



It's Time to Bring Renewable Energy Home

by Michael Vickerman
RENEW Wisconsin

In a unanimous vote, the Public Service Commission (PSC) recently cleared the way for Alliant Energy's Wisconsin utility to construct a 200 megawatt (MW) windpower plant project in southern Minnesota. Once operational, the Bent Tree project, costing upwards of \$450 million, will be a productive source of renewable energy that will provide lasting benefits to Minnesota's economy and environment. Since it will be Alliant's Wisconsin customers who foot the bill, however, it is reasonable to inquire whether the current utility practice of outsourcing renewable energy production to other states is a good thing for Wisconsin's economy.

Because we can't see it, taste it, hear it or smell it, we tend to lose sight of the fact that electricity is a manufactured product. To make it, capital is amassed and expended on machinery that convert raw resources like coal, flowing water, and wind into this highly useful form of energy. The electricity is then transported via networks of wires to power factories, illuminate residences and streets, propel commuter trains, and energize the complex communications systems that allows to store vast quantities of instantly retrievable information. It is hard to name a manufactured product that adds more value to an industrialized society than electricity.

Yet electricity's impact on the economy is not defined solely by the activities it supports. There is as well the intense amount of economic activity that goes into building the power plants themselves. In the case of Bent Tree, the capital used to manufacture, transport and

erect 122 wind turbines will unleash a year-long burst of construction work in Freeborn County employing hundreds of skilled laborers and technicians. The work will also ripple through nearby component manufacturers involved with the project, as well as ports and other transfer points where components are unloaded and loaded onto special vehicles and hauled to the project zone.

But the economic stimulus doesn't end there. The Bent Tree turbines, once operational, will produce a stream of revenues to local governments over the life of the project. Area landowners will also receive payments that will supplement their existing income. These payments enable farmers to stay current on their taxes and keep their farms going. Last, the turbines will also support a crew of technicians and windsmiths to operate the facility and maintain it over a minimum of three decades.

There is no question that this project will energize Freeborn County's economy for many years to come. But it also begs the question: how much of Bent Tree's first-order and second-order economic benefits will trickle into Wisconsin? Answer: Virtually none.

Alliant's decision to invest in a Minnesota wind project comes at a time when Wisconsin is struggling to keep its manufacturing sector intact. In light of the ongoing economic contraction, now would not be a propitious time to outsource energy production to neighboring states and export Wisconsin capital and skilled labor to build valuable infrastructure that could easily be located in our own state.

Imagine, if you will, the uproar that would surely erupt if citizens learned

In this issue . . .

In Memoriam: Bob Gilbertson	3
Board Member Brings Green Home	3
Renewables Profile: Jenny Heinzen	5
Manure Digesters Good Fit	6
Solar Innovator: Craig Tarr	7
Calendar	8

that federal stimulus dollars were going over into Canada to build factories owned by U.S. companies. However, what Alliant received permission to do—dedicate nearly \$500 million in Wisconsin ratepayer dollars to build a brand-new windpower plant in Minnesota—is, at bottom, no different.

Granted, Bent Tree is the not the first wind project owned by a Wisconsin utility to be located in another state. This trend began with Madison Gas & Electric's 30 MW Top of Iowa facility, costing \$62 million, which started operation in early 2008. Also in Iowa, construction is underway on Wisconsin Public Service's

Continued on page 2

New RENEW Members

RENEW welcomes the following new businesses and individuals who joined since the last newsletter:

- Community Green Energy, LLC
- Cosmic Walker Wood Products, LLC
- Jon and Itzy Bishop • Andrew Dane
- Green Leave Inn, LLC • Connie and Roger Kanitz • Rick Mortimer
- Ryan Shryver • Paul Seppanen (Fagen, Inc.) • John Schweitzer • Richard Stenzel

To join RENEW, complete and return the membership form on page 2.

Bring Renewables Home

continued from page 1

99 MW Crane Creek project, which is expected to tally about \$250 million when completed. But with the approval of Bent Tree, what started out as a trickle has turned into an outright flood of utility capital flowing out-of-state. Keep in mind too that Bent Tree will be three times the size of Cedar Ridge, the only Alliant-owned windpower facility in Wisconsin.

It is true that windpower projects in Iowa and Minnesota are lower-cost sources of electricity than those in Wisconsin. But shouldn't there be more to the decision calculus than just the unit price of electricity? For example, locating a Bent Tree-sized facility in Wisconsin would generate \$800,000 a year in local government revenues and about \$600,000 a year in lease payments to landowners. Building it here would also create hundreds of jobs for operating engineers, ironworkers, electricians, specialty haulers, wind energy technicians, and other skilled laborers. What is the basis for giving these impacts so little weight in a power plant proceeding?

