



HOMEGROWN INNOVATIONS: WISCONSIN'S CLEAN AND BALANCED ENERGY FUTURE

Wisconsin's rich agricultural heritage is world famous and a great source of pride for our state. Wisconsin has a strong farming community, respected universities, and outstanding natural resources. These elements combine together to make a great recipe for clean, innovative, efficient, and economical renewable energy sources using Wisconsin's best assets:

- The wind (quiet wind farms);
- The sun (solar energy); and,
- Agriculture products and by-products (biomass energy).

Farming is a business, and it's getting harder to make a profit as energy costs continue to soar. That's why it's so important to develop ways to reduce those energy bills. More and more farmers are taking advantage of special programs that help them identify how they can save on energy and even generate their own supply. You can be more energy independent, and Focus on Energy can show you how.

Focus on Energy, is a public-private partnership offering technical information and services to utility customers throughout Wisconsin. The program offers information about tax benefits, provides cash-back rewards for installed projects, grants for feasibility studies, and conducts in-depth on-site assessments. Since July 2001, Focus on Energy has

helped Wisconsin's businesses and residents cut their utility bills by more than \$74 million.

LEGISLATION CAN HELP FARMERS BECOME MORE ENERGY INDEPENDENT

In September 2003, Governor Doyle created the Task Force on Energy Efficiency and Renewables, which included members from the utilities, customer groups, environmental groups, labor, industry, agriculture, and legislators from both major parties. The Task Force was asked to reach a consensus on ways to use efficiency and renewable energy to help economic growth, decrease our dependence on out-of-state energy, and reduce the environmental harm from fossil fueled power plants. The ultimate goal is to restore Wisconsin as a leader in efficiency and renewable energy solutions.

The Task Force worked together for more than a year and in October 2004 released its recommendations. Four of these recommendations, in particular, can help farmers be more energy independent.

1. Protect and increase funding for Focus on Energy, the state energy efficiency fund. Focus on Energy has some of its fund devoted to efficiency and improvements on farms.
2. Establish a target for state agencies to purchase at least 10% of their electricity from renewable resources by 2006 and at least 20% by 2010.

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TRUE STORY

Farming a Renewable Resource

Stockbridge, Wisconsin is home to farmers Marvin and Melvin Ecker and their 110-foot-tall quiet wind turbine. Before erecting the turbine, the Eckert brothers watched money go out the window and off the farm every time they paid their energy bill. In an attempt to make their century-old farm more profitable, they searched for unique ways to not just farm the land, but farm mother nature's renewable resources. The Eckerts turned to Focus on Energy to see what they could do to become more efficient and reduce costs.

The Eckerts decided the best solution for them was to invest in a wind turbine. They were required to contribute an initial investment of \$110,000 up front, and were reimbursed \$25,900 from Focus on Energy and \$35,000 from the U.S. Farm Bill grant.

In strong winds, the turbine can produce up to 35 kilowatts an hour, which helps reduce their reliance on energy purchased from the utility company. Not only do they have a renewed sense of energy independence, they also have a new source of income because they are able to sell power from the turbine to Wisconsin Public Service.



Photo Credit: Andy Olson

3. Create a sales and use tax exemption for customer-owned renewable energy systems such as small wind turbines, solar panels and solar water-heating services.
4. Encourage the research and development of rural renewable (animal waste) energy systems.

The Task Force advocated making major investments in rural Wisconsin for construction of biomass and wind energy generation facilities. And supplemental income would become available for farmers, rural landowners, and rural counties for hosting wind systems and investing in other renewable energy alternatives.

Wisconsin has the potential to become a more energy independent state by using clean and reliable energy sources and by becoming more efficient in how we use energy. We are calling upon our elected officials to make smart decisions for Wisconsin's energy future.

WHAT CAN YOU DO?

Now is the time for Wisconsin to become a leader in efficiency and renewable energy solutions. To assist in this, here are some things you can do:

1. Join other Wisconsin businesses and residents and sign Clean Wisconsin's resolution asking for a more balanced energy policy, increased energy independence, energy efficiency, and renewable options to help reduce bottom line costs. For more details, call Keith Reopelle at 1-608-251-7020, ext. 11 or email kreopelle@cleanwisconsin.org.
2. Contact Focus on Energy to find out more about the program that can help reduce your energy costs. Call 1-800-762-7077 or visit www.focusonenergy.com.
3. Contact your legislator and ask for a more balanced energy policy, making clean energy and efficiency a priority in our state. You can find your legislators contact information by calling 1-800-362-9472 or visiting <http://www.legis.state.wi.us/waml>
4. Purchase Energy Star® appliances and use compact fluorescent light bulbs.

| AGRICULTURAL RENEWABLE ENERGY OPTIONS | | | |
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| TECHNOLOGY | APPLICATION | REQUIREMENTS | ADDED BENEFITS |
| Bioenergy fuels used in fuel cells, gas engines and turbines, internal combustion engines, or steam engines and turbines | Electricity space heating and cooling, process heating and cooling, water heating and cooling, biodiesel fuel | Continuous source of organic material from farm waste, wood waste, food processing wastes, waste water treatment, and agriculture crops | Reduced pollution from waste streams, control of odors, control of gas emissions, reduced operating costs, back-up power |
| Daylighting | Natural lighting | Buildings designed for daylighting | Lower lighting and HVAC costs, productivity benefits |
| Hydroelectric | Electricity | Stream or river with reliable flow, permit required for water diversion | Latest technologies do not require drop in water elevation |
| Solar electric (also known as photovoltaics) | Electricity | Unobstructed access to the sun | Electricity production usually matches electricity use, can be incorporated into building structure as roofing or glazing |
| Solar space heating – thermal mass heating | Space heating | Under-floor heating for barns, milking parlors, processing facilities | Improved comfort |
| Solar space heating – transpired air collector | Space preheating and heating, process heating | Large south-facing wall, high ventilation requirements | Improved air quality |
| Solar water heating | Hot water, preheated water | Unobstructed access to the sun | Hot water production usually matches hot water use |
| Wind machine | Electricity | Good wind resource, space for tower | Small footprint, land surrounding tower available for other |

Source: Focus on Energy