

## Surviving Power Outages

Unplug all electrical devices – avoid potential surge

Summer	Winter
<p><b>Primary concern:</b> heat stroke</p> <ol style="list-style-type: none"> <li>1. <u>Identify the coolest parts of the house</u> – know which rooms are coolest and plan to locate there with all necessary supplies (close off the hottest rooms) – hot air rises so concentrate on the lower level</li> <li>2. <u>Locate to a shelter</u> – consider going to a cooling center and/or shelter with air conditioning – if remaining at home ensure proper preparation/supplies</li> <li>3. <u>Stay hydrated</u> – store water (two gallons per day/two week’s worth)</li> <li>4. <u>Flashlights</u> - w/extra batteries (and/or solar flashlights, headlamps, etc.) and glow sticks (for kids)</li> <li>5. <u>Stay cool</u> - by hydrating even when not thirsty, creating a cross breeze with an open window and a fan (battery or solar powered) on the opposite side of the room (Keep windows closed during the heat of the day with shades down to block the sun. When the outside temperature drops below the inside temperature, use fans in the windows to draw cooler air inside. Early morning is usually when temperatures are lowest)</li> <li>6. <u>Windows</u> – pay attention to west facing windows - can add significant heat to the house. Cover with thermal curtains or blinds or place aluminum foil or mylar blankets over those windows to reduce heat gain</li> <li>7. <u>Clothing</u> - loose, lightweight, and breathable are best</li> <li>8. <u>Cooling towels/hats</u>, etc. – wet the towel and place on neck, wrists, etc. to help cool down (wet a bandana and put it on your head)</li> <li>9. <u>Misting bottle</u> – Put water in a spray bottle and lightly mist yourself</li> <li>10. <u>Cook outdoors</u> – if possible limit cooking to a shady area outdoors (propane grills/stoves, pellet grills, solar ovens, canned heat, camp stoves, etc.)</li> <li>11. <u>Refrigeration</u> – limit opening refrigerator/freezer doors – use backup power if available and always try to maintain a full freezer (fill with water bottles if necessary)</li> </ol>	<p><b>Primary concern:</b> hypothermia</p> <ol style="list-style-type: none"> <li>1. <u>Identify the warmest room</u> – gather in a room with southern-facing windows - ideally an upper level room and/or one with a bathroom close by (use a compass, if unsure, then keep everyone there - body heat alone will help keep the space warmer – consider your needs)</li> <li>2. <u>Dress in layers</u> – multiple layers trap heat best (layer from lighter weight to heavier)</li> <li>3. <u>Remember primary goal</u> – preserve existing heat in the home/room as well as on your body</li> <li>4. <u>Insulate your chosen room</u> – including windows and doors ( tape clear plastic over windows or mist water on glass and press bubble wrap on panes, block space under doors with towels, hang blankets over doorways)</li> <li>5. <u>Insulate floor if not carpeted</u> – significant heat loss from wood, tile, etc. (spread blankets, mattress, etc. )</li> <li>6. <u>Camp indoors</u> – set up a tent and sleeping bags (or make a tent using furniture and line floor with sofa cushions)</li> <li>7. <u>Open blinds when its sunny</u> - Close when it’s not to avoid heat loss</li> <li>8. <u>Create heat by eating and drinking regularly</u> – hot or room temp food/drink helps provide energy for body to generate heat</li> <li>9. <u>Think before taking any action</u> – be aware of potential dangers like fire or carbon monoxide</li> <li>10. <u>Pay attention to weather forecast</u> – respond to extreme weather warnings (turn refrigerator and freezer to coldest temps to help preserve food, gather flashlights &amp; batteries, radios, charge phones, fill tub with water if on a well, etc.)</li> <li>11. <u>Keep up to date on power company outage info</u> – use resources accordingly (consider dedicating one cell phone in the home for emergency use only)</li> <li>12. <u>Avoid opening exterior doors as much as possible</u> – contributes significantly to heat loss</li> <li>13. <u>Exercise caution when cooking indoors</u> – emergency cooking may involve flames</li> </ol>

**Conserving available fuel during a power outage: food preparation & minimize food waste/loss**

**Thermal cooking** – could lower energy usage by 50 - 80% - DIY options

**Pressure cooking** – shorter cooking times/less heat loss through evaporation, likely 62% efficiency

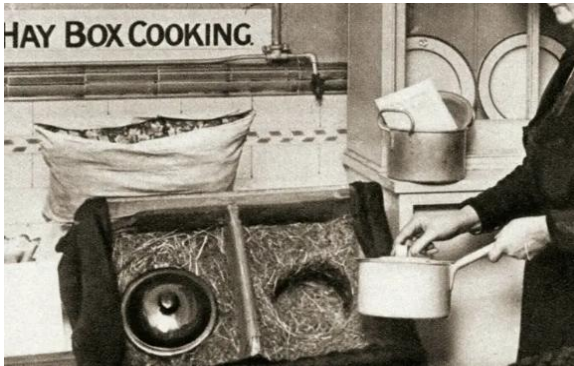
**Solar cooking** – not as effective in winter, need sunlight, DIY options

**Cooking options:**

- Tea candles – virtually unlimited ideas on the internet
- Butane
- Sterno



**Thermal options:**



**Wonderbag**



**Thermal  
Cooker**



**DIY thermal  
box**

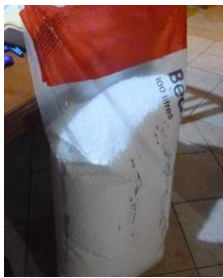
### DIY thermal cooker:

- Choose cotton or wool fabric – synthetics likely will melt against hot pot
- Choose insulating material that will retain heat best (old down pillows, wool blankets, etc.)
- Old cooler, box, etc.
- Sew a Wonderbag
- Convert a kitchen drawer



### Basic How-to: can maintain temp up to 8 hours

- Select pot with a tight fitting lid (dark color best)
- Select appropriate shape thermal cooker for pot
- Prep Wonderbag/thermal box in advance so it's ready for the pot after it boils
- Min. of 4" of insulation (no gaps) is best
- Keep thermodynamics in mind – heat flows from hot to cold (air is the enemy here) – ensure pot is well insulated all around with no gaps between insulation and pot
- Fill pot about 80% (use appropriate size pot)
- Bring food to a boil for 10 – 15 min.
- Immediately cover pot and place in thermal container
- Ensure that it's well insulated and cover thermal container
- DO NOT open during the cooking process or you'll lose too much retained heat







**Bedroom tents helping South Koreans keep warm**



**Korea Indoor Winter Bed Tent Coldproof Tent Keep...**

Power disruptions (ex: 6 out of 23 nuclear reactors were out of action) as well as high costs have Koreans turning to using tents indoors during cold winters in order to conserve heat. They're in such demand that over four million were sold in just two weeks and many stores were out of stock.

Some have claimed that heating bills were slashed in half and they described the temperature inside the tent as "snuggly warm". Tents cost an average of \$30 and come in a wide range of shapes.



**Using insulation as a lining for a DIY hot box**