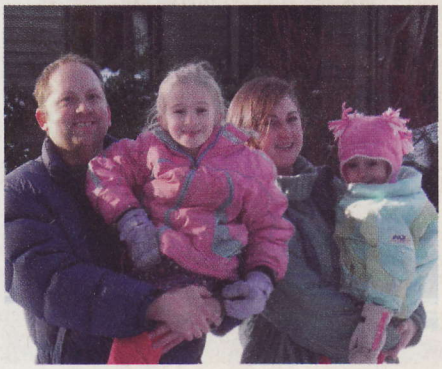
Fifty and Nifty

AN OLDER HOME GETS A SUSTAINABLE MAKEOVER.

Mary Kraus



Will, Lily, Laura and Holliday

"Except for a new kitchen, most of our house is original—the bathrooms, plumbing, the windows. It's a blank canvas just waiting for a chance to be green!" —*Laura Wear*

This graceful Massachusetts home can become more energy efficient with some simple renovations.

Photos by John Fabel

When Laura and Will Wear bought their house in Granby, Massachusetts, three years ago, they were enticed by its idyllic site, peaceful neighborhood and convenient location. The home sits on three acres with sweeping views of the nearby Holyoke mountain range. In addition, it's in the progressive "Five-College" area of western Massachusetts where they'd long dreamt of settling.

As the owners of Nest Products, a socially conscious business that makes children's furniture from sustainable materials (www.NestPlease.com), the Wears wanted their home to reflect their green goals as well. While the home provides a delightful environment for the couple and their two young daughters—Lily, 6, and Holliday, 3—there is ample room for green improvements.

At 3,400 square feet, the 1953 home is larger than the Wears would have planned if designing new. The windows are inefficient, the bathrooms sport vinyl asbestos tiles and the existing fireplace creates an energy drain. The original homeowner spared no expense when building, but over the years he wasn't able to keep up with home improvements. "When we moved in, we knew we would have to update throughout, but we underestimated the cost," Laura says. "We're now looking for the most cost-effective renovation solutions, while making our house more green in both form and function."

The Wears have changed little besides the new kitchen and the stone patio they built when they moved in. However, the couple has discovered some unexpected green qualities—most of them specific to how they use their home. First, the location is a short commute from their business' new warehouse, and the two work from a home office several days a week, further reducing their car use. Second, the home is situated on a small dead-end road with a cluster of homes nearby, so the children have nearby playmates and ride to school in a carpool.

Can YOUR Home Be Greened?

Send us information on your home and what you'd like to accomplish in it. You could be the lucky recipient of a visit from one of our eco-experts. To submit your home or get more information, contact NaturalHome@NaturalHomeMagazine.com or write Can This Home Be Greened?, 1503 SW 42nd St., Topeka, KS 66609-1265.

PRIORITY #1

Woeful Windows

PROBLEM: One of the main troubles is that most of the home's windows can't be opened for natural ventilation. In the bedrooms upstairs, only some of the windows are operable, and most of those are difficult to move. The second-floor windows are single glazed, so they lose excessive amounts of heat. Additionally, the home's glazed doors are sticking and binding, making them a challenge to open.

Replacing these FIXED WINDOWS with ones that open will bring cool breezes inside during summer.

SOLUTIONS: Replacing all windows with double-glazed, argon-filled, low-E glass will greatly improve the home's energy performance. If operable windows are installed downstairs—especially the panoramic windows in the dining and living areas—fresh breezes can circulate throughout the house.

Installing an attic fan, which would draw cooler air in through the new windows, also would help lower summer temperatures in the upstairs rooms. In addition, the Wears should replace the glazed doors with more energy-efficient models that open easily.

COST: Windows: $700 to $1,000 per window (installed), depending on the size and quality. Choices range from double-glazed, low-E, argon-filled models to expensive triple-glazed, insulated-fiberglass-frame windows. Whole-house, or attic, fan: $2,000 (installed).

The fireplace between the living and dining rooms looks lovely, but it LOSES HEAT.

PRIORITY #2

The Chilly Fireplace

PROBLEM: The two-sided fireplace that bridges the living and dining rooms draws cold air through the house and up the flue. Because the fire is open to the living spaces, backdrafting can pull combustion gases into the living space, creating indoor air-quality problems.

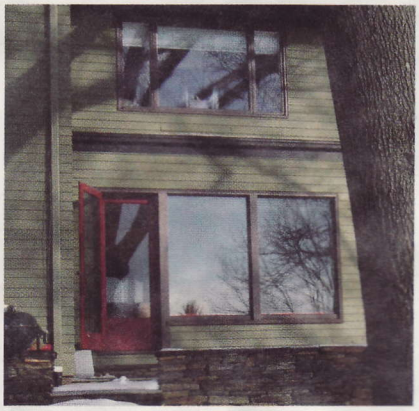
SOLUTION: The Wears plan to install a high-efficiency wood-pellet stove within the fireplace, which will stop the cold air coming through the house. A pellet stove burns more cleanly than a traditional fireplace; when professionally installed, it should draw combustion air from outside the house into a sealed firebox.

