

Renewable Energy

There's new student housing at Ohio University, and it lends insight to issues as big as energy use, food security, clean air and global warming. Welcome to the Ecohouse, where they won't leave the light on for you.

"Students, faculty and even community members can come together to work with Ohio University to improve this house on Dairy Lane in ways that demonstrate affordable, green technology and sustainable living in our Appalachian region," resident Nathan Jud tells me. (It's clear this is not the first time he's uttered these well-practiced words.)

Nathan offers me a tour of the Ecohouse grounds, located behind The Ridges and near the Dairy Barn arts center, just a 15-minute walk from campus. In many ways, the house resembles others in the area with its red brick exterior, spacious front porch and durable slate roof. The first difference I see takes the form of two solar arrays outside — a 2,000-plus-square-foot model for electricity and one less than half that size for hot water.

'Every year she tried to battle the poison ivy, and every time she lost.'

Hallie Morris, a junior majoring in environmental geography and women's studies, cites the influence of her mother, an avid gardener.

We walk from the solar panels to the clothesline ("the original solar clothes dryer"), then past the compost heap to the garden, where ripe tomatoes are protected by a solar-electric deer fence. "The main reason we have a garden here is because the second-most polluting act we do is eat food," Nathan says, referring to the high environmental costs associated with transportation, pesticides, fertilizers and packaging. (Travel is the most polluting act.)

In addition to maintaining their small plot, Ecohouse residents carpool to the Athens Farmers Market each week with other members of the Sustainable Living Organization (the acronym, SLO, is intentional). Between Nathan and his housemates, Ty Dawson and Hallie Morris, someone from the Ecohouse belongs to SLO, the Green Network or the Student Sierra Coalition — all student organizations committed to environmental projects on campus and beyond.

For example, SLO initiated a course offering in the

Department of Civil Engineering titled "Sustainable Applications: Biodiesel," the first of its kind in the United States. Students learn about biodiesel production and study business and marketing strategies as well as government regulations. The university now gives away its dining hall fryer grease to be turned into biodiesel; in the future, SLO hopes to see the grease converted for use in campus vehicles. (To learn more about biodiesel, see the "Field Notes" section on page 34.)

Serving up green ideas

My first trip to the Ecohouse is to attend one of the monthly potlucks that serve as an open house, workshop and general networking opportunity for students, alumni, community members and faculty. Kids and pets run around the yard while adults prepare the soil for an herb garden.

Inside, people are stepping up to a dinner table of local, fresh and mostly vegetarian food. There's a fair bit of talk about the cost of installing solar panels — in the case of the Ecohouse, that came in at \$23,000 for the 2.4-kilowatt array. The cost was covered by grants from the Ohio Department of Development and Cinergy (now Duke Energy). In the late '90s, Cinergy conducted what is known as performance contracting at the university, overseeing upgrades in lighting fixtures, heating and air conditioning units, and water flow devices such as toilets and showerheads; these upgrades produced major utility cost savings.

Some people are quite surprised at the expense of the solar panels. "People say, 'I can't do that,'" says Katy Reichlin, BS '06, who lived in the Ecohouse during its inaugural 2005–06 year and is here for the potluck. "But people should know there are so many lifestyle choices you can make that don't cost a lot of money."

Katy is eager to show visitors the low-cost changes she and others made to the Ecohouse in year one. For example, the lights are highly efficient compact fluorescents, and the cleaning kit contains store-bought green cleaners as well as baking soda and vinegar. New appliances have earned the

CLOCKWISE FROM TOP: Ecohouse residents Hallie Morris (left) and Nathan Jud share dinner with writer Mary Reed; Hallie and Nathan review promotional items for OHIO Unplugged, a sustainable living-themed music festival; Sonia Marcus' dog wanders among event posters; a Sustainable Living Organization meeting in progress.

There's no shortage of bright ideas at the Ecohouse, where students, faculty and neighbors experiment in green living. **Story by Mary Reed**
Photography by Kim Walker



Environmental Protection Agency's Energy Star approval, meaning their efficiency allows consumers to recoup the purchase price in utility bill savings.

While the first year focused on installing major items such as the solar panels and appliances, year two for the Ecohouse means focusing more on outreach and being a willing research subject. "I think the coolest thing I've done is interact with pros who want to pilot their designs here," Katy tells me after our tour. She cites the work of Gerardine Botte, assistant professor of chemical and biomolecular engineering, who wants to create an ammonia-powered fuel cell to generate energy from the Ecohouse's old septic tank.

'I spent all my time working on the merit badges in the nature realm.'

Nathan Jud, a senior environmental and plant biology major, was a nature-conscious Eagle Scout.

"Ideally, it would be great to test this technology at the Ecohouse," Gerri tells me later. "It would not only test the feasibility of the technology, but also test what it means to live with something like that in your house. It could be set up outside a lab and tested, but nobody's living there."

Living in community space

My second visit to the Ecohouse coincides with an evening Renovations Committee meeting. Residents, project advisers and volunteers all work on Ecohouse committees, which include renovations, education and outreach, land use and communications. Nathan and Hocking College student Danny Young lead tonight's meeting in the living room.

