



From left Jim Sherow, Madonna Stallmann, Cherri Harper, Ben Champion and Mike Life install solar panels at Cherri Harper and Jacque Gibbons' home at 10520 Harvest Road between Manhattan and Wamego. Photos courtesy Cherri Harper

Local volunteer group works to improve access to solar power

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The 2010 BP oil spill — identified by some as the worst environmental disaster in U.S. history — pumped an estimated 4.2 million barrels of oil into the Gulf of Mexico, killing 11 people and more than 8,000 animals and polluting 16,000 miles of coastline.

Because of the risks associated with oil use, Cherri Harper, vice president of the Flint Hills Renewable Energy and Efficiency Cooperative, said she prefers safe alternatives, like sunlight.

"A 'solar spill' is no disaster," she points out. "It's just a very nice day."

FHREEC — pronounced "freak" by members of the organization — is a collective of volunteers dedicated to improving access to solar energy for Manhattan area residents.

The organization makes it easier and cheaper for people to install solar panels on their houses by educating them about the installation process and buying the materials in bulk.

"It started out as just friends helping friends," Harper said of the group, which began to take shape in 2011 when a few Manhattan residents discovered a shared interest in renewable energy. Cooperative president Bill Dorsett and member Carol Barta joined Harper in officially founding the organization the following year.

Having achieved nonprofit status in October, the group has grown from just a few founders to a mailing list of more than 100 people.



The group's founders got started by installing solar panels on their own roofs.

Since then, members have helped property owners install 30 systems on area rooftops. The solar

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arrays, averaging around 180 square feet and typically containing around 10 panels each, allow residents to supply a portion of their own electricity.

Dorsett explained why it makes sense from an economic perspective in addition to an environmental one.

Having worked in the solar industry for almost 35 years, he has plenty of experience under his belt. Dorsett started out installing solar-powered livestock watering systems, then followed the industry through various phases of technological development before switching to residential systems within the past decade.

The return on investment for a residential solar installation in today's market, Dorsett said, is on average 6.3 percent as a result of lower monthly electricity bills.

By connecting their solar panels directly into the grid, homeowners have the option to supply as much of their own power as they can and sell any surplus back to the power company.

Dorsett said the price of the panels has fallen significantly within the past 10 years or so, resulting in a smaller initial investment for homeowners.

"There just really isn't any downside," Harper said. "There's no way it hurts the earth and no way it hurts people."

She said the panels typically pay for themselves in around eight to 10 years. An installation of 10 panels will produce about a third to a half

of an average household's electricity usage. The total initial cost of a 10-panel system, including hardware, fees, permits and electrical hookup comes to a little less than \$600 per panel, if you install them yourself.



One key technological advancement to residential solar systems was the development of microinverters, which convert the sunlight striking each individual panel directly into electricity, reducing the voltage of power traveling through the system and nearly eliminating the risk of electrical shock in the process.

"It's made installing the systems absolutely safe," Dorsett said.

The ability to exchange power with the grid also has made household solar installations more viable in recent years. Before that technology was available, homeowners had to rely on industrial-size batteries to store excess electricity produced during the sunniest times of the day.

Once the panels are plugged into the power lines, however, any excess electricity can be transmitted to neighboring houses. What's more, the power company actually benefits from their energy production because it takes place primarily during peak load times when the demand for electricity is highest — around the middle of the day when the sun is strongest and people are using their air conditioners, appliances and power outlets.

"Not to mention it's like having a huge tree over your house," Dorsett said, referring to savings on air conditioning that result from solar panels absorbing sunlight before it can transmit heat into the house.

"It's a great win-win," Dorsett said. "Rooftop solar makes all the sense in the world."

He said some power companies have started funding residential solar installations that they then lease back to the homeowners because the energy produced saves money for everyone involved.



Dorsett and other FHREEC members have been active in advocating against proposed Westar rate increases that would make it harder for homeowners to cut their electricity bills with renewable energy sources. Most recently, they opposed Westar's efforts to institute significant increases to the customer charge portion of each household's electricity bill — a flat monthly fee that doesn't change no matter how much of your own electricity you're able to produce. There are currently less than 300



A group lifts a panel to the roof at 1715 Leavenworth St.

houses with solar panels out of Westar's approximately 700,000 residential customers, which amounts to less than .05 percent.

"So we've got a lot of rooftops to fill," Harper said.

She said the organization hopes get the word out, particularly now that it has achieved nonprofit status.

For Barta, another one of the founding members, the group provides a network of individuals devoted to pursuing a more sustainable way of life.

"Just the electric bill was never my motivation," she said.

Barta described how the organization provides people with a means of living more independently.

"It's really fun to see people learn things they didn't think they could do — to see people who maybe haven't used a tool before learn how to measure where the sun is, how their house is constructed, and to see them become more confident in knowing they can take care of themselves," Barta said.

In the process of growing solar power, the group also is building community.

"The issue is really fascinating because people who are usually in different camps come together," Harper said.

She said she was surprised by how diverse the group has become in terms of income, educational background, and political and religious views.

"This organization has given people a way to make a difference — in saving the earth, reducing bills, meeting people and being empowered," Harper said.

"It's making a difference in a good way," she said. "That's what's really very exciting."



Solar panels line the roof of a garage at 3624 Anderson Ave. Staff photo by Sarah Midgorden