

## **Hot Water for Less Cold Hard Cash –**

**Install a tankless or solar water heater to save energy costs and reduce reliance on electricity or natural gas.**

Heating water takes up to 25% of the energy needed in a home, and, according to the U.S. Department of Energy, is the second largest energy expense in U.S. households.

**How can you get the hot water you need, while using fewer natural resources?**

### **Tankless water heaters**

PSNC Energy in North Carolina offers residents tankless water heaters. While not solar, these do use less energy than traditional water heaters, because they only heat water as needed. They have an approved vendor, Rinnai, which advertises savings up to 70% off normal water heating bill compared to electric water heaters. Savings are a little lower versus gas water heaters. If bought in 2007, homeowners can get a tax credit up to \$300. This is a very small system, only 24” tall by 16” wide, taking less space than a standard 7 foot tall and 2 foot wide water heater.

When hot water is turned on, a gas burner system is activated, incoming water has its temperature taken, and water is efficiently heated to the desired temperature. Other water heaters heat and reheat the same water until it is used, and require a much larger tank to hold all that water. All Rinnai Continuum systems have a 10 year limited warranty on the heat exchanger and a 5 year warranty on the remainder of the parts.

With a price tag of about \$1200, plus installation, the Rinnai tankless water heater can add some upfront costs, but may be worth the long term energy savings – while reducing reliance on other energy sources. The Rinnai Continuum heater is available from most Raleigh area plumbing subcontractors, as well as the Apex, Raleigh, and Durham PSNC Energy locations.

There are several other kinds of tankless water heaters on the market as well – including:

The Noritz N-063S, which includes a remote control with digital display to control water temperature. MSRP of \$999, flow rate of up to 6.7 gallons per minute (gpm).

Bosch's AquaStar 2400E NG Model, suggested retail price \$999. Flow rate up to 6.4 gpm. Twelve year limited warranty on heat exchanger.

### **Solar systems in combination with traditional water heaters**

The other major way to save energy while heating water is to use a solar system in combination with a traditional water heater. Solar systems, by definition, work when the sun is out. They can't heat water at night, so a back-up system is required.

There are two basic types. A **direct circulation system, also called open loop**, uses pumps which circulate household water through collectors and back into the home. This system is common in warmer climates – in freezing temperatures, the system must be turned off and water removed from the lines. For colder climates, an **indirect circulation system, also called closed loop**, works well. In this system, pumps circulate a heat transfer fluid, which can't freeze, through the collectors and into the heat exchanger, which then heats the water that goes into the home.

Then there are also two types of heaters. **Active** solar water heaters require an electric pump to move the water from the home to the panels to be heated, then back again. **Passive** solar water heaters use gravity and temperature to move the water around. While requiring less overall energy and maintenance, this system requires a water tank to be installed either on the roof or in the attic.

### **Online water heater resource**

There's a great online resource to help see if a solar water heater is cost effective for you. Go to <http://www.findsolar.com/index.php?page=rightforme>. You can give specific information as to what state, county and even city you live in, what type of water heater you currently have, and what power company you use. The cost calculator factors all kinds of details, including state and federal tax credits.

Based on an average cost across several varieties and manufacturers, the smallest system with installation and training fees comes to \$3500, but after various tax credits, estimated net cost according to FindSolar is about \$1600. They estimate this system will provide enough hot water in the local Triangle climate for a family of 4. For a family of 5-6, two solar panels are recommended, and initial cost estimates increase to \$5350, or about \$3000 after various tax credits.

### **Greenhouse gas reductions**

You may have heard companies talking about reducing greenhouse gases. A two-panel system, providing hot water for 5-6 people, will reduce greenhouse gases by an estimated 57 tons over the 15 year life of the system, or the equivalent of 114,000 less automobile miles. A one-panel system will save an impressive 29 tons and 58,000 automobile miles.

### **Long-term value**

Compared to a standard water heater tank cost of about \$300-400, it can be expensive up front to switch to a solar or tankless system. But if you're interested in reducing long term energy costs, as well as energy consumption, consider installing one of these systems. And if you're looking at homes for sale, talk to your local custom builder about incorporating a system into your new home.

### **Local contractors**

Here are two Raleigh area contractors that install solar water heaters. You can find additional North Carolina contractors at

<http://www.findsolar.com/index.php?page=findacontractor>

#### **Solar Consultants**

PO BOX 1254  
CARRBORO, NC 27510  
Contact: FRED STEWART  
Phone: 919 831-5304  
Website: <HTTP://solarconsultants.com>

#### **Southern Energy Management**

PO BOX 33528  
RALEIGH, NC 27636-3528  
Contact: BOB KINGERY  
Phone: 919 836-0330  
Website: <HTTP://www.Southern-Energy.com>

According to Noritz, their tankless system can be obtained by calling one of these Triangle area plumbing contractors or you can find a more complete list at

<http://www.noritz.com/zipdealers.php>

#### **Schwartz Plumbing**

1125-101 Corporation Parkway  
RALEIGH, NC 27610  
Phone: 919-212-2777

#### **Capital City Plumbing**

PO Box 90096  
RALEIGH, NC 27675  
Phone: 919-783-5525

#### **North Star Plumbing, Inc**

4216 Loon Ln  
RALEIGH, NC 27616  
Phone: 919-266-7075

#### **Hillsborough Plumbing Company**

115 West Maragret Lane  
HILLSBOROUGH, NC 27278  
Phone: 919-732-4506

The Bosch Aquastar tankless system can be found at Raleigh area Lowes Hardware stores, according to [www.boschhotwater.com](http://www.boschhotwater.com).

#### **Lowes**

4831 Grove Barton Rd  
RALEIGH, NC 27613  
Phone: 919-510-9667

#### **Lowes**

1101 Beaver Creek Commons Dr  
Apex, NC 27502  
Phone: 919-303-4200

Bosch states that licensed plumbers or gas technicians are qualified to service and install their products.

The Rinnai Continuum tankless hot water heater can be found at PSNC Energy, or some of these local contractors, according to their website, <http://www.rinnai.us>. A more complete list can be found on their site by entering a local zipcode.

**Capitol City Plbg**

8831 Westgate Park Dr  
RALEIGH, NC 27617  
Phone: 919-783-5525  
Showroom, installer, service

**Economy Propane**

PO Box 1668  
PITTSBORO, NC 27312  
Phone: 888-737-1888  
Installer, authorized service provider

**Carolane Propane**

654 N Charton St  
HILLSBOROUGH, NC 27278  
Phone: 919-732-6678  
Installer, authorized service provider

**Suburban Propane**

3715 Wake Forest Hwy  
DURHAM, NC 27703  
Phone: 919-596-6678  
Showroom, installer, service

Pricing and availability current as of 12/07. Although the information in this post is presented in good faith and believed to be correct, Stanton Homes makes no representations or warranties as to the completeness or accuracy of the information.

Stanton Homes is a custom home builder in the Raleigh/Triangle area.

