Energy Efficient Natural Gas Water Heater

Water heaters are the second-biggest energy users in a typical home, next to the heating and cooling system. In fact, a water heater can account for 15% of your home’s energy use, so it’s important to choose an efficient one.

Features of energy efficient gas water heaters include improved insulation, a more efficient burner system, refined flue baffles and more efficient heat transfer.

Today’s conventional natural gas water heaters have a minimum energy factor (EF*) of 0.59. However, an older water heater could be as low as 0.48EF. The most efficient storage units rate up to 0.65EF. The higher the number, the higher the efficiency and the lower the operating costs. Although an energy efficient product can be slightly more expensive to purchase up front, the cost difference will be paid back over time through lower energy bills. Check the EnergyGuide label for an estimate of the water heater’s annual operating cost.

Peace of mind. Plenty of hot water. Lower energy bills. You get all that with a high-efficiency natural gas water heater. And it’s reassuring knowing you’re saving energy and money using the cleanest-burning and most energy efficient heating source.

* EF, Energy Factor, is the ratio of annual useful energy in the heated water to the annual water heater energy consumption, i.e. the energy going into the water heater.

Storage Water Heater

The most popular type of water heater for residential use is the storage water heater, which combines a gas burner with an insulated tank to store hot water. A storage water heater works by taking cold water from the home’s water supply and moving it to the bottom of the tank where it’s heated by a gas burner controlled by a thermostat. The heated water rises to the top of the tank for delivery. When the hot water leaves the tank and colder water replaces it in the bottom of the tank, the burner automatically comes on again to heat the new water.

Potential Savings from Upgrading to Energy Efficient Equipment

<table>
<thead>
<tr>
<th>Size of water heater (gallons)</th>
<th>Number in household</th>
<th>Annual Energy Savings (therms)</th>
<th>Annual Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 to 49</td>
<td>2</td>
<td>40 to 70</td>
<td>$50 to $80</td>
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<tr>
<td>30 to 49</td>
<td>4</td>
<td>60 to 90</td>
<td>$70 to $110</td>
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Estimated costs based on updating a storage water heater that is more than 15 years old. Savings will vary based on the unit’s efficiency rating and temperature setting, number of household occupants and other factors such as shower, clothes washing and dishwashing habits.

$300 Tax Credit

Earn tax credits for efficient models!
The Energy Policy Act of 2005 initiated multiple tax credits for energy efficient appliances and home improvements. A natural gas water heater with an energy factor of 0.80 or higher qualifies for a $300 credit. This offer runs through December 31, 2007. Visit www.energystar.gov for more details and a list of qualifying water heaters.

Natural gas water heaters are more durable and recover up to 40% faster than other models.
Tankless Water Heater

Tankless water heaters can be wall-mounted or freestanding and may be located close to where the hot water is used. These compact units have a gas burner that ignites when a hot water faucet is turned on. The burner heats the water instantaneously as it is being used and turns off when the faucet is turned off. However, they may not be the best choice for a family that needs large quantities of hot water during a short time period (i.e., multiple morning showers).

Combination System

These dual-purpose models feature a tank within a tank, one providing hot water for the family and the other providing warm water for space heating, such as a radiant floor system. Combination systems offer increased energy efficiency and reduced costs for whole house or room heating, plus all the benefits of natural gas water heating.

Choosing the Right Size

The number and ages of family members, how you wash dishes and clothes and the number of bathrooms in your home must be accounted for when determining the appropriate size water heater for your home.

For example, the needs of a family of two with one bathroom and a clothes washer should be adequately met with a 30-gallon water heater. For every additional bathroom in your home, add another 3-1/2 gallons to the tank capacity. If you use an automatic dishwasher, add another five gallons to this total. Keep in mind your family’s lifestyle and habits when estimating your family’s hot water needs. A qualified plumber or reliable appliance store can help you determine which water heater is best for you.

Power-Vented Water Heater

Many water heaters are atmospherically vented. This means the leftover gas from heating the water goes up the chimney. A more efficient option is to upgrade to a power-vented water heater that has a pipe that directly vents to the outside of your home, rather than venting up the chimney. A qualified plumber or reliable appliance store can help you determine which venting option is best for you.

Capture More Savings

Turn down the thermostat on your water heater to a temperature of 115/120 degrees. If you have a dishwasher, check to make sure this lower temperature will clean the dishes properly.

Repair leaky hot water faucets immediately. A hot water faucet leaking one drop per second wastes 160 gallons per month.

When possible, wash clothes in cold water to decrease hot water usage.

Typical Annual Water Heating Costs

Natural gas water heaters offer faster recovery time and are much more energy-efficient.

* These estimates by the American Gas Association are based on the Department of Energy’s 2005 representative annual costs of energy, using equipment listed in the Gas Appliance Manufacturers Association and Air Conditioning and Refrigeration Institute equipment directories. The estimate is based on a 2,072-square-foot home located in a moderately cold temperature region, such as St. Louis. Homes with less insulation, more floor space and located in a colder climate can expect to have higher costs for appliances using all types of energy.

Other Resources

Vectren’s online Home Energy Audit will help you pinpoint opportunities for energy savings, and its Bill Analyzer, which uses actual billing data, will help you gauge why bill amounts may vary from month to month. Use these tools at www.vectren.com.

Currently, the Department of Energy does not offer ENERGY STAR® criteria for domestic water heaters. However, you may qualify for a tax credit based upon the energy efficiency rating of your new water heater. Learn more at www.energystar.gov or call 1-888-782-7937.