



## Clean energy heats tribal homes

Entrepreneur trains tribal members and cuts energy costs in half

Henry Red Cloud's journey linked him to one source of renewable power in his Native American heritage and to another in a clean-energy future. The South Dakota entrepreneur—he is a descendant of the famous Sioux chief Red Cloud—is the founder of Lakota Solar Enterprises, which manufactures residential solar heaters and alternative energy and conservation devices.

His company is one of what is believed to be a small handful of renewable energy businesses fully owned and operated by Native Americans in the United States. The products they manufacture help tribes across the West improve their standard of living while reducing energy costs and emissions.

### Solar devices provide big energy savings

In the rush to develop clean jobs to lift the economy out of recession and slash greenhouse gases, the contributions of Indian tribes get overlooked by the actions of venture capitalists, scientists and government officials. Yet, from Alaska to Oklahoma, New Mexico to Minnesota, tribes are using renewable energy to grow local economies and improve housing.

In 2004, Lakota Solar Enterprises partnered with the Colorado-based non-profit group,

Trees, Water & People, to begin assembling solar heating systems for Pine Ridge, S.D., families. The devices, box-like and about the size of a sheet of plywood, capture sunshine to heat air and blow it into houses, cutting energy costs by about one-third. The devices cost about \$2,000 each and the energy savings repay the initial investment in about five years. When used in conjunction with energy conservation measures, residential energy savings can be even greater, Henry Red Cloud said. He said the 62,000 residents of Oglala Lakota Sioux tribe at Pine Ridge cut

“If I was living a couple hundred years ago, I’d be doing the same thing—bringing resources back to the family... I’m just doing my warrior deed.”

—Henry Red Cloud,  
entrepreneur

**Above:** Henry Red Cloud in his Renewable Energy Center on the Pine Ridge Reservation in South Dakota.  
PHOTO: Trees, Water & People

their annual energy bill in half, saving over \$1 million annually.

So far, Lakota Solar Enterprises has installed about 500 residential solar heaters and, working with other tribes to make the equipment, has created 72 jobs. Lakota Solar also sells solar electric devices and residential wind turbines.

### Promoting economic stability within the tribe

The work has been a journey of the soul for Henry Red Cloud. Fifteen years ago, he was traveling around the nation welding girders and erecting high rises as a structural steel worker. But he said he missed his home in Pine Ridge, so he returned.

“But I couldn’t find work when I returned, so I figured I would just create work and make jobs for other people,” he said.

With help from the federal government, he opened the Red Cloud Renewable Energy Center in South Dakota to train other Indian tribes in all aspects of renewable energy development. It is part of a broader effort underway to provide training and jobs for Indian people.

Bob Gough, secretary for the Intertribal Council on Utility Policy in Rosebud, S.D., understands the importance of creating jobs within the community. He said tribes have a desperate need for housing because one-third of U.S. Indians live in trailers or



Trainees at the Red Cloud Renewable Energy Center prepare solar panels. PHOTO: Trees, Water & People

manufactured homes that are no match for frigid winters on reservations across the Plains or interior West. He said government studies show 200,000 new homes are needed on reservations and the council funds projects to help students learn to make homes of hay bales, which have twice the energy efficiency of a typical suburban house.

“For tribes, there will be lots more jobs in house construction than, say, wind turbine construction,” Gough said.

### Training the next clean energy generation

In New Mexico, the Southwestern Indian Polytechnic Institute received federal funding to train students in renewable energy. The institute plans to offer certificate programs in energy auditing, wind energy and photovoltaic solar installation beginning in the fall of 2010.

Nader Vadiie, an electrical engineer who runs the institute’s Department of Advanced Technical Education, wants to train a generation of renewable energy opportunists. Meanwhile, the institute is also in the midst of generating all its electricity and heating needs from renewable energy sources.

“All our students are Native Americans, so this will directly impact tribal communities. We want to develop entrepreneurs who can make technology-based businesses on tribal lands,” Vadiie said.

Henry Red Cloud sees these efforts as a renewal of the land ethic his ancestors lived.

“Becoming sustainable is in our culture, our language, our heritage,” Henry Red Cloud said. “As native people, we have a strong connection with things like this, so it helps us get balance and create hope. It’s our new way to honor the old way,” he said.



### Renewable energy challenge

In April 2010, students from the Southwestern Indian Polytechnic Institute shared a first place award in the Indian Education Renewable Energy Challenge. They won a trip to Washington, D.C. and a \$5,000 cash award. The contest encourages renewable energy development among students and teachers on tribal lands.

The Bureau of Indian Education, the Indian Affairs Office of Indian Energy and Economic Development and the U.S. Department of Energy’s Argonne National Laboratory sponsor the contest.

A teacher helps students assemble their winning portable wind turbine model. PHOTO: Southwest Indian Polytechnic Institute