



# Building Up

## A Message from ...

Summer is fading, but construction season continues for a few more months. Here in the Northland, more houses are being heated and cooled using ground source heat pump (GSHP) systems. This energy-efficient option is especially effective when installed in homes that are well insulated and airtight.

This issue of *Building Up* focuses on GSHPs in approved Triple E New Construction. Triple E stands for Energy Efficiency, Education and Evaluation. The program provides homebuilders with a roadmap to achieve energy-efficient construction and design through specific thermal and performance standards. It also encourages the right applications of heating, cooling, water heating, lighting and appliance opportunities. Triple E and GSHP are a winning combination. Minnesota Power is offering a special bonus rebate to encourage you and your customers to consider them together.

Meanwhile, the 24<sup>th</sup> Annual Energy Design Conference & Expo will be here before you know it. Let us know your thoughts for presenters and topics. We're always looking for new ways to help build your business on energy efficiency.

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

## A Winning Combination

### Triple E and GSHP

Many decisions go into building a new home. One choice that Toby Hickle and his wife, Yonna, made early in planning their home was a commitment to energy efficiency.

The couple's 4,500-square-foot home, under construction near Hinckley, Minn., is being built to Minnesota Power's Triple E New Construction standards for thermal integrity, air tightness and energy efficiency. It also will be heated and cooled using a closed loop geothermal system with an energy-efficient ground source heat pump (GSHP). Combining Triple E New Construction with a GSHP is gaining popularity for homeowners looking to get the most for their energy dollars.



Toby Hickle, with his wife, Yonna, and two young sons, Noah and Levi, stand in front of their soon-to-be home.

*"(Triple E administrator) Doug Manthey is very flexible and courteous with the builders and subcontractors. His experience and technical knowledge in building energy-efficient homes and his willingness to take the time to answer questions has been priceless."*

**Toby Hickle, Homeowner**

Conservation Technologies, Inc., administers the Triple E program for Minnesota Power. He has worked closely with the Hickles and their building contractor, Matt Volkmann Construction, reviewing plans, offering insight and inspecting work to ensure the home is properly insulated and meets Triple E performance metrics.

"This is my first experience with Triple E, and Doug sent the standards and requirements before we started framing, so there weren't any surprises," said Matt Volkmann. "Everybody is into energy efficiency these days, and (Triple E) is something consumers should know about when building a house." cont.

"This is the first house we have built, and it probably will be our last, so we want to do it right," Toby Hickle said. "Our goal is to live in an energy-efficient home with manageable heating and cooling costs."

Triple E homes show an average 25 percent reduction in space heating costs compared to conventional new construction. Doug Manthey, of



### SHOPPING GUIDE MAKES LIGHT BULB SELECTION A SNAP

Many building professionals get questions about energy-efficient light bulbs. Help your customers choose the right bulbs by directing them to Minnesota Power's Shopping Guide at [www.mnpower.com/ShoppingGuide](http://www.mnpower.com/ShoppingGuide).


cont. "My role is to see that a house is built as energy efficiently as the homeowner wants it to be and that contractors and homeowners are aware of the resources available through Minnesota Power," Manthey said.

Minnesota Power currently is offering a bonus rebate for installation of a qualified GSHP in approved Triple E New Construction (see *Featured Incentives*). Willow River Geothermal, LLC, of Hinckley, is installing the GSHP in the Hickle's Triple E home.

Properly sized and installed GSHP systems can provide 100 percent of a home's heating and cooling needs, even in cold-climate regions. Heating efficiencies are 50 to 75 percent higher than other heating systems, and cooling efficiencies are 20 to 40 percent higher than available air conditioners.\* There also is a 30 percent federal tax credit for GSHP installations, making this combination even more attractive.

"The price of a GSHP system can scare people off, but these incentives almost bring it down to the price of other heating and cooling systems," said Karl Tarnowski, of Tarnowski Brothers Construction, Inc., Duluth, Minn. His company is building a Triple E home with a GSHP in rural Duluth, and he personally lives in a home with GSHP heating and cooling. "A GSHP is a great, affordable way to heat and cool a home, and it makes sense if you have the property for the bed."

Minnesota Power's GSHP rebate program requires prequalification before ground is broken, and the work must be done by an experienced, program-participating installer who is accredited by the International Ground Source Heat Pump Association (IGSHPA).

"A GSHP is a major investment, and we want to make sure systems perform to homeowners' expectations," said Chad Trebilcock, energy efficiency analyst-residential, Minnesota Power. "Properly installing a GSHP in a well-built, well-insulated Triple E home is a great combination for improved comfort, reliability and energy efficiency." 

\* Source: IGSHPA

Pictured below: (l to r) Matt Volkmann and Wayne Summerland of Matt Volkmann Construction; installation of a GSHP bed at Triple E home near Duluth; Triple E builder Karl Tarnowski



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# ENERGY DESIGN

conference & expo

24th Annual Energy Design Conference & Expo  
General Conference: February 25-26, 2014  
Duluth Entertainment Convention Center

We would love to hear your ideas for quality sessions and presenters. E-mail Amanda Oja at [aoja@mnpower.com](mailto:aoja@mnpower.com) with your suggestions and for more information about submitting a session proposal.

## Featured Incentives

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

### Ground Source Heat Pump (GSHP) in Approved Triple E New Construction—\$100 Bonus (through Dec. 31, 2013)

With \$100 bonus, rebates are \$300/ton on closed loop systems and \$200/ton on open loop systems for a maximum rebate of \$2,100.

**Triple E New Construction Rebate—Up to \$2,000 in Rebates**  
Achieve Triple E designation and average 25 percent less energy to heat home. Qualifying homes must be electrically heated.

### Federal Tax Credit for GSHP—30% Tax Credit (through Dec. 31, 2016)

No upper limit. Existing homes and new construction qualify.

### Mini-Split Ductless Air Source Heat Pump—\$500 rebate + \$50 bonus (through Dec. 31, 2013)

For homes that do not have ducts. Electricity must be the existing primary heating source. Learn about this technology at [www.mnpower.com/ashp](http://www.mnpower.com/ashp).

Saving energy is like finding money ...  
through effective energy choices.

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for more complete information on rebates and other energy-saving tools to help your customers and build your business on energy efficiency.