Because these have ovens, they offer the option of baking as well as cooking. There is a learning curve in cooking with this modality because the heat is much harder to regulate. But, overall, this alternative offers the most for long term situations and there are a number of sources who supply these.

**IV What action steps should be taken**?

1. **Decide what alternative sources you will need to have provisions for**.
	1. **Heating**
	2. **Cooking**
	3. **Light**
	4. **Electricity**
2. **Decide what alternative energy sources you will use to power them.**
3. **Decide how much of the energy resources you will need to store and have on hand**. It will depend upon whether you are planning for short term or long term disruptions of the power grid.
4. **Begin to systematically accumulate, store, and utilize/replenish your backup provisions**.