

Milwaukee, Powered by Solar and People

A Bright Beacon of Hope for Renewable Energy

by Linda Sechrist



Helios Solar Works modules on Convergence Energy's solar farm in Delavan

Never doubt that a small group of thoughtful and committed citizens can change the world. Indeed, it is the only thing that ever has. ~ Margaret Mead

In 1990, when a small group of thoughtful and committed citizens from Central Wisconsin initially assembled to plan their first Renewable Energy and Sustainable Living Fair, there were several confident optimists in the group who believed in an imminent future powered by renewable energy. Confidence was high largely because those in attendance had personally experimented with alternative forms of energy and sustainable living.

One of them was Mark Klein, the owner of Gimme Shelter Construction, who has played an active role in the Midwest Renewable Energy Association (MREA), a nonprofit, tax-exempt orga-

nization, since its founding in 1990. "I couldn't imagine that such a small group of people, with such limited financial resources, could sustain the effort of an energy fair for longer than two or three years," advises Klein, who was inspired early on by how the fair quickly assumed a life of its own, thanks to the strength of its message. "I obviously underestimated the optimistic message of the fair, which year after year continued to generate powerful support."

An Idea Powered by Volunteers

Klein recalls that MREA's founders, comprised of Amherst residents and some renewable energy advocates from other parts of Wisconsin, gathered to discuss an event that would educate the public about the benefits of renewable energy and provide a networking opportunity for those already involved in the field. "We felt confident taking action on the idea proposed by the editor of *Home Power* magazine, because we had enough experience with renewable energy to feel comfortable talking to people and showing them what sustainability looked like," explains Klein, who adds that he and his wife bought their first solar panels in 1979.

"Early MREA fairs were largely powered by volunteer energy," says Klein, who notes that the group's visionaries and highly motivated volunteers are responsible for turning an idea into a success story that not only has endured for 20 years, but has grown into a nationally recognized event that never disappoints.

Klein believes the fair has done well

in Central Wisconsin for several reasons. "From the beginning, MREA chose to invest in professional leadership and was fortunate to find committed individuals who were willing to work long hours for modest wages to make the fair happen," he points out. "The synergy between a paid, committed staff and a strong volunteer network produced wonderful results. In addition, the University of Wisconsin-Stevens Point is home to the nation's leading undergraduate program in natural resources," advises Klein, who suggests that 2012 fair visitors will leave with the same message that sparked the grassroots movement. "The message is that there is no point in waiting around for political leadership to do something. Take charge of your own environment and trust that you're part of the solution to the energy crisis and the answer to building a strong local economy," he says.

Realizing Renewable Energy Dreams

The fair's year-round effect on the local economy was showcased in 2008 by Focus on Energy, Wisconsin utilities' statewide energy efficiency and renewable resource program, funded by the state's investor-owned energy utilities. The program, which works with eligible Wisconsin residents and businesses to install cost-effective energy efficiency and renewable energy projects, reported that the annual event helped to make significant strides in growing the number of Wisconsin residents (338 in 2008) who realized their renewable energy dreams.

"The energy fair is really a story about people with the passion and

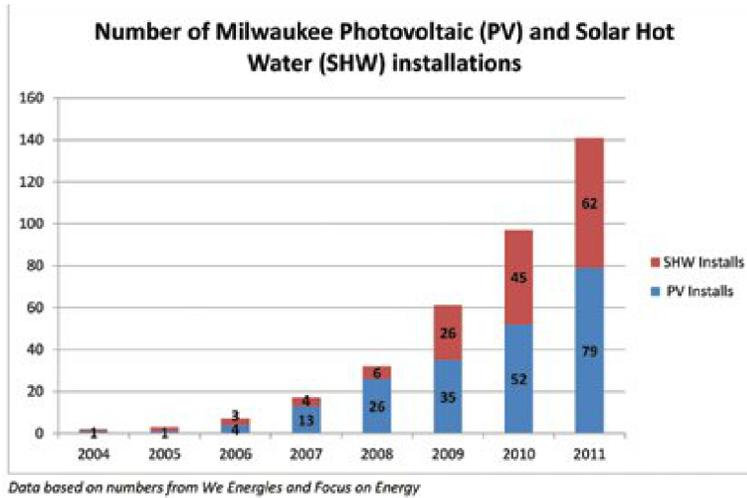


Attendees at the MREA Energy Fair enjoying an evening music program

tenacity to keep showing up to promote a workable solution that they believed in, and about Wisconsin residents who have the foresightedness to choose renewable energy solutions," says Doug Stingle, MREA development director. Today, the longest-running energy fair in the world attracts 20,000 people who can choose among lots of interesting options during the weekend: 200 hour-long workshops, as well as three in-depth, hands-on sessions; more than 200 exhibits; nationally known guest speakers; renewable home tours; an alternative-fueled vehicle showcase; several outdoor restaurants; children's activities; and evening entertainment.

MREA, which helps to build a thriving local economy with renewable energy, energy efficiency and sustainable living through education and demonstration, offers training and educational workshops for homeowners and professionals at ReNew the Earth Institute, its demonstration site and educational facility in Custer. The Institute, a 4,200-square-foot building sited on 20 rolling acres, encourages visitors to take guided or self-guided tours of its working renewable energy systems (solar electric, solar thermal and wind turbines) hands-on educational displays and demonstration garden. MREA also partners with organizations such as Habitat for Humanity, which hosts a photovoltaic training roof for participants learning to design and install solar electric.

