

# Building Up

## A Message from ...

Water heating is one of the most energy-intensive activities in most households. This creates an opportunity for contractors and plumbers to add value by recommending high performance water-heating technologies that will save customers energy and lower their utility costs.

Minnesota Power is now offering rebates on high efficiency tank-type electric water heaters installed by program participating plumbers. A special bonus rebate is available for qualified units installed by August 31, 2014 (see *Featured Incentives*). Customers also can receive a free water- and energy-saving SmartPak by marking the checkbox on the rebate form.

We encourage you to promote this and other energy-saving technologies related to water heating, such as drain water heat recovery and solar thermal water heating. Use Minnesota Power's Pyramid of Conservation—Residential Version (see [www.mnpower.com/onehome](http://www.mnpower.com/onehome)) to help your customers make informed choices that meet both their budgets and energy conservation goals.

Thank you to all who attended and participated in the 2014 Energy Design Conference & Expo. It is rewarding to see so many home construction professionals building their business on energy efficiency.

... the  **power of one**  
Energy Conservation Team

## Bright Insight Into Water Heating



David Johnson uses a solar thermal water heating system with an electric backup in his home.

David Johnson, a sixth grade science teacher at Marshall School in Duluth, gets high marks for energy conservation, starting with his own home.

Five years ago, Johnson and his family embarked on a major remodeling project, incorporating many energy-efficiency measures to improve their home's air tightness and thermal integrity. They also invested in a high-performance water heating system that combines solar thermal with an energy-efficient electric water heater as a backup—a major step in saving energy and money.

"Most people are not aware that water heating represents up to 15% of a typical home's energy usage," said Chad Trebilcock, energy efficiency analyst-residential, Minnesota Power. "This is usually second behind heating and cooling costs."

The Johnsons' decision to install a solar thermal water heating system was not based on payback, but on a desire to generate green energy at home. A solar

thermal system is significantly more expensive than other water heating options, and it can take 10 years or more to pay for itself in energy savings, even with available rebates and tax credits.

**"Payback wasn't part of our equation—it was just the right thing for us to generate energy from sunshine and reduce our carbon footprint. About half to two-thirds of our annual hot water needs are met by solar thermal."**

**David Johnson, Homeowner**

The Johnsons keep hot water needs low through conservation. They have installed low-flow faucets and showerheads, purposely take short showers and only run their dishwasher when it is full.

"Conservation should always be the first step," said Doug Manthey, of Conservation Technologies, who administers Minnesota Power's Triple E New Construction program (Triple E stands for *energy efficiency, education, and evaluation*). He also has a solar **cont.**

cont. thermal water heating system at his home. “Solar thermal is environmentally clean, fun, effective and cool, but (with the high upfront cost) it is not the least expensive way to heat water.”

Manthey recommends that people examine how they use water and energy and consult Minnesota Power’s Pyramid of Conservation—Residential Version ([www.mnpower.com/onehome](http://www.mnpower.com/onehome)) before they make any major energy conservation improvements to their homes.

Building contractors and plumbers are in a unique position to ensure that customers make choices that are the right fit. They can help homeowners access current rebates and tax incentives for qualifying technologies, such as high efficiency (0.95 energy factor or greater) tank-type electric water heaters, drain water heat recovery (DWHR) units and solar thermal water heating systems.

They also can provide tips to reduce water heating costs. Insulating the water heater and pipes, turning water temperature down to 120°F, and draining a quart of water from the tank every three months to remove sediment that impedes heat transfer can result in significant savings. A properly installed DWHR system can reduce water heating costs by up to 40%.

DWHR is on Johnson’s home improvement list. He is intrigued by the notion of capturing and reusing the excess heat from showers before it goes down the drain. It also is something he wants to share with his science students, who visit the Johnson home each year to learn about solar thermal energy and heat transfer—another real-world lesson in energy efficiency. 🏠



An evacuated tube solar thermal water heating system meets more than half of the Johnson’s annual hot water needs.

## ENERGY DESIGN

conference & expo

### LIGHTING IN THE LIMELIGHT

#### 2014 Energy Design Conference & Expo



Lighting took center stage at the 2014 Energy Design Conference & Expo in Duluth. The annual event included a full-day preconference workshop on Residential and Commercial Energy-Efficient Lighting. It examined the latest lighting technologies specific to residential, commercial/industrial and roadway lighting. There also was a new designated “Lighting Alley” in the exhibit hall, where participants could mingle with the best and the brightest in the lighting industry. Nearly 700 building professionals, presenters and vendors attended the conference, which was hosted by Minnesota Power.

## Featured Incentives

Educate your customers about Minnesota Power’s conservation incentives and build your business on energy efficiency.

#### SPECIAL: \$100 Total Rebates on Electric Tank-Type Water Heater

- **Standard \$50 Mail-in Rebate** for qualifying electric water heater with an energy factor (EF) of 0.95 or greater
- **PLUS \$50 Special Bonus** through August 31, 2014, with coupon available on the website ([www.mnpower.com/waterheaters](http://www.mnpower.com/waterheaters))

**\$400 Rebate: Drain Water Heat Recovery (DWHR)**—DWHR unit must be installed in new or existing home with an electric water heater by participating installer.

**\$200 Bonus: Ground Source Heat Pump in Approved Triple E New Construction**—With the bonus, rebates are **\$400/ton** on closed loop systems and **\$300/ton** on open loop systems.

**Free SmartPak: Water- and Energy-Saving Kit**—Available while supplies last for customers with electric water heaters (some restrictions may apply).

Visit [www.mnpower.com/foundmoney](http://www.mnpower.com/foundmoney) for complete information on rebates and other energy-saving tools to help your customers make effective energy choices and build your business on energy efficiency.

Read past issues of the Building Up newsletter at [www.mnpower.com/buildingup](http://www.mnpower.com/buildingup).

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