



Building Up

Minnesota Power Program

Helps Geothermal Gain Ground



Mark Sakry of Northern GroundSource
at the site of a GSHP pond installation

It won't be long before snow covers the ground. When it does, many northern Minnesota households will draw on heat from beneath the earth's surface to warm their homes through the cold winter months.

Geothermal, or ground source heat pump (GSHP), systems are gaining ground in this region as consumers strive to save energy and manage their energy costs. Contractors who understand the advantages and limitations of geothermal heating and cooling and who are trained to properly install GSHP systems are well poised to meet this growing demand.

Mark Sakry, president of Northern GroundSource Inc., of Brimson and Duluth, Minn., and a board member of the Minnesota Geothermal Heat Pump Association, has been designing and installing cold-climate GSHP systems since 2001. He has seen many changes spur growth in the industry, including federal tax credits and heightened ENERGY STAR® standards that have led manufacturers to improve GSHP performance and energy efficiency.

"Engineering of the heat pump equipment itself has improved, and there have been advances in hydronic geothermal applications for combining radiant floor with forced air heating, which have led to growth in our region," Sakry said. He noted the industry also has adopted the use of energy-efficient electronically commutated motors, variable speed pumps and two-stage compressors, further improving the energy performance of geothermal systems. continued



A Message from ...

Greetings to our friends in the home construction industry. We hope you are enjoying a busy and productive year. Here at Minnesota Power, we want to help build your business on energy efficiency. That means continually fine-tuning our residential conservation programs with tools that advance energy-saving technologies, reward high performing contractors and encourage homeowners to invest in projects that make their homes more durable, comfortable and energy efficient.

This issue of *Building Up* looks at the growing popularity of geothermal heating and cooling in the Northland. We are working with area contractors on new rebate requirements to ensure ground source heat pump (GSHP) systems are properly installed and operate to customer expectations. In addition, you will read about a new air-sealing rebate available through our Home Energy Analysis program.

Have a great fall, and don't forget to register for the 2012 Energy Design Conference & Expo, Feb. 20-22, at the Duluth Entertainment Convention Center. We hope to see you there.

... the  power
of one

Energy Conservation Team

Mark Your Calendar

2012 Energy Design Conference & Expo

February 20, Preconference
February 21-22, General Conference
Duluth Entertainment Convention Center

You won't want to miss this annual event, which features quality seminars and workshops for building, housing and environmental professionals along with educators, students and homeowners.

Take advantage of special "Early Bird" rates.
Register by January 6, 2012!
www.duluthenergydesign.com

2012 Energy Design
Conference & Expo
Workshops | Seminars | Product Exhibits



IS GEOTHERMAL ENERGY
THE RIGHT FIT FOR YOUR CUSTOMER?
Read "Hot Topic—Ground Source Heat Pumps"
in the Spring 2009 issue of *Building Up*.
Find past issues online at
www.mnpower.com/buildingup.

cont. Today's geothermal heating and cooling systems can provide 100 percent of a home's heating and cooling needs. This is true even in cold-climate regions. Heating efficiencies are typically 50 percent to 75 percent higher than other heating systems, and cooling efficiencies are 20 percent to 40 percent higher than available air conditioners.

"Geothermal offers great economic and environmental benefits," Sakry said. "It works perfectly in our area if the system is properly designed and installed."

Minnesota Power has drawn on local industry expertise to develop a comprehensive GSHP program that facilitates geothermal heating and cooling projects that satisfy customers and work well for their homes. It includes a robust prequalification process for rebate incentives.

"It is important that specific protocols are followed when installing GSHP systems, so we are asking for more information early in the planning about units and how the systems will be installed," said Chad Trebilcock, energy efficiency specialist-residential, Minnesota Power.

Qualifying heat pumps must be installed by a participating GSHP installer and meet a minimum coefficient of performance of 3.3 for closed loop and 3.6 for open loop systems. Beginning January 1, 2012, contractors who wish to participate in the program must be accredited with the International Ground Source Heat Pump Association (IGSPHA).

"If homeowners are going to make a major investment like geothermal heating and cooling, the actual energy-efficiency performance of the system should match their expectations," Trebilcock said. "We are fortunate to have contractors in our area who are committed to delivering the right fit for their customers and their homes, and we want to support their efforts through Minnesota Power's GSHP program." 🏠

Home Energy Analysis with Building Diagnostics \$200 Air Sealing Rebate

Fall is in the air, and now is a great time for homeowners to consider caulking and weatherstripping, either as part of a remodeling project or just for greater energy efficiency. Air leaks can account for 10 percent to 20 percent of a home's heating and cooling costs. It is easy to identify and fix air leaks around windows and doors, but finding holes around bypasses in attics, basements and crawlspaces is more challenging and equally important.

Minnesota Power's Home Energy Analysis (HEA) with Building Diagnostics program can help your customers identify hard-to-find air leaks using blower door testing and infrared scanning technology. Encourage them to take the first step by completing the Your Home Energy Report, online at www.mnpower.com/portal.

If an HEA is recommended and your customer is a Minnesota Power customer with electricity as their primary heating source, they may qualify for a \$200 rebate to seal air leaks identified through the program. Learn more at www.mnpower.com/hea.

Featured Incentives

EDUCATE YOUR CUSTOMERS about Minnesota Power's conservation incentives and build your business on energy efficiency:

ENERGY STAR® Qualified GSHP Comprehensive Incentive Package with \$50 Bonus

- » **Open Loop GSHP System**
 - \$100 per ton standard rebate
 - + \$50 bonus per ton up to seven tons
 - +\$200 rebate on ECM fan motor in heat pump air handler
 - + 30% federal tax credit; no limit on total cost of installed unit
- » **Closed Loop GSHP System**
 - \$200 per ton standard rebate
 - + \$50 bonus per ton up to seven tons
 - +\$200 rebate on ECM fan motor in heat pump air handler
 - + 30% federal tax credit; no limit on total cost of installed unit

Must be installed by a participating contractor in a home served by Minnesota Power to qualify. Offer good through December 31, 2011.

Visit www.mnpower.com/foundmoney for more information on rebates and energy-saving tools to help your customers make energy-saving investments and build your reputation as a business committed to delivering the benefits of energy efficiency.

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