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Mac house is model of green remodeling



Workers from Innovative Power Systems of Minneapolis install solar panels on the garage of the newly remodeled EcoHouse on the Macalester College campus. Photo by Hi-Tech Energy Solutions

By Nancy Crotti

Macalester College wants to help Twin Cities homeowners decide which green remodeling and energy saving home improvement projects make the most sense for them. So the college has turned a former rental house at 200 Vernon St. into EcoHouse, a “live-in laboratory” where four environmental studies majors will live this year and consider how best to educate the public about “sustainable living.”

Macalester did major remodeling of the house, including blowing in insulation, installing a steel roof on the house and placing solar panels on the garage roof. The college also added energy-saving appliances, a water-saving toilet, passive solar lighting, and countertops made of recycled paper and cashew resin.

Public tours of EcoHouse are unlikely, but the college plans to put up a website with a virtual tour. Virtual visitors will get a glimpse of the energy-saving features and will learn about energy audits and the decision-making process the college used to determine which changes to make.

For instance, the windows in the 1950s-era brick and stucco rambler were old, but they were still in good shape so they stayed. The same went for the kitchen cabinets and flooring, which still worked well even though they were not the most modern-looking. However, the kitchen appliances were old and inefficient, so the college replaced them with new, more efficient ones. But the college had to compromise there, too. The most energy-efficient refrigerators are larger than the kitchen could accommodate, so a smaller one was purchased. The gas range was also a smaller model because college officials reasoned the students would not need a larger one. The college insulated the refrigerator from the range by installing a cabinet between them.

“Those are the sorts of tradeoffs that a lot of folks talking about green design these days don’t like to emphasize,” said Chris Wells, an environmental studies professor and chair of the college’s Eco- House committee. “One of the knocks against environmentalism is that it often suggests that you have to compromise your lifestyle and give up amenities in order to be environmentally responsible. Ultimately the question is, can you live with it? What is the cost of deciding that you can’t?”

Students in Wells’ senior seminar last year applied for grants to pay for different features of the project. The Xcel Energy Foundation provided a \$5,000 grant for public outreach.

“We’ve always had a strong emphasis on energy conservation and this just kind of takes it to the next level, which is having an actual model that advances environmentally friendly architecture,” said foundation representative James Garness.

Although his students did not get all of the grants they applied for, Wells hopes to raise additional money for other projects for EcoHouse, including an energy monitoring system that will track electric, gas and water use. “That’s where I think the civic engagement will be most valuable,” he said. “Instead of having to rely on manufacturers or retailers, we’ll have real-life data as time goes on.”

Other potential projects at EcoHouse involve installing underground pipes to conduct heat into the house. Below the frost line, Minnesota’s ground temperature remains a constant 55 degrees, according to Justin Lee ‘08, a Macalester senior who managed the remodeling project over the summer. Another project will be to landscape the largely shaded front and back yards with what Lee called an “edible forest permaculture” that will not need much sun or water. The plants will provide hazelnuts, currants, raspberries and blueberries and will add nitrogen to the soil. “It’s a new way of looking at gardening for people who have large trees,” Lee said.

Macalester will hold a series of public workshops in the coming year to help homeowners make environmentally sound remodeling decisions. The college also plans to engage nearby community councils.

For more information on EcoHouse, e-mail Wells at wells@macalester.edu.