With courses covering a variety of topics in renewable energy, the Institute welcomes an ever-growing number of green enthusiasts and entrepreneurs. Ed Stoll, of Pieper Electric, recalls taking an enthusiastic leap in 2007. Intent on getting into the solar industry before it went mainstream, he signed up at the Institute for his first solar installation class. "Because I was serious about transitioning to a new career, I took nearly all the classes offered so that I could help customers make the best choice in solar products for their



home or business," says Stoll. Today he not only stays busy working with solar installations, but also teaches basic and intermediate photovoltaic design and installation at the Institute. "I get a lot more personal satisfaction from this work, because I know I'm helping the environment," he advises.

Milwaukee Shines

Solar installations continue to proliferate within the city of Milwaukee. "The city's Milwaukee Shines program has already met a goal set three years ago for achieving 1 megawatt of solar installations," advises Solar Program Manager Amy Heart. Administered by the city's Office of Environmental Sustainability, the program is partnered with MREA to provide training opportunities to Milwaukee-based solar installers and solar site assessors.

The city's 2011 training program included the installation of solar water heaters for several Milwaukee firehouses, a collaborative endeavor by Caleffi North America, which provided \$200,000 in water heating systems; MREA; and Milwaukee Shines. Leading by example to increase public awareness, the city is taking solar technology into local neighborhoods. "We hope that having solar collectors on the roofs of the fire stations, the public library, Boys & Girls Club, Milwaukee School of Engineering and the city garage will prompt some curiosity among residents, as well as invite discussion and increase interest," enthuses Heart

Another Milwaukee Shines initiative, a solar low-interest loan program also launched in 2011, resulted in a subsequent rally to support the local economy. Homeowners intent on purchasing solar panels made in the U.S. discovered an ideal source here in Milwaukee's Menomonee River Valley: Helios Solar Works, Wisconsin's first high-efficiency, monocrystalline solar panel factory, which opened in December 2011. "Homeowners were thrilled to

take advantage of the Helios open-door policy and went to see where and how their panels were made," says Heart.

Helios Solar Works

"We invite Helios customers to our manufacturing facility to watch their modules being assembled," advises General Manager Brent Brucker, who relishes the opportunity to answer questions for visitors, especially those who are curious about why Helios chose Milwaukee for its headquarters. "The first reason is that three of the company's founders are native Wisconsinites," he says, tallying Milwaukee's other attributes: It's a manufacturing city; people have a strong work ethic and show up at their jobs despite inclement weather; and the area is home to a significant number of skilled craftsmen.

The city also benefits from local manufacturing infrastructure. "Within a short distance, we can have special glass



Mike Kastman, operator at Helios Solar Works, working at a junction box station

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and machinery built, as well as wire produced. This allows us to expand our support of the local economy and save on shipping,” explains Brucker, who also credits the Wisconsin Department of Commerce’s State Energy Program, which provided Helios with a \$1.4 million clean energy loan.



MREA training with the Housing Authority of City of Milwaukee (photo courtesy of HACM)

One of the myths that Brucker enjoys dispelling is that Wisconsin doesn’t receive enough sunshine to support the solar industry. “The most successful country in the global solar market is Germany, which gets the same amount of sun as Seattle and Alaska. Wisconsin gets more sun than either,” he says.

Creating a Cleaner, Green Future

No one had a crystal ball in 1990 to predict that it would take 22 years for renewable energy to gain the kind of momentum reported by Bloomberg New Energy Finance (BNEF), a leading provider of independent analysis, data and news in the clean energy and carbon markets. According to BNEF, in 2011, global spending on new renewable energy projects hit a record \$195 billion. BNEF estimates that annual spending on new clean energy projects will not only surpass that amount in 2012, but may also double. They also estimate that by 2020, annual investments in adding clean energy capacity will reach \$395 billion, driven largely by fast-paced growth in solar and offshore wind.

Milwaukee is a bright beacon of hope for renewable energy, not simply because it was designated in 2008 by the U.S. Department of Energy as a Solar America City (one of only 25 in the U.S.) or because it embraced solar power, but because its citizens and businesses are committed to a cleaner, green future. Two international clean energy giants—Italy-based Caleffi and Ingeteam, from Spain—have established their North American headquarters in Milwaukee, creating several hundred jobs for local residents.

With the presence of these global solar leaders, Milwaukee is uniquely positioned to serve not only the U.S. market, but also local needs. Milwaukee Shines’ recent solar financing program and the dramatic drop in the cost of solar components provide significant reasons and perfect conditions for Milwaukee homeowners to reconsider a solar installation to reduce energy costs.

The city of Milwaukee, MREA, Milwaukee Shines and leaders of the solar industry aren’t just envisioning a future that sees solar electricity as a major component of the world’s future energy mix, they are creating one that is already serving as a driving force behind American manufacturing strength and helping build a strong local economy.

For more information, contact the Midwest Renewable Energy Association at MidwestRenew.org. Also visit FocusOnEnergy.com, City.Milwaukee.gov/MilwaukeeShines, PieperPower.com and HeliosSolarWorks.com.