



green

inspirations

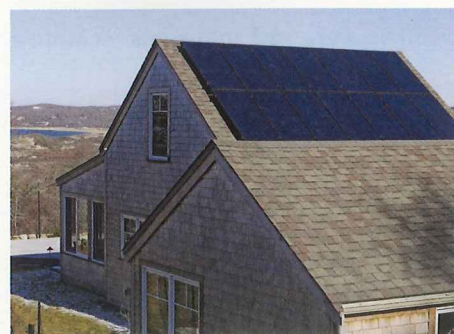
By its very nature, sustainable architecture requires a different perspective.

There is a premium on efficiency in design and materials, seamless integration into a building's surroundings—and close communication between designer and homeowner.

Three recent sustainable building partnerships on the Cape and Islands show what is possible when expert, artisanal design meets the principles of environmental sensitivity. All three homes produce most of the energy they need; one home has even joined elite ranks with an exclusive green building certification. The best part of all? The three families love their homes as much as they love the sun and the ocean outside.

BY MARY GRAUERHOLZ / PHOTOS BY JOHN L. MOORE

This rebuilt 1943
Aquinnah home retains
the cottage identity
of the original.



South Mountain Company wrapped the Aquinnah home with insulation and installed triple-glazed windows.

The deep energy retrofit included solar panels on the home's south-facing roof.

When John Abrams, founder and CEO of South Mountain Company in West Tisbury, Martha's Vineyard, tackled a decrepit 1943 cottage in Aquinnah, the rebuild included a deep energy retrofit. The homeowners, a professional couple in Washington, D.C., with five children, knew they had their architect and builder when Abrams said a teardown wasn't inevitable. "We liked the idea of saving something old," the homeowner says. "John was the first one who said he could work with it. We had a meeting of the minds very early." Abrams, the founder of the employee-owned company, also felt a solid partnership. "They were sensible, adventurous, and trusting," Abrams says of the couple. "The collaboration was really rewarding."

Abrams used several strategies to save energy. Along with South Mountain designer Derrill Bazy and engineer Marc Rosenbaum, Abrams wrapped the entire house with insulation and installed triple-glazed windows, reducing air leakage by 90 percent. Then the crew installed air source heat pumps and a heat recovery system for ventilation. The final touch was a solar electric system on the south-facing roof.

Today, the shingled house, perched on a hill with a view of Vineyard Sound, is a welcoming, airy space, featuring a cathedral ceiling with beautiful reclaimed Douglas fir beams. But mostly, the family loves



