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Instant hot water; tax credit, too

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Jennifer McLaughlin never takes a cold shower, thanks to the tankless water heater she had installed in her Vienna home during bathroom renovations in February.

The new shower heads use a lot of water, and the old water heater didn't have the capacity for the new bathroom, she says.

"Now we have endless hot water," Mrs. McLaughlin says. "When we have guests in town, everybody can take showers at the same time. Everyone has hot water. If five people take a shower, the fifth person has as much hot water as the first person."

This year and next, homeowners who install a high-efficiency gas, oil or propane water heater can claim a \$300 tax credit on their personal income tax, according to the Energy Policy Act of 2005. Most tankless water heaters qualify.

Tankless water heaters also come in all-electric models.

Unlike many traditional tank water heaters, in which a limited reserve of hot water is maintained, a tankless water heater enables two persons to take hot showers at the same time, says Jason Blackburn, Northeast sales manager at Takagi Industrial Co. USA Inc., based in Pennsauken, N.J. The company, which exclusively manufactures tankless water heaters, is headquartered in Irvine, Calif. Mrs. McLaughlin owns a Takagi unit.

The small unit, the size of a piece of carry-on luggage, usually is mounted on a wall, which enables homeowners to use the space usually needed for the tank for something else, such as a closet.

A series of tubes goes through a heat exchanger that provides the transfer of the flame's heat to the water, providing continuous heating of water. Custom showers that use high volumes of water might require more than one unit.

"Someone turns on the faucet," Mr. Blackburn says. "The unit reads there is a flow of water. It will fire. It will take up to 3 to 5 seconds to get up to 122 degrees (Fahrenheit). The water has to move past the flame before it gets hot. You leave the faucet on, and it gives you as much hot water as you want for as long as you want."

Because heat is applied to the water as necessary, energy is not used to warm "standby" water, as with a traditional tank water heater, Mr. Blackburn says.

An electrical ignition lights the flame, which can be a problem in a power outage.

Heating water accounts for 20 percent or more of a typical household's annual energy expenditures, according to the U.S. Department of Energy.

With a tankless water heater, an energy savings of 45 percent should appear in the water-heating portion of a gas bill, Mr. Blackburn says. Further, there is a life expectancy of 15 to 20 years for a tankless water heater, sometimes up to twice that of a tank water heater.

Tankless units are more expensive to buy than tank water heaters, but they cost less to operate because they don't have a standing pilot light, says Daphne Magnuson, director of communications for the American Gas Association.

Because tankless water heaters operate differently from tank water heaters, the gas line coming to the unit usually needs to be larger. Therefore, units can cost two to three times more than a tank water heater, ranging from \$800 to \$2,200, depending on the type of system. Installation can range from \$600 to \$1,500.

Tankless water heaters this year made the list of 10 top technologies chosen by the Partnership for Advancing Technology in Housing, according to Ms. Magnuson. PATH is a public-private initiative administered by the U.S. Department of Housing and Urban Development.

Many tankless units can be installed indoors or outdoors and are suitable for a variety of uses, including year-round residential water heating as well as supplemental hot water for home additions, driveway snow melting, vacation homes, cabins or recreational vehicles, Ms. Magnuson says. They have been popular in Europe, Australia and Asia for years.

Environmentally minded people appreciate tankless water heaters because they are considered "green" products that save energy, says **Seth Potkin**, house account manager for **Noritz America Corp.** at the corporate office in Lake Forest, Calif. Corporate offices also are in Atlanta and Dallas.

The largest **Noritz** unit can produce 13.2 gallons of hot water per minute, he says.

"It's not a big, bulky water heater that you have to throw out" as a whole unit when it wears out, Mr. Potkin says. "All the parts are modular. They come in different sections and pieces."

Further, a tankless water heater uses Category 3 venting, which involves stainless-steel and gasketed piping according to the National Fuel Gas Code of the National Fire Protection Agency in Quincy, Mass., he says.

Unlike a tank water heater, which uses galvanized unsealed piping, a tankless water heater has a blower on the inside that enables the machine to vent horizontally -- not through the roof, but through the wall of the house, he explains.

"Because there is a fan assisting the flow of combustion gases, you want to make sure the flue pipes out the side of the house meet one another and that the gasket is sealed so it doesn't go back in the residence," Mr. Potkin says.

In five to seven years, tank water heaters will not exist in the United States, he predicts.

"They are antiquated technology," Mr. Potkin says. "It's going to be an easy switch. A tankless water heater will pretty much pay for itself in the first two to three years, and then it puts money back in your pocket."

With the rising cost of fuel, the popularity of tankless water heaters is sure to increase, says Ross McDaniel, hydronics specialist at the Noland Co. office in Falls Church. Noland is a plumbing and heating wholesale company that represents **Noritz** in the East and South.

"I haven't had a complaint yet about a tankless water heater," Mr. McDaniel says. "It

certainly is an endless supply of hot water."

The temperature in **Noritz** systems can be programmed up to 140 degrees Fahrenheit, says Chris Jackson, a plumber at Hand Construction Inc. in Fredericksburg, Va. He is a certified installer and technician of **Noritz** tankless water heaters.

The ability to set the water temperature can be helpful in sanitizing dishes and clothes, he says.

"You can do the dishes overnight and reset it back to a lower temperature," Mr. Jackson says. "It has a lot of options that would be beneficial for the home."