There are two independently owned prospects -- Horizon's in Lafayette County and Iberdrola's in Columbia County -- that could be up and running in 18 to 24 months. Both prospects are in Alliant's Wisconsin territory and already have permits. Yet they languish for want

Midwest Windpower MW Snapshot - July 2009

State	Operating Capacity	Under Construction
Iowa	3043	409
Minnesota	1937	40
Illinois	1016	902
Indiana	531	505
Wisconsin	449	—
Michigan	129	14

of a power purchase agreement with an electric provider. Furthermore, given the current utility preference to own wind generating assets rather than buying wind electricity, there is no assurance that these prospects will ever get built.

True, the current economic contraction has taken a bite out of the wind industry, but that hasn't put the brakes on wind development elsewhere in the Midwest (see table above). And while local opposition to wind energy has stalled a half-dozen proposed wind plants across the state, but that doesn't explain why fully permitted projects are not proceeding to construction.

No, there is another reason why wind development in Wisconsin is at a complete standstill, and it's the double whammy described above—the utility preference for out-of-state wind energy coupled with their unwillingness to buy

wind energy from independent developers.

In a weakening economy, we can ill-afford to let utilities continue investing Wisconsin capital in out-of-state renewable energy production while simultaneously throwing up barriers to companies seeking to situate renewable generation sources in Wisconsin. The longer utilities go on building projects that benefit the host state more than their home state, the greater the risk of seeing Wisconsin's construction and manufacturing prowess, along with our highly skilled workforce, migrate to those states with the most viable renewable energy markets.

If Wisconsin truly desires to provide a home to a viable renewable energy economy, it will have to redefine the public interest standards that govern the expenditure of ratepayer dollars. This means giving such economic benefits as job creation, component manufacturing, workforce participation, increased tax receipts to local and state government, and reduced dependence on transmission upgrades as much due consideration as cost per megawatt-hour. Granted, this is a form of industrial policy. However, if state policymakers don't take steps to build a solid market structure for generating more renewable electricity at home, Wisconsin's ability to compete for good jobs and business opportunities could become hopelessly compromised. ☐

Yes! I want to help RENEW promote the use of clean, renewable energy resources to diversify Wisconsin's energy resource mix.

Name _____

Organization _____

Address _____

City/State/Zip _____

E-mail _____

Make your check payable to RENEW and mail to RENEW, 222 S. Hamilton St., Madison, WI 53703
608.255.4044 · www.renewwisconsin.org

Please accept my membership in the following category:

- Terawatt Sponsor - \$2,500+
- Gigawatt Sponsor - \$1,000 - \$2,500
- Megawatt Partner - \$50 - \$1,000
- Kilowatt member - \$25 - \$50
- Conservationist member - \$10 - \$25
- Additional contribution of \$ _____

Your contribution is tax deductible.

WISCONSIN RENEWABLE QUARTERLY

Summer 2009, Volume 14, Number 2

RENEW Wisconsin, a nonprofit membership organization, advocates the adoption of sustainable energy strategies to power Wisconsin businesses and households in an environmentally responsible manner. Through a combination of public policy and private sector initiatives, RENEW aims to increase the use of clean, renewable, and locally available resources to produce thermal and electric energy.

STAFF

Michael Vickerman, Director
mvickerman@renewwisconsin.org
608.255.4044

Ed Blume, Communications
eblume@renewwisconsin.org
608.819.0748

OFFICERS AND BOARD

Jenny Heinzen

President, Manitowoc

Richard Hasselman

Vice President, Madison

Katie Nekola

Secretary, Madison

Shelly Laffin

Treasurer, Spring Green

Mike Allen, Sun Prairie

Chuck Alsberg, Neshkoro

Jeff Anthony, Milwaukee

John Bahr, Wauwatosa

Dennis Briley, Waukesha

Alex DePillis, Madison

Larry Krom, Spring Green

Mick Sagrillo, Forestville

Ryan Schryver, Madison

Michael Vickerman, Madison

Articles may be reprinted with credit to the author and the *Wisconsin Renewable Quarterly*, published four times a year by RENEW Wisconsin, 222 S. Hamilton St., Madison, WI 53703.

Research and publication are funded in part by the Focus on Energy Renewable Energy Program.

RENEW also moderates a blog at www.renewwisconsinblog.org.