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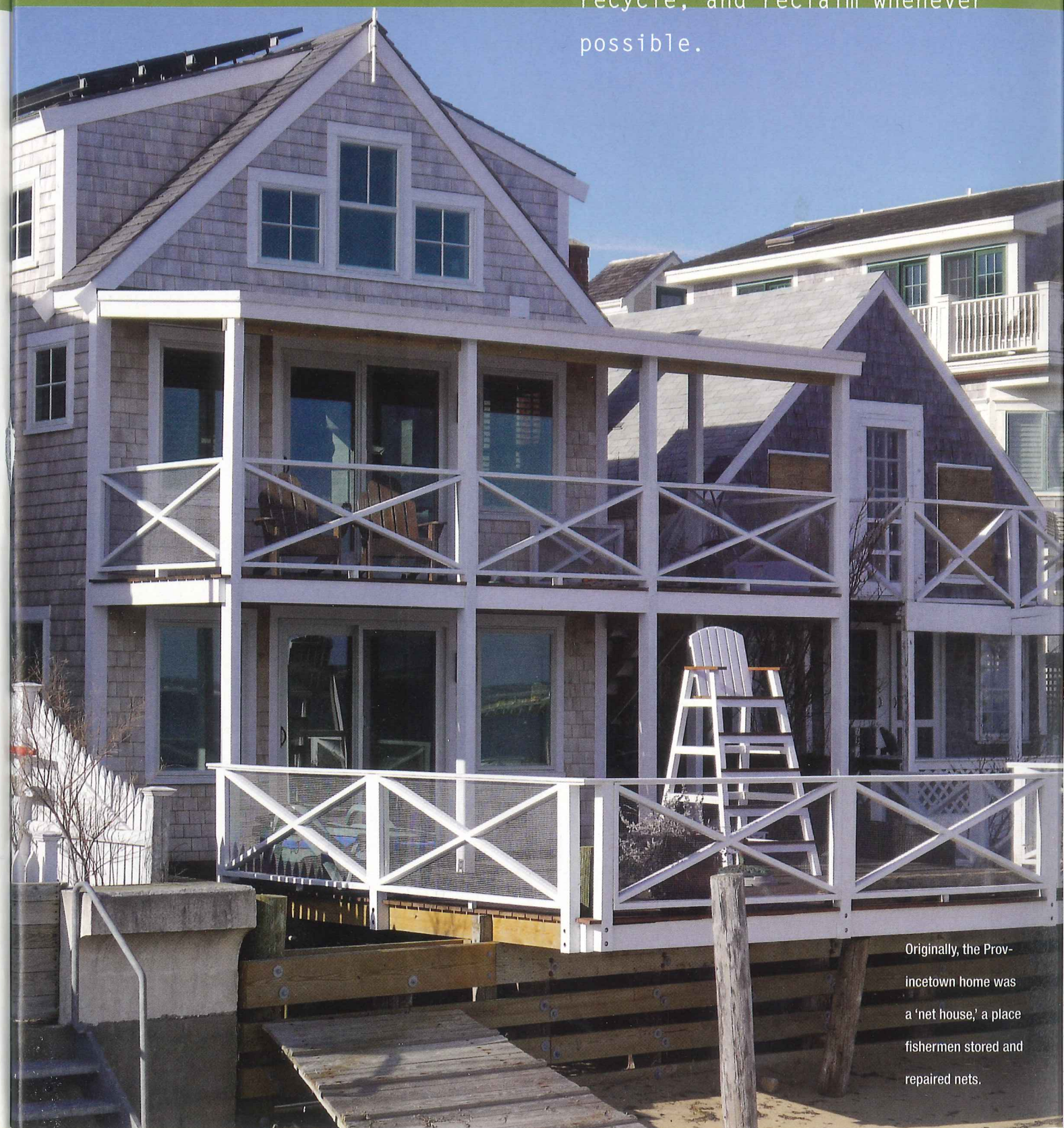
The water and land around the Aquinnah property are prime attractions for the family.

the property for what is outside. "My son and I love to go fishing and clamming in Menemsha Pond," the owner says. His wife has an organic garden, and the family enjoys nothing more than having their neighbors over for striped bass they've caught that day and vegetables fresh from their garden.

Provincetown builder Deborah Paine set eyes on a broken-down waterfront cottage in Provincetown's West End and immediately knew she had a challenge. "The post-and-beam frame wouldn't even hold a bolt," Paine recalls of the historic three-story home. Zoning and historic regulations restricted her to the same footprint, which meant a total of just 1,620 square feet on all three floors. Paine began with plans drawn by architect Derick Snare of Snare & Snare in Somerville and embellished them along the way, constantly conferring with her crew and the homeowners, Elise Cozzi and Penny Sutter.

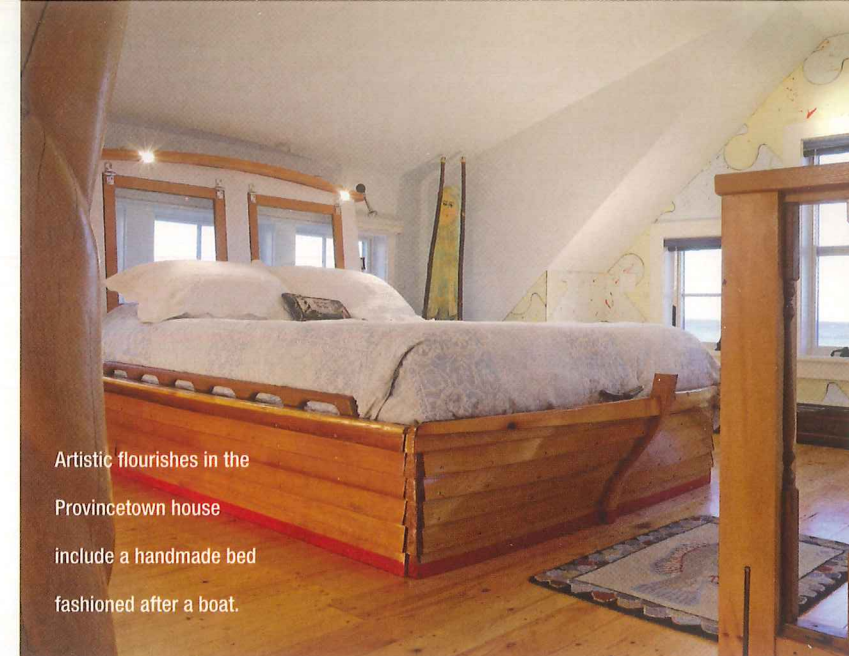
Paine knew from the start that Sutter and Cozzi were kindred spirits. Although the cottage had to be torn down, the homeowners encouraged Paine to repurpose, recycle, and reclaim whenever possible. All the siding and flooring was saved and used in projects such as the