COST: Pellet stove: $4,500 (installed).

PRIORITY #3

Poor Insulation

PROBLEM: The Wears don't know how much insulation is within the exterior walls. Given the home's vintage, the walls probably are not very tight.



At the back of the house, the Wears need to REPLACE EXISTING WINDOWS with operable, energy-efficient casements. They also should seal air leaks and upgrade the insulation.

SOLUTIONS: A professional energy audit would help determine current insulation levels and air-leak locations. After sealing leaks and adding insulation, the Wears should install a controlled ventilation system, which improves air flow throughout the home using constantly running bathroom fans.

COST: Blown-in cellulose wall and attic insulation: Around $1 per square foot. Weatherstripping and other air tightening: $200 to $1,500 (depending on needs). Bath fan: $200 to $250 each.

PRIORITY #4

Unproductive Work Space

PROBLEM: Laura and Will need to insulate the upstairs office from the children's playful noise.

The upstairs office lacks NOISE INSULATION.

SOLUTIONS: Blowing insulation into the walls and installing a solid-core entry door will help reduce sound transmission. To create more acoustical and psychological separation, the Wears could choose to install an additional door separating the entrance to the upstairs hallway from the play area.

COST: Insulate office walls and add a solid-core door: $3,500.

PRIORITY #5

Bathroom Upgrades

PROBLEM: The downstairs three-quarters bath has had some mold, presumably because it's not ventilated.

The Wears will cover the ASBESTOS TILE with natural linoleum and keep the existing ceramic wall tiles.

This bathroom is laid out inefficiently, takes up valuable space near a tight house entry and features old, plastic wall tiles. The two upstairs bathrooms have finishes the Wears find unattractive, including vinyl asbestos floor tile. There are no low-flow fixtures.

SOLUTIONS: Laura and Will embrace the sustainable, cost-effective approach of leaving functional elements in place. Although they plan to replace the "cheap" plastic wall tile in the downstairs bathroom, they'll keep the ceramic tile on the walls of the upstairs bathrooms. Its color isn't what they would have chosen, but they'll develop a decorating scheme to match it. The Wears plan to cover the old vinyl asbestos tile with a more attractive new material, probably natural linoleum.

Most of the existing bathroom fixtures will stay, but low-flow showerheads and sink aerators will improve performance. Low-flow toilets would further increase water savings.

Redesigning the downstairs full bath into a half bath will open up space in the entry to maneuver and to store coats, boots and backpacks.

COST: Renovate first floor bath: $18,000. Replace vinyl floor with natural linoleum: $1,000 to $1,400 per bathroom, depending on size. Install low-flow showerheads and sink aerators: $5 to $45 per bath (if installed by owner); $100 per bath (if contractor installed). NH

MARY KRAUS, AIA, LEED, is co-owner with Laura Fitch of Kraus Fitch Architects in Amherst, Massachusetts. The firm emphasizes ecologically sound and socially responsible design for homes, communities and businesses.

Rx AT YOUR HOUSE {bring the wisdom home}

- ❑ **WORK WITH WHAT YOU'VE GOT.** Think about existing aspects of your home you could adapt—you might find creative ways of incorporating elements you originally disliked. This approach frees up renovation dollars so you can spend them where they make the most difference.
- ❑ **WINDOWS ARE A KEY SOURCE OF ENERGY LOSS.** If you have single-pane or otherwise inefficient windows, replacing them could be your greatest source of energy savings.
- ❑ **GET AN ENERGY AUDIT.** Some local utility companies offer an analysis of your home's current energy performance for free or for a low fee. Otherwise, contact Home Energy Tune-up for a state-by-state index of energy inspectors. Costs range from $150 to $300. (888) 203-5262; www.HomeEnergyTuneUp.com.
- ❑ **USE YOUR HOME WISELY.** When it comes to your overall ecological footprint, your home is not an island. If you can work there one or more days a week, your home just got greener. If you're buying a new home, search for a location that gives you access to public transportation and that's within walking or biking distance of frequently used amenities.

RESOURCES

ACCURATE DORWIN COMPANY
(888) 982-4640
www.AccurateDorwin.com
high-efficiency, insulated fiberglass windows

COUNTRY STOVES
www.CountryStoves.com
pellet stoves

FORBO LINOLEUM
(800) 842-7839
www.ForboLinoleumNA.com
natural linoleum flooring (Marmoleum)

ENERGY FEDERATION INCORPORATED
(800) 379-4121
www.EnergyFederation.org
ventilation and weatherizing products, faucet aerators, low-flow showerheads