In Memoriam: Bob Gilbertson

RENEW dedicates this issue of the Wisconsin Renewable Quarterly to the memory of Bob Gilbertson. Tribute by Don Wichert.

Bob Gilbertson was the greatest flatterer I have ever known. His relationship with most people was to address them as kings being served by their humble servant, Bob. His flattery increased proportionally to the level of a person's professional title. College presidents, legislators and executive directors could say and do no wrong in Bob's eyes. We all knew this was just a little game between Bob and his associates, but it seemed to work for everybody.

Bob commonly would introduce me as the "father" of renewable energy in Wisconsin, a phase that reflects that I am an old guy in a relatively new field for many, including Bob. In typical Bob style, he would commonly follow that by saying that I had forgotten more about renewable energy than he would ever know. Although that may

sound good on the surface, it likely really meant that neither of our memories were all they used to be.

Bob's increasing passion and the event for which he will be remembered by the Wisconsin energy crowd, is the Renewable Energy Summit. This event started as a way to get the Wisconsin Technical College System renewable energy folks together in about 2004. Over time it had morphed to a major professional renewable energy conference in Milwaukee with the appearance of the crème de le crème of political leaders, hundreds of technical speakers and thousands of students and professional attendees.

Bob never thought about retiring and was jazzed by his life and what he was doing. He made a significant contribution in the development of renewable energy to many and he will be missed by all who worked with him. In this case, we won't forget all that he knew and did for so many. ☐

Board Member Brings Green Home

Excerpts from an article by Stefanie Scott in Wauwatosa Now

Wauwatosa resident John Bahr is leading an effort to get neighborhoods citywide to reduce energy consumption. He is the home energy efficiency chairman for the city's Energy Committee, formed this year.

He is working with neighborhood associations to help them make their members aware of how household and daily activities impact the environment and local resources that can assist them in sustainable living.

Bahr's subcommittee is creating course material for five sessions on topics including reducing trash and greenhouse gas emissions, conserving and protecting water and choosing healthy, sustainable foods. Participants will be given handouts with assignments and checklists they can use to mark off accomplished activities.

"They see what they can do within their own house using this course material and have to report back to their peers on what worked and what didn't," he said.

Neighbors will be encouraged to work together to reduce energy use in their homes and qualify for group discounts on supplies and services to increase energy efficiency. He is in talks with Wisconsin's Focus on Energy regarding a group rate for home audits.

While most people will sign up because they want to save money on energy bills, Bahr said, he sees the program as having a larger benefit: helping prevent further climate change.

After the neighborhood programs gain momentum, Bahr said, he expects to expand the concept to other communities through his leadership position in the Sierra Club, as well as through schools, business groups and churches. ☐

Renewables Profile

Jenny Heinzen Reaches Heights of Wind Industry

From growing up as a tomboy in Manitowoc, Jenny Heinzen, RENEW's president, has reached heights she never anticipated, primarily when she peers over the landscape from a wind turbine 300 feet above the ground.

As the lead instructor for the Wind Energy Technology program at Lakeshore Technical College (LTC), she often finds herself in such lofty places. LTC is the only school in Wisconsin that offers a two-year associate degree for aspiring wind turbine technicians.

In addition to her LTC gig, Jenny also teaches workshops for the Midwest Renewable Energy Association (MREA).

For her classroom work, Jenny received the first-ever Educator Award from the MREA at the (fourth annual) Small Wind Conference in 2008.

Down and dirty, by contrast, might describe Heinzen's introduction to local politics back in 2005. Jenny was one of two public members selected to serve on the Manitowoc County Wind Energy Systems Advisory Committee.

The other was a rabid antiwind campaigner who made a practice of surfing the Internet to find myths, rumors and fairy tales that presented wind in an unflattering light.

It soon became Jenny's role on the committee to counter these absurd complaints with the plain facts, which she presented with her customary good cheer.

Often the lone voice of reason in the group, Jenny "naively" expected the facts to have a calming effect on the other committee members. Instead they knuckled under the relentless truth-bending and fear-monger-

ing waged by the local opposition group, and wound up giving their blessing to what would soon become one of the most restrictive ordinances in the state.

Far from being disillusioned by the antics on that kangaroo committee, Jenny resolved to become an even more effective champion for wind energy. This led to her decision to join RENEW and run for a seat on our Board of Directors.

Elected in 2007, Jenny now finds herself in another kind of high place as RENEW's president.

