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Dan Shaw -- Interior Design, 10/1/2011 11:05:00 AM



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After receiving a grant from the New York State Energy Research and Development Authority, Wedlick persuaded the Bill Stratton Building Company to take the project on spec. To make it feasible for Bill Stratton, who owned the 7-acre site in Claverack, two hours north of the city, Wedlick's architecture and choice of furnishings were meant to appeal to an affluent city family in search of a country retreat. "Our target market was the rural urbanist, someone who appreciates contemporary style and an open plan," he says. The peaked roof and 25-foot-long bow-arch beams play off local barn shapes—with a slight Dutch flavor.

Most crucial for a passive house, he explains, is the building enclosure: "You need to build it like a thermos, insulated to minimize heat gain or loss." Accordingly, he inserted 12 inches of insulation beneath the slab and used rigid structural insulation panels for the walls and ceiling.

A key to maintaining a steady indoor temperature is airtightness. Drafts are what make most houses energy inefficient. "A wood stove would wreak havoc here," he says. By minimizing the number of joints and installing glass with a high R value of thermal resistance, he eliminated thermal bridges. "No material inside touches the outside," he explains.

The 25-foot-high window wall is a case of form meeting function. "Not all passive houses use the sun, but we maximize heat gain with the windows and hold the heat in with the concrete floor downstairs," Wedlick says. But doesn't the wall's southfacing orientation make the interior too hot in summer? "The Passivhaus Institut was worried about that, too," he remarks. "We designed an overhang, so the summer sun doesn't shine in."



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Contributing to energy efficiency, the kitchen, two bathrooms, and HVAC unit, all downstairs, back up to one another to form a mechanical core. The key piece of technology is the heat-recovery ventilator and air exchanger-aka the "magic box"-that brings in fresh air and removes stale air, producing thermal energy in the process. There's a supplemental heating-cooling unit on the mezzanine. "Last winter, when the temperature was 3 below, the house stayed in the 60s for three days without our turning the heat on," Stratton says.

Still, this is not a house for the budget-minded. "As small impact on the environment and luxury living are not incompatible," Wedlick says, noting the handsome local granite on the house's exterior and the marble counters and beech cabinetry in the kitchen.

Wedlick's practice has evolved as a result of the Hudson Passive Project. "We think more holistically. We don't talk lightly about construction details anymore," he says. It changed Stratton's life as well. Though he received several offers for the house, he has taken down the For Sale sign. He and his wife, Meg, now live there.

Photography by Peter Aaron/Esto

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