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Originally, the Provincetown home was a 'net house,' a place fishermen stored and repaired nets.

All the siding and flooring was saved and used in projects such as the winding staircase, complete with drawers built into the steps and a custom-made iron handrail.



Artistic flourishes in the Provincetown house include a handmade bed fashioned after a boat.

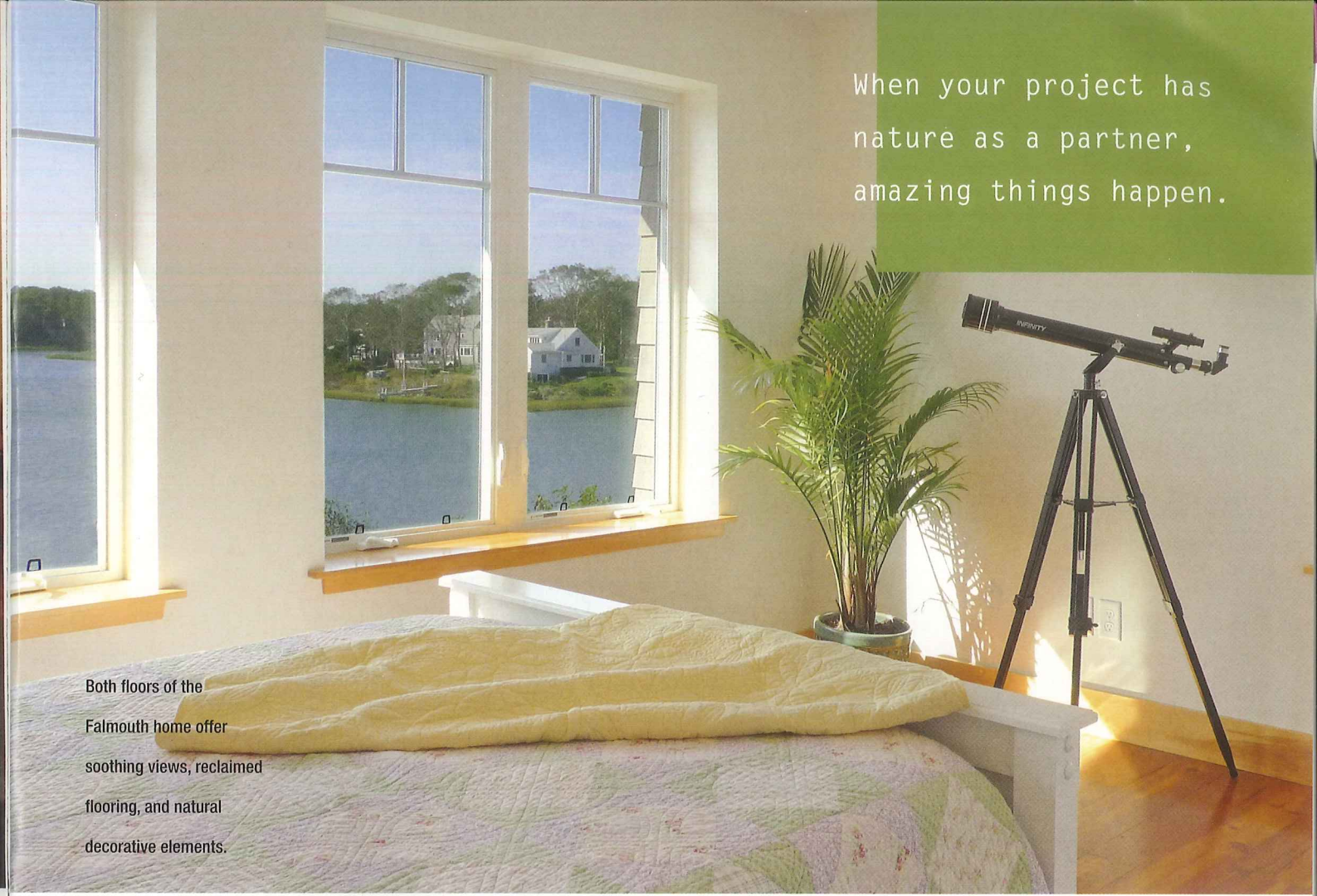
winding staircase, complete with drawers built into the steps and a custom-made iron handrail. "All the carpenters made things by hand," Paine says. "Ideas came up as we went along; we were always devising and creating."