Q. *Why did you choose a career path in electricity?*

It was an accident, really. I never planned to be an electrician. After high school, I enrolled at the local UW and applied for a weekend job at a plastics factory to pay for that education. I took the required mechanical aptitude tests, scored well, and was highly encouraged by the company to apply for a full-time electrical apprenticeship. Since I wasn't exactly sure what I wanted to study in college, I went for it.

Q. *The percentage of working electricians who are female is remarkably low by current standards. Do you think the picture for employing women in this field will improve in the coming years?*

I hope so, but there are still very few females that are into "guy things" like changing oil or tinkering with electro-mechanical equipment. I've always been one of those "tomboys," thanks mostly to my dad. There's definitely no reason why women can't do this kind of work; what we need to address is why the interest is so low. There are great oppor-

tunities in this field. But I think it will continue to be a male-dominated trade.

Q. *What factors led you to becoming an instructor in electricity?*

While working as an industrial electrician, I was an active member of the safety committee. I took some OSHA classes, taught myself to use PowerPoint, and created an electrical safety presentation for the company's annual safety meetings. I also started a hands-on training program for the set-up and maintenance technicians. I really enjoyed doing that. So when the opportunity arose at LTC to teach, I applied.

Q. *What was it about wind energy initially that sparked an interest in you?*

The simplicity of the technology. I remember vividly the day I met David Blecker and listened to his presentation on wind energy back in 2003. The mechanics behind these wind systems were easy for me to understand - spinning rotor, magnetism, gearboxes, generators, controls, and voila - electricity without pollution! I remember wondering why there weren't more wind systems installed all over Wisconsin and the U.S.

Q. *At what point did wind energy become a passion for you?*

From a technical aspect, the passion began that day in 2003. My personal and ethical commitment to the environment and making the world a slightly better place for all who inhabit it came a few years later, when a local wind opposition group formed and began a crusade to outlaw wind energy in Manitowoc County. That was the beginning of my life in energy policy.

Q. *What classes do you teach (through LTC and MREA)?*

I am the Wind Energy Technology instructor at LTC for the August-May school year. I used to teach electrical apprenticeship, but we recently hired another instructor so I could focus on wind. In the summer months, I teach a few workshops for the MREA in wind energy and photovoltaics.

Q. *Did you have much latitude in developing the wind energy curriculum at LTC?*

Since the beginning, we have always gotten input from the wind industry. We formed partnerships and created an advisory committee that helped guide us through the curriculum-writing process. The industry told us what it needed, and we responded. We already offered many electro-mechanical courses at LTC, but everything specific to wind was “new.” Luckily I had many exceptional mentors along the way.

Q. *How unique is the curriculum you developed?*

It’s the first wind energy curriculum approved by the Wisconsin Technical College System. There are only a handful of schools in the U.S. that have similar programs.

Q. *How prepared are your students for the wind energy job market when they complete your courses?*

Our graduates are alpha-dogs. A career as a wind turbine technician is a relatively new field. As this industry grows, an educated and skilled workforce is essential. Employers are excited to host internships and hire students who are literate in electricity, hydraulics, computers,



Jenny Heizen, RENEW’s president and wind technology instructor at Lakeshore Technical College, admits to climbing so many towers that she cannot remember what tower she was climbing when the photo was taken.

and safe work practices. My students have these skills.

Q. *LTC has one operating V-15 on campus that also functions as a teaching tool. Does LTC plan to add more turbines?*

Yes! We will be installing an Entegri machine during the fall semester, and an Endurance wind turbine in the spring. They are similar in size to our V-15, but have some unique features that will make it fun to monitor, maintain and compare outputs. We are also installing a small Proven machine this fall thanks to a WE Energies grant. Additionally, we will be erecting a large tubular tower section for fall/rescue training, and just recently received a Vestas V-82 hub that will be housed in our Public Safety Arena for confined space training. This is going to be a very exciting school year!

Q. *You dedicated the better part of a year serving on a county-appointed body to develop a new wind ordinance for the county. What did you learn from that experience?*

I learned that change doesn’t happen overnight, and that sometimes what is obvious to one person is questionable or even ridiculous to another. Not everyone agrees that wind turbines should be a part of our energy future, and I had to learn to accept that and move on. I also learned that “grassroots” movements are indeed very effective.

Q. *Have you developed any special insight into the psychology that drives local opposition to wind?*

Maybe a little. I’ve tried to categorize it. First, renewables are expensive and unnecessary. (Drill, baby, drill!) Second, windmills are ugly and too close to my perfect home with MY perfect scenery. Third, what money is in it for me?