Other attendees include more students and Sonia Marcus, MA '06, Ohio University's first resource conservation coordinator; in fact, hers is the first position of its kind at any public university in Ohio. Sonia coordinates and oversees campus outreach, communication and education efforts that relate to conservation and sustainability. The performance contracting initiated by Cinergy (and later taken over by the university itself) provided funds for her position.

Utility savings from equipment upgrades generally make up for the initial costs within three to five years. After that, the savings is gravy. That is why Sonia is here to share a plate of

sliced pawpaw fruit, picked wild from the woods just today.

The committee and I head outside to visit the "greasel" filtration system inside the Ecohouse garage. It's full of jugs of restaurant fryer grease and a series of cheesecloths that strain out impurities. Next, the grease goes to a high-tech purifier and then into a large drum with a gas station-style fuel pump. This is where members of the greasel collective who own diesel cars or trucks come to fill up — practically for free.

"There are many aspects of Ecohouse living that don't involve large capital expenditures," Sonia says, repeating the Ecohouse mantra that going green can actually save you money.

Back inside, Sonia distributes posters for the first OHIO Unplugged event, coming up soon. Billed as a renewable energy-themed music festival on South Green, it's also the university's first official zero-waste event, meaning only recyclables and compost will be generated (and the stage will be 100 percent solar-powered). Most everyone here is familiar with OHIO Unplugged and the other Athens Area Sustainability Awareness Week events because they're helping to line up speakers, films and practical demonstrations. At the end of the observance, the Ecohouse will again open its doors when it becomes a stop on the southeastern Ohio arm of the 2006 National Solar Tour.

While Sonia's dog plays in the living room and pawpaws are passed around, the group discusses what kinds of renovations should be prioritized this year at the Ecohouse. A new furnace is in the works, most likely one that will burn wood pellets made from sawmill leftovers and corn that's unsuitable for feed. Everyone agrees to go home and mull over other ideas.

Sharing philosophies

I've invited myself over for dinner, so the two residents at home now — Nathan and Hallie — treat me to a vegetarian stir-fry and baked sweet potatoes. Ty is on a Midwest campus tour with the Sierra Club. After we chop vegetables, Nathan takes the scraps to the back porch and places them inside the worm composter — a plain, plastic bin that opens to a combination of fresh vegetable scraps and dark, moist worm castings that already resemble soil. The worms aren't even visible.

We start cooking the rice on the stovetop but transfer the pot into the "haybox," a heavily insulated compartment made from a thrift-store end table. It takes a little longer, but the rice finishes cooking in the haybox, so we use less energy.

Over dinner, the residents tell me living in the Ecohouse is mostly the same as inhabiting any other home. Among the few

10 ways to green your home

1. Replace incandescent lightbulbs with compact fluorescents.
2. Buy local and organic food.
3. Compost your food scraps and yard waste.
4. Use nontoxic cleaners.
5. Program your thermostat.
6. Install low-flow faucets and showerheads.
7. Plant a shade tree on the south side of your home.
8. Stop junk mail (www.newdream.org/junkmail).
9. Keep houseplants to improve indoor air quality.
10. Buy Energy Star-rated appliances.



notable differences is the obsessive tracking of energy spent and saved. "You know, you can talk the talk, but this is our chance to walk the walk," Nathan says.

They also share their living space with the public in addition to one another. But it's becoming increasingly clear that none of the residents spends much time at home. Between classes, jobs and meetings — lots of meetings — the life of a young activist is a busy one. "Maybe we don't play games and (act) all homey together, but we do see each other and network," Nathan says.

The only thing hanging on any wall in the common area is a chalkboard bearing a "to do" list. (I notice that washing the dishes and cleaning the bathroom have yet to be crossed off.) "We have a bribing system right now," Hallie jokes. "Cookies." She says she gets along fine with her housemates, and both she and Nathan point out that all of them share the same goals, which makes living together fairly easy.

Summing up the mission of the Ecohouse, Hallie says, "The whole entire key is education." Indeed, the Ecohouse is a curric-

The Ecohouse looks like any other old, red-brick home, proving — its residents will tell you — that any house can go green.

ulum available 24/7 to some 20,000 Athens campus students who one day probably will be homeowners themselves. Plus, it's a tangible way for the university to show off its green cred.

We spend the rest of the evening in the living room, chatting and working on laptop computers. There's a mix of humor and earnestness in these young activists. They just got wireless Internet capability in the house and named the connection Ecotastic. I request some music. They oblige. "My stereo is Energy Star," Nathan tells me, "and I'm proud of that."

Mary Reed, BSJ '90 and MA '93, was a writer for University Communications and Marketing this past fall. She is the author of "Hiking Ohio" and, when traveling from her home in Athens, she walks, bikes or drives a car fueled by biodiesel.

OT For a video story on the Ecohouse, visit Ohio Today Online at www.ohio.edu/ohiotoday.