

# Lanesboro man sharing energy-efficient living design

By Mary Whalen  
*Bluff Country Reader*

The lifestyle chosen by rural Lanesboro resident, Christian Milaster, reflects the bumper sticker on his vehicle which reads, "We must be the change we want to see in the world."

This quote, so close to Christian's heart, is attributed to Mahatma Gandhi, known throughout the world not only for his practice of living a life of non-violence and seeking truth, but advocating changing the world one person at a time.

The commitment to making a viable change in his world is most obvious in the home Christian designed.

Although the idea of "Licht 'n Stein" ("Licht" meaning light and "Stein" meaning stone in German), may have been planted as a seed early in this man born, raised, and educated in Germany, the germination process began years later.

In his diary entry on the 27th of October in 2003, Christian writes, "Project Licht 'n Stein. Alternative Strategies for Dwellings. Being 'green'... showing that



**Christian Milaster stands on the deck of his energy-efficient, "off-the-grid", "off-the-well", "off-the-furnace" home near Lanesboro. (Bluff Country Reader photos by Mary Whalen)**

'one' can do it... Today is Monday. The last Monday in October of 2003. If all goes well, we will be putting the last finishing touches on [the house] in exactly a year. And move in on Halloween 2004. And have a house warming party with lots and lots of people on Thanks giving weekend."

Now, five years later, this off-the-grid homeowner welcomes family, friends and visitors to experience the possibilities of

building or transforming dwellings that are attractively designed, environmentally-friendly and cost effective.

"Even the simple decision to use compact-fluorescent light bulbs makes a huge difference over time," explained Christian. "I wanted to prove that it is possible to have a comfortable home with all the modern conveniences and still make the best use of the natural resources available to us."

His home—which is about 2,400 square feet of living space—includes wireless internet, a whole-house audio system, masonry stove, dishwasher, washing machine and garage door openers. The design comprises wind energy, a passive solar design, a rainwater collection system and insulated concrete forms.

Christian's education as a Diploma Engineer in Technical Information Science (a Masters

of Science equivalent) from the Technical College in Wedel, Schleswig-Holstein, Germany, and his employment in Germany, Canada and the United States, moved him toward a realization of the important elements involved in preserving global resources.

Presently at the Mayo Clinic, Christian works as a project manager in the Division of Engineering where he and his colleagues design and build unique devices for Mayo's clinicians and researchers.

He is a member of Rotary International and a trained



**Christian Milaster invites all to experience his house at the Licht 'n Stein fall open house on Oct. 4 and 5, from 9 a.m. to 5 p.m. each day.**

Prejudice Reduction Workshop Facilitator for the Rochester Diversity Council. He also serves on the board of directors at the Eagle Bluff Environmental Learning Center in Lanesboro and the Lanesboro Art Council and is the 2008 board chair of the Rochester Area Quality Council.

The passion of this man, who leads by example, resonates

internally to be a normal Minnesota house. However, it is totally "off-the-grid, off-the-well and off-the-furnace."

The home of Christian Milaster is more than just energy independent. It is an attestation to superb planning and design.

"Not only did a great deal of personal research go into planning 'Licht 'n Stein' but I was always telling others what I

was considering and asking their opinions. By listening to those who had already built environmentally-friendly or standard homes, I gained a great deal of knowledge which I implemented in the building of this house," he said.

Researching brought forth decisions to use milk based paints, bamboo floors and recycled plastic. Presently, all electrical energy used in the

house is generated by wind. Christian has an efficient system devised for collecting rain water where one inch of rain provides him with 1,500 gallons of water serving his needs for approximately four to six weeks, thus eliminating the need to drill a well. Although he still purchases drinking water, Christian plans to purify the rainwater in the near future.

Purchasing energy-efficient appliances and quality materials locally has been a priority for Christian.

He explained, "The limestone in my masonry stove is from a quarry in Spring Grove, the granite counter tops came from Cold Springs, Minn., the staircase and doors are from a company in Elgin, Minn., and the sunflower-shell-seed boards in the cabinets are from Mankato.

"Making improvements can be accomplished in any house; but the first step is to measure how much energy you actually use to see how much you can save," continued Christian. "So many people don't know what their energy consumption is and, therefore, aren't aware of how they can reduce it. I recommend that people consider purchasing a device such as the 'Kill-A-Watt' meter that actually shows you how much energy each electrical appliance is using."

