

Building your business  
on energy efficiency



# Building Up

Spring 2010



People are interested in small-scale wind turbines. It was a featured topic at the 20th Annual Energy Design Conference & Expo, and customers call Minnesota Power regularly with questions about generating wind energy at home.

Wind power has great potential in both large- and small-scale applications. Minnesota Power has made significant investments in commercial wind projects, such as Taconite Ridge Wind Energy Center on the Iron Range and the Bison I wind project in North Dakota, to generate cost-competitive electricity while striving to meet state mandates for renewable energy.

Minnesota Power is committed to advancing renewable energy, including small-scale, grid-connected wind projects. Through its conservation program, renewable energy rebates are available for solar electric and solar thermal projects to homeowners. Minnesota Power also sponsors professional development training for installers of wind and solar energy systems.

This issue of *Building Up* looks at small-scale wind projects (up to 40 kilowatts) and issues homeowners should consider. While utility-scale wind turbines (1-3 megawatts) make increasing economic sense, residential models may not meet consumers' cost-effectiveness criteria. You can help your customers assess the pros and cons.

On a personal note, this will be my last issue of *Building Up*, as I have accepted a position with another local energy organization. It is an exciting opportunity, and I will continue to work closely with Minnesota Power and its local customers to promote the wise use of energy resources.

I am deeply grateful for my time at this outstanding company and thank you for sharing your passion for energy efficiency and expertise in home construction with me over the years. I wish you continued success building your business on energy efficiency.

Sincerely,  
Dean Talbott

## GENERATING WIND ENERGY AT HOME CAN WORK...

### If You Know the Facts

Small-scale wind power sounds like a breeze to many homeowners. Just prop up a turbine and start generating clean, renewable energy with every gust and gale, right? Actually, it is not that easy.

Homeowners should consider many factors before investing in a residential wind power system. Building professionals who understand the technology can help their customers make sound decisions by encouraging them to ask the right questions:

- Why do they want a wind power system? Homeowners should carefully weigh their motives for making this type of investment and are encouraged to invest in energy efficiency first. Check out the residential conservation pyramid under "One Home" on the conservation program section of Minnesota Power's Web site ([www.mnpower.com/powerofone](http://www.mnpower.com/powerofone)).



"Wind varies tremendously from place to place, and, unless you know the average annual wind speed for your location, it is difficult to predict whether the investment will pan out. Once you have that number, the manufacturer can tell you what energy production to expect."

Alex DePillis, Clean Energy Partners, Presenter-2010 Energy Design Conference

- Is there an adequate wind resource? Homeowners can contact their local airport or refer to the National Renewable Energy Laboratory's wind resource maps ([www.nrel.gov/wind](http://www.nrel.gov/wind)).
- Have they researched systems? There are many different makes and models of turbines, towers and components, which must be matched with each other and to the user's wind resources, energy needs and utility standards. Disregard peak output ratings. Get performance and energy production estimates for the average wind speeds expected at the site. *continued*

## HOT OFF THE PRESS

The new Minnesota Small Wind Turbine Rebate for Residences provides financial support for small wind turbine systems erected after July 1, 2009 with rated capacities not more than 35 kW at 24.6 mph. The rebate is 35% of eligible system and installation costs up to \$10,000. Learn more at [www.energy.mn.gov](http://www.energy.mn.gov).



## 20th ANNUAL ENERGY DESIGN CONFERENCE & EXPO




More than 1,000 registered attendees, presenters and vendors participated in the 20th Annual Energy Design Conference & Expo.

"I don't think consumers realize the impact this has had on our region's housing industry and how home construction has improved because of it," said longtime attendee Steve Walker, of Walker Construction, Inc. "Homes being built today are so much more energy efficient than they were 20 years ago." Thanks to all who make this annual event so exceptional!

### Wind Energy continued

- Where will the turbine be mounted? Attaching wind turbines directly to buildings can damage structures, cause noise and reduce energy production. Mount on towers high enough to avoid wind obstructions.
- Will the system comply with local zoning/permitting codes? Issues might include setbacks, safety standards, aesthetics, tower height, noise and interference with communications. Check with the local jurisdiction.
- Is the local utility involved? Early and ongoing communication with the electric utility ensures a smooth interconnection and the highest available rebates.
- Is the installer experienced and reputable? Pick a licensed and bonded installer with a good track record and check references. Lists of renewable energy system installers are available from the Minnesota Office of Energy Security ([www.energy.mn.gov](http://www.energy.mn.gov)), Wisconsin's Focus on Energy ([www.focusonenergy.com](http://www.focusonenergy.com)), and Windustry ([www.windustry.org](http://www.windustry.org)).
- Are there tax rebates and incentives? Check with your electric utility or the Database of State Incentives for Renewables & Efficiency ([www.dsireusa.org](http://www.dsireusa.org)).
- Do they have insurance and a maintenance plan? Some states, like Minnesota, require liability insurance on wind energy systems. Wind turbines also require ongoing maintenance, which should be factored into the cost of operation.

Properly planned and executed, small-scale wind power can be a sound choice for homeowners. Build your business by helping customers choose renewable energy systems that make sense and meet their energy-saving goals. 

## Featured Incentives

### EDUCATE YOUR CUSTOMERS ABOUT MINNESOTA POWER'S CONSERVATION INCENTIVES.

**SolarSense** Minnesota Power customers can receive a two-fold rebate on a grid-connected solar electric system. This includes a Minnesota Power rebate of \$2,000/kilowatt rebate up to \$4,000 and State of Minnesota rebates from \$1,000 to \$10,000, subject to availability of funds. Learn more at [www.mnpower.com/renewablecenter](http://www.mnpower.com/renewablecenter).

### \$100 BONUS—Heating & Cooling System Upgrades

If the current heating and cooling system is more than 10 years old or the customer is building or remodeling a home, now is the time to invest in a qualifying energy-efficient heating and cooling system. In addition to standard rebates, there is a \$100 bonus from Minnesota Power and participating municipal utilities (through July 1, 2010). Learn more at [www.mnpower.com/hvacspecials](http://www.mnpower.com/hvacspecials).

- **Furnace with ECM Motor** \$200 standard rebate + \$100 bonus
- **Air Source Heat Pump** \$300 standard rebate on furnace integrated system and \$500 standard rebate on mini-split ductless system + \$100 bonus
- **Ground Source Heat Pump** \$200/ton standard rebate on closed loop and \$100/ton standard rebate on closed loop + \$100 bonus

Visit [www.mnpower.com/actionplan](http://www.mnpower.com/actionplan) for more tools to help your customers make energy-saving investments.

## Contact Information



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