Q. *How many more years of climbing towers do you have within you?*

I love climbing! As long as my body doesn’t decay, I can see doing this for another decade or two. We’ll have to wait and see. ☺

Manure Digesters Good Fit at Waterloo Dairy Farm

by Jim Massey. Reprinted courtesy of *The Country Today*

The Crave brothers [hosts of the 2009 Farm Technology Days] got a pair of anaerobic digesters on their farm without the expense of buying the equipment.

The brothers entered into a partnership with Clear Horizons, a Milwaukee-based company that financed, owns and operates the digesters. The farm provides the manure.

“The Crave family doesn’t have ownership of the digesters, but they reduce odor and greenhouse gas emissions and they don’t have to worry about taking care of the digester,” Karl Crave said. Karl is the son of Charles Crave, one of the four brothers in the Crave brothers partnership.

Karl, who has a degree in engineering and agriculture business management, is a project manager for Clear Horizons. His job consists of finding farms where a Clear Horizons digester would be a good fit.

As a general rule, a farm would need about 1,000 animals to make a digester economically feasible, he said.

“Like any technology, it will improve,” he said. “We’re still early in this market. Physically it would work fine on a 100-cow farm, but financially it wouldn’t be feasible.”

An efficiently operating digester should remove 80 to 90 percent of the odor and reduce some of the excess phosphorus that sometimes causes problems when spread on the land. The Crave farm uses the solids for bedding, and Clear Horizons sells the excess as an organic potting mix called EnerGro, a product the company developed with UW-Platteville.

The Crave brothers’ digester was the first built by Clear Horizons, but Karl said they have another dozen in the works.

“Hopefully two or three will be built in the next year or so,” he said.

Clear Horizons markets electricity from the manure’s methane gas to the local utility. The system creates enough electricity to power 550 homes, or about three times what the Crave Brothers need to electrify their farm and cheese plant.

The liquid that remains after digestion and solids-separation goes into a pit on the Crave farm and is distributed to their 1,800-acre crops as a plant fertilizer according to soil tests and their nutrient-management plan. A drag-line irrigation system is used to spread the manure when the crops need fertilizer.

“Most farmers would rather spend their money adding cows or heifer facilities, because that’s what they’re good at and that’s what they get their return on.”

As farm cattle numbers increase, the digester produces more electricity, Karl said. The family also dumps about 5,000 gallons of whey from the cheese factory into the digester every day to be turned into electricity.

Karl said his engineering and business background was a good fit for the Clear Horizons job.

“I spent several years investigating digesters with my dad, and I kind of knew



The Crave Brothers Farm added a second digester tank and larger generator in the last year to expand the manure-fed biodigester’s original capacity from 230kW to 630 kW. Pieper Electric and Clear Horizons LLC (Division of PPC Partners), Milwaukee, installed the equipment. Visitors to the 2009 Farm Technology Days toured the installation.

“It’s been a good partnership between the company and the farm,” Karl said. “The farm gets a digester that operates as efficiently as they want it to, and they don’t have to fix it.”

The system cost about \$4 million.

“That’s why most farmers don’t have one,” Karl said. “They just don’t want the risk or the financial responsibility of doing it. So our company gives farmers that option.

too much,” he said. “I didn’t have a choice but to get involved. I love it. It’s something that you can really build on and be creative with. You don’t take manure digester class in school, so you have to figure it out and make it happen.”

Jim Massey, editor of The Country Today, www.thecountrytoday.com, can be reached at 608-574-8011 or jimmassey@mbtc.net. ♣

Solar Innovator Named Market Provider of the Year

A start-up in 2006, Hudson-based Energy Concepts became the latest Wisconsin renewable energy company to earn Focus on Energy's coveted Market Provider of the Year award.

The award was presented to founder Craig Tarr at the Midwest Renewable Energy Association's 20th annual Energy Fair.

The Market Provider of the Year award recognizes renewable energy contractors who exemplify the goals and expectations of the Focus on Energy Program. The award highlights a contractor's commitment and dedication to excellent customer service and high-quality renewable energy systems installation. Contractors who receive the honor demonstrate exceptional passion, intelligence, and dedication when providing renewable energy services.

"Craig's 20 years of experience in the engineering industry has contributed greatly to his highly successful growth in the renewable energy industry," said Emily Hickey, market provider program coordinator for Focus on Energy. "Wisconsin truly benefits from having well-qualified businesses like Energy Concepts grow our renewable energy markets."