This inexpensive device has a

large LCD display which counts electrical consumption by the kilowatt-hour very much like utility companies' meters register energy usage.

"Once you know the amount of energy electrical products are using in your home, you can make changes," Christian explained. "There are many ways to accomplish energy savings and I am interested in sharing what I've discovered."

Christian offers to perform energy audits for homeowners and businesses by analyzing current electric, heating, and water usage and offering recommendations to lower them without sacrificing comfort.

Christian also wants to share his knowledge of "green, energy-saving, and environmentally-friendly" technologies through "Green Remodeling and New Construction Project Management."

His work as an advocate with architects, builders and other trades people has proven to be successful in achieving the completion of sustainable, low-maintenance, low-utility bill building and remodeling projects.

Christian can, for example, help to answer the following questions for home and business owners: "Will a geothermal system/heat pump work for me? Can I get enough energy from the wind? Can I



The modern kitchen with 21st-century conveniences includes natural materials and common appliances.

get hot water from the sun? Which appliances waste the most of my dollars? and How big is my carbon footprint?"

Christian believes that when people take ownership of the energy they consume, less energy is wasted. Lights, radios, television and computers can easily be turned off when not in use. Less water can be used. Energy-efficient lighting, like compact fluorescents (which only use a quarter of the energy of regular incandescent light bulbs), motion lights (which turn off when you leave the room), low-wattage LED rope lights (along the ceiling to give a small amount of ambient light to a dark room), and low-energy fixtures for task lighting can be installed.

All appliances in Christian's house are low-energy and low-water consuming models. Christian tested the wattage of all appliances with a Kill-A-Watt meter, which measures the amount of energy used. He has also installed timers for outlets with appliances that consume energy (phantom power) even when off (such as washing machines or cell phone chargers). Controlling for energy use is essential to the efficient running of a self-sufficient home, such as balancing room temperatures with the activities in those rooms.

"Everyone wants to save money," Christian concluded, "and the changes I have made in my house will save me over

\$300,000 in utility bills over the next 30 years."

To experience this "off-the-grid, off-the-furnace, off-the-well year-round residence in southeastern Minnesota" with a man of vision, who is stepping into the future today, make plans to attend the Licht 'n Stein fall open house on Oct. 4 and 5, from 9 a.m. to 5 p.m. each day.

Christian's driveway is on Hidden Valley Drive off of Highway 16 in Lanesboro. For more information about the house, directions, or his consulting services one can go to his Web site at [lichtnstein.org](http://lichtnstein.org) or email him at [questions2008@lichtnstein.org](mailto:questions2008@lichtnstein.org)

## House Facts

- **House specs.** 36 x 38 footprint; 24 x 36 living space; one-and-half level house with full basement, 2,400 sf living space ; 11" insulated poured concrete walls from footings to gable and a 4" floor slab on top of basement; 2 foot overhangs; fiber cement lap siding; energy-efficient fiberglass-frame dual and triple-pane windows; maintenance-free decking made from 100% recycled milk jugs. Constructed by Lyndon Clark Construction of Plainview; mill work by Matt Sveen of Region Millworks of Elgin; cabinets by Andy Bunge Construction of Lanesboro.
- **Electricity.** Main source: wind energy, supplemented soon by photovoltaic cells (to be installed). Propane generator back-up. Battery storage consists of 12 two-volt batteries (each battery weighs 166 lbs.).
- **Water.** Main source: rain catchment. 7,500 gallon storage. Filtration system with roof washers, settling tank and mechanical screen filters. Back-up intake setup to receive water from a tanker if needed.
- **Heat.** Multiple sources: passive solar design with Masonry Stove wood heat. Solar panels will be installed on the roof that will heat water for radiant in-floor heat. Both the masonry stove and solar panels can heat water for in-floor radiant heat, which is zoned to twelve areas of the house.
- **Hot water.** On-demand propane water heater that will be a back-up to solar water heater after solar panels installed.
- **Ventilation.** Second floor bedrooms have window-like openings to allow hot air that rises to circulate through house. All rooms have ceiling fans. Whole house Air-to-Air exchanger. Designed for cross-ventilation at night during the summer.



**A man of vision, Christian Milaster uses the power of the wind, the sun, and the rain, living the future today.**