Energy conservation measures are still in development. "The owners charged us with making this as energy efficient as we possibly could," Paine says. She created an "incredibly tight envelope" with closed cell foam insulation and wired the house for electric heat. The radiators have gel liquid centers, which are excellent for retaining heat. (There is a backup gas stove on the second floor.) Photovoltaic panels on the roof supply much of the energy, proven by \$12 electric bills. Hot water is supplied on demand by two tankless Rinnai brand water heaters. Paine and her crew also pre-wired the house for a vertical-access wind turbine that they hope to install. The house has artistic flourishes throughout, many reflecting the owners' creativity and mutual affection. Sutter surprised Cozzi, a retired pediatric dentist, with a dog ramp for their treasured pet, an elderly teacup poodle. As Paine says, "there's a lot of heartfelt stuff in this house."

The logistics of working on the house, landlocked and almost unreachable, were stunning. With what Paine calls "a little piece of Yankee ingenuity" and help from the community, she and her crew built a staging area in the West End parking lot and ran a gangway to the site, over the beachfront of very generous neighbors. "You know the saying, 'it takes a village?'" Paine says. "Well, we put a village together."



The kitchen floor was made from exterior siding materials.



When your project has nature as a partner, amazing things happen.

Both floors of the Falmouth home offer soothing views, reclaimed flooring, and natural decorative elements.



The certified Passive House in Falmouth is one of fewer than three dozen in the U.S.

By the time Christian Valle was asked to build a certified Passive House, his Falmouth design firm had already hit a green-design milestone. The Valle Group earned a LEED (Leadership in Energy and Environmental Design) Platinum certification for sustainable design, the highest certification available through the U.S. Green Building Council. But creating a Passive House is a different honor: Fewer than three dozen such homes have been built in the United States.

The home is sited on a bucolic property on Bourne's Pond in Falmouth. "The idea was to build a house that had a super-tight building envelope, but at the same time had a very minimal impact on its location, a peninsula on a salt marsh," Valle recalls. "It needed to be efficient, but without a lot of intrusion." Today, the two-story, 2,000-square-foot home, built in traditional wood-frame style with 17-inch-thick exterior walls, is an exceptional beauty. A large kitchen opens to a living area, creating a sense of spaciousness in the relatively small house. Each of the two floors sport reclaimed flooring and natural elements, such as stone tile in the bathrooms.

To win the coveted Passive House Institute certification, Valle had to make supreme use of the sun. Large windows on the south side allow for maximum solar gain. On the north side, windows are smaller to reduce the impact of cold air.

A precise energy-efficient system introduces fresh air into the house in a very controlled manner. "Most of the energy that the home consumes is from the sun," Valle says. Photovoltaic and solar thermal panels provide hot water and electricity. Increasing the insulation are custom-made triple-glazed windows and French doors filled with krypton gas. Except for the windows, all the home's products were bought from local suppliers and vendors.

The house, with its small footprint amid a landscape of indigenous wetland plants and a lush organic garden, looks like it sprouted on the spot. When your project has nature as a partner, amazing things happen.

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For sustainable building information, go to www.southmountain.com, www.dpicc.com, and www.vallegroup.com