Tucked away in the Longfellow neighborhood, Jason Holtz and Brooke Dierkhising's home reflects a deep commitment to energy efficiency. Their two-story home includes rooftop solar panels, a cozy wood-burning stove, and many other energy efficient and sustainable finishes.

"When we moved into our home, we wanted to make it our own," Dierkhising said. "So we started making little improvements." They purchased their home when it was in foreclosure, and had to replace almost everything, including the furnace—now a very energy efficient, smaller model. They insulated the whole home, part of their strategy to begin with improvements "where we would pay the least with the biggest [energy savings] impact."

Dierkhising and Holtz continue to improve their home's energy efficiency. "We did improvements as money and opportunities arose," Dierkhising said. "We took advantage of solar tax credits as they arose." They have 2.7 kW of solar on their south-facing roof. The solar energy that these panels generate covers about 75% of their electricity needs each month, and makes their electricity bill "insignificant." They also have found federal tax credits for other improvements, such as their patio door, which is triple-paned and extremely energy efficient.

Figure 1: 2.7 kW of rooftop solar

Dierkhising and Holtz realize that it can be tough and expensive to start making energy efficiency improvements. Dierkhising listed the three easiest things that she would recommend to a resident interested in improving home energy efficiency:

1. Sign up for a Home Energy Audit, such as Xcel Energy's Home Energy Squad visits (Dierkhising and Holtz have had two)
2. Insulate your pipes
3. Install a programmable thermostat

Home Energy Audits are a great place to start becoming more energy efficient because they include immediate installation of energy saving devices. A group of trained professionals assesses your home energy use and suggests changes you can make to reduce your energy consumption. "They give you a checklist and you decide what to do," Dierkhising said.

Dierkhising also suggested insulating your pipes and installing a programmable thermostat. "Programmable thermostats are so great because you don't have to think about turning it down," she said.

Dierkhising and Holtz also have an electric water heater on a timer. The water is heated for about four hours total daily, two hours in the morning and two hours in the evening. This gives them plenty of hot water for showers and dishes. They also cover their water heater with a blanket, increasing heat retention.

Figure 2: Programmable water heater timer

Transition Longfellow , an energy conservation group in the Longfellow neighborhood, has been a helpful source of information. Dierkhising and Holtz have learned from Transition Longfellow more about being sustainable, using fewer resources, and reducing their carbon footprint. They have also learned about smaller scale home improvements, like hanging quilted, insulated window coverings and curtains that fit snugly in the window and improve energy savings in all seasons.

Dierkhising and Holtz keep their home around 78 degrees Fahrenheit in the summer. Even though they have central air, they prefer to use just one window unit when it gets very hot, and spend time in the cooler part of the house. They also have a wood-burning stove for the winter.


Figure 3: Wood burning stove

Dierkhising and Holtz acknowledge that installing and maintaining their energy efficient systems can be challenging. “You get excited about these things and the other half is keeping them up,” remarked Dierkhising . “It’s about constantly recommitting to keep it up, to turn the thermostat down.” For Dierkhising and Holtz, making conscious lifestyle choices to live more sustainably is important. They have replaced their LED lightbulbs slowly when they have money to do so, and over time have installed low-flow faucets and showerheads.

“Do it over time,” Dierkhising advised. Making energy efficiency improvements is not cheap, she said, but improving over time makes it easier.