

## Trinity Church Task of the Month for January, 2012

By Ben Brabson

### Lowering Your Water Heater Temperature to 120°F and Insulating Your Water Heater:

Intro: Your water heater represents about 20% of the total CO<sub>2</sub> emissions from your home. If your water heater was installed before 1990, it is likely to have poor insulation and wasting lots of energy heating the air around itself. Look to see if your water heater tells you about its insulating properties. If R is less than 10, you will benefit from a blanket. A simple test... if your water heater is even a bit warm to the touch, you will benefit from installing a blanket.

Here are a few tasks to take care of before buying and installing your blanket:

- 1.) Check to be sure that your water heater temperature is set to 120 °F, the “low setting.” Lowering your water heater thermostat from the factory setting of 140 to 120 °F will immediately save substantial energy and money.
- 2.) Measure the approximate height and circumference of your water heater. You will need this when buying a blanket.
- 3.) Take a look at one of the following web sites on installing a water heater blanket. As the process is quite simple, they will encourage you to proceed. At the same time they will remind you of the important rules. [E.g. – never insulate a gas water heater within 6 inches of the hot exit flue and do not cover the gas water heater’s thermostat.]
  - a.) **Earth Care** has a particularly useful site where they list several other sites that will help with each of the 12 tasks of the month. Their water heater blanket site is: <http://earthcareindiana.org/mode/120>.
  - b.) **The US Department of Energy** also has a valuable site on installing water heater blankets:  
[http://www.energysavers.gov/your\\_home/water\\_heating/index.cfm/mytopic=13070](http://www.energysavers.gov/your_home/water_heating/index.cfm/mytopic=13070)
  - c.) **Eartheasy** also have a general site for energy efficient heating with a section on installing water heater blankets.  
[http://eartheasy.com/live\\_cheapheat.htm](http://eartheasy.com/live_cheapheat.htm)
  - d.) If you prefer working with a book from the library, the old standby, The Homeowner’s Handbook to Energy Efficiency by **Krigger and Dorsi** has a nice section on installing a water-heater blanket and a section on tankless water heaters.

Shopping for a water heater blanket is quite easy. Here are a few thoughts.

- 1.) Many large stores sell water heater blankets. With your measurements in hand, you can go to Lowe’s or Home Depot, and find a blanket for ~\$25.
- 2.) Lumber companies also sell water heater blankets. Last Martin Luther King day in Bloomington, Black Lumber in Bloomington actually contributed free water heater blankets to the Earth Care’s energy saving visits to homes in town.

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- 3.) Buying a water heater blanket on the web also works. It is particularly important to have your measurements in hand before shopping on the web. Water heater blankets typically have an R value between 6 and 10 where 10 is better (but thicker). My quick search found several in the \$20-\$25 range with an R value of 10.
- 4.) If your water heater is close to a wall with insufficient room for two or three inches of insulation, you might consider the radiant barrier material called Reflectix® a kind of aluminized bubble wrap. The Reflectix web site quotes an R-value of 1.1 per layer.

### FAQ:

- 1.) What if my water heater is inside the garage and helping to keep my garage warm in the winter?  
[Your garage is likely not insulated and is not intended to be heated. If your water heater is heating your garage, then you are unnecessarily losing lots of energy. Definitely insulate your water heater. Even if your water heater is inside your house, it should be well insulated. Heating your house by heating your water heater is highly inefficient.]
- 2.) How about tankless water heaters called on-demand water heaters?  
[On-demand water heaters do not make hot water until it is needed. Tankless gas water heaters can deliver up to 200 gallons of hot water per hour without having a holding tank, and can save up to 25% of the energy used to keep the water warm in a gas water heater tank. They are definitely a good way to cut energy use.]
- 3.) What if I have a fairly new water heater?  
[Take a look at the yellow energy label. If it says R=10 or higher, you do not need a blanket. If there is no yellow label, it is likely to be an older water heater that will benefit from a blanket.]
- 4.) Add your questions...