Dawna Hawley (second from left) and other students helped install a solar thermal heating panel as part of an NC Solar Center training program.

Training for a CLEANER FUTURE

The North Carolina Solar Center, an arm of the College of Engineering, is training state residents for jobs in the burgeoning green economy.

When the husband-and-wife team of Dawna Hawley and Marc Desormeau opened Sundogs Solutions in early 2010, they wanted to be a one-stop-shop for homeowners looking to save energy.

Both had backgrounds in housing — Dawna as a real estate broker and Marc as a contractor, but they hoped to offer more than the standard weatherization services and energy audits. So they completed training programs at the NC Solar Center, and now Sundogs Solutions can install solar panels and consult on green building projects. And since the Solar Center is in the area — Sundogs Solutions serves the Triangle — they continue to network with instructors and fellow students.

"You're meeting plumbing and electrician contacts," Hawley said. "And the instructors are often local experts who are available for questions outside class if you're stumped on something."

Each year, the training programs offered at the Solar Center, part of the College of Engineering at NC State, teach hundreds of North Carolinians skills for the burgeoning green economy. Since 2004, about 1,000 electrical contractors, engineers, architects and other professionals have earned continuing education "diplomas" at the center through its Renewable Energy Technologies Diploma Series.

They've learned to install rooftop solar panels and home wind turbines, use building materials that save energy, and grow crops for biodiesel production. And thousands of other North Carolinians have been touched by the center's additional outreach and training programs in green building, clean transportation and clean energy.

This record of success helped the center recently land a $2.3 million grant from the US Dept. of Energy to train up to 40 community college and high school instructors annually on solar technologies. The idea for the program is to tear down two primary barriers preventing widespread adoption of renewable energy systems: the lack of quality trainers who can teach others to properly install the systems and the absence of a proven, standardized training curricula so everybody is following the same installation rules.

"It's up to us to make sure the quality control is where it needs to be," said Steve Kalland, the Solar Center's director.

Among the center's goals, Kalland said, is to prevent the free-for-all approach to renewable energy of the 1970s, when generous tax credits, coupled with high gas prices, drew a flood of entrepreneurs into the market. But there wasn't much oversight, and it seemed like everyone in the industry was doing something different. So when the tax credits dried up and gas prices fell during the following decade and many of those entrepreneurs went out of business, homeowners were left with poorly installed solar-energy systems and no one to fix them.

But over the past few years, the industry has recovered, and the Solar Center has worked to expand it in a controlled way. The renewable energy and energy efficiency industries supported about 12,500 jobs in North Carolina in 2010, up 22 percent from a year earlier, according to the NC Sustainable Energy Association.

"Until a year ago, many of these folks were conventional plumbers and electricians," Kalland said. "And they're looking at the slowdown in the housing and residential construction markets and they're saying, 'What can I do to diversify? Renewable energy equipment is still selling, so maybe I should diversify into that.'"

Among the students at a November training session at the Solar Center was Terry Rademann, a trades instructor and licensed builder at Coastal Carolina Community College in Jacksonville, NC. The college is working to incorporate more green building into its curriculum, and Rademann had spent the past two years earning certificates from the center.

Rademann has years of experience with renewable energy materials, but the Solar Center diplomas provide a stamp of approval that he can advertise.

"This gives me legitimacy," Rademann said. ▪

Getting green for going green

There's lots of cash out there for residents and businesses that want to save energy. But where to find it?

Look no further than the Database of State Incentives for Renewables and Efficiency, an ongoing project of the NC Solar Center and the Interstate Renewable Energy Council. Known as DSIRE, the site is considered the nation's premier source of information on state, local, utility and federal incentives and policies that promote renewable energy and energy efficiency. The site gets more than 250,000 unique visitors per month.

A recent search for North Carolina, for example, turned up electricity discounts for Energy Star-certified homes, tax credits for companies developing green technologies and tax exemptions for homes with solar energy systems.

Check it out at www.dsireusa.org.▪

Training at the NC Solar Center

Training areas

- ›› Photovoltaics (solar electricity)
- ›› Solar thermal heating
- ›› Wind energy
- ›› Biodiesel
- ›› Green building
- ›› Clean transportation
- ›› Clean energy applications

Credit hours offered in 2010

- ›› 2,260

More information www.ncsc.ncsu.edu