Tarr returned the praise from Focus on Energy, saying, "Without Focus on Energy, I quite frankly wouldn't be where I am today. Since 2006 when we began, Energy Concepts has grown to a \$2 million business. We want to reach \$5 million a year in the next three years."

"Check out our Web site at energyconcepts.us," Tarr said. "It rocks, because I was motivated by a Focus on Energy marketing grant."

Focus on Energy lauded the Energy Concepts' innovative design of a solar hot water system installed on the middle school in Osceola, Wisconsin. Tarr custom-designed the controls package that allows each of pools to be solar-heated at different temperatures. The system is configured to allow the solar-heated fluid to transfer heat, in series, to the pool

that needs the most heat.

Energy Concepts also designed and coordinated the installation of this solar pre-heating system for Wigwam Mills, a major producer of socks and other cold weather apparel in Sheboygan, Wisconsin. The project recently won an SE2 Award (Sustainability—Energy Efficiency) from the Wisconsin Green Building Alliance.

A case study on the Wigwam Mills installation, produced by RENEW for Focus on Energy, showcased Tarr's skill in identifying and designing renewable energy systems that are compatible with existing facility operations and loads. "I can step out of the renewable energy box when the situation calls for it," says Tarr, who studied solar and wind engineering while obtaining a degree in mechanical engineering from the University of Colorado.

Tarr, a licensed Professional Engineer with considerable experience designing heating and cooling systems, visited the Wigwam Mills plant and studied the building's mechanicals and energy use. Though Wigwam's 200,000 sq. ft. building could easily accommodate a large solar array, Tarr's biggest challenge was to design a system that would mesh with Wigwam's five-day-a-week production schedule. Under those conditions, a typical pressurized closed loop configuration, which collects energy whenever the sun is shining, would be at some risk of overheating on the days Wigwam was closed.

Tarr's solution was to engineer a solar hot water system that allows the glycol solution to drain back into a storage tank when the system sits idle. That kind of configuration is known as a drainback system.

"You can't turn the sun off on the weekend," Tarr said. "In a pressured closed-loop system, you do not have good temperature control," says Tarr.

Wigwam's one-of-a-kind installation showcase Tarr's skill in identifying and



Craig Tarr, owner of Energy Concepts, Hudson, and Focus on Energy's 2009 Market Provider of the Year, taps his engineering training to design innovative installations to meet a customer's unique circumstances.

designing renewable energy systems that are compatible with existing facility operations and loads. "I can step out of the renewable energy box when the situation calls for it," says Tarr, who studied solar and wind engineering while obtaining a degree in mechanical engineering from the University of Colorado.

"Impeccable is the word we bandy about inside our offices," Tarr told the crowd at the MREA Fair. "We are committed to impeccability and professionalism."

The Focus award clearly supports his statement. ☐

Previous Market Provider Awards

Lake Michigan Sun and Wind, John Hippensteel - 2008

Energize, LLC, Jim Funk and PV Systems, Jim Kerbel -2007

H&H Solar, Andrew Bangert - 2006

Full Spectrum Solar, Burke & Mark O'Neal - 2005

Renewable and Energy Efficiency Events

October 2, 2009	Wisconsin's Solar Decade Conference. Milwaukee, WI. Now in its fifth year, the Wisconsin Solar Decade Conference is your opportunity to see firsthand the latest developments in the world of solar energy. For details see www.solardecade.com .
October 2-4, 2009	Wisconsin Solar Tour. Residences and businesses across the state open their doors for tours of their solar and renewable energy installations. Sponsored by the Midwest Renewable Energy Association. For details see www.the-mrea.org
October 6-8, 2009	Energy Efficiency in Manufacturing. Milwaukee, WI. Features seminars on many energy-saving topics, including supplying the renewable energy industry and energy efficiency practices. Exhibits by energy efficiency providers of services and products. For details see http://wimachinetoolshow.blogspot.com
October 19-21, 2009	9th Annual BioCycle Conference on Renewable Energy From Organics Recycling Conference. Ramada Mall of America, Minneapolis, MN. For details see http://www.jgpress.com/biocyceenergy/home.html
December 3-4, 2009	Solar Heating & Cooling Conference. Madison, WI. A national expo for the solar thermal professional. More details at http://www.the-mrea.org/
March 24-27, 2010	2010 Green Energy Summit 2010. Milwaukee, WI. More information at www.renewableenergysummit.com .

Recycled paper

Address Service Requested

RENEW WISCONSIN
222 South Hamilton St.
Madison, WI 53703