

# 'GREEN' HOUSE EFFECT



STAFF PHOTO BY TED FITZGERALD, ABOVE



**FINE FIT:** The HingeHouse is 'like a big Lego building system,' so it can be adapted for an individual site or buyer, says Cambridge architect Maryann Thompson, above. Her designs range from the two-bedroom home on beachfront property she showcases above to the larger home seen at left. She says 10 homes are now in development.

## Prefab homes slash energy costs with their flexible designs

By PAUL RESTUCCIA

A Cambridge architect has developed a prefab home design that could do for houses what the Prius has done for cars.

The "HingeHouse" is a sloped-roof, solar-powered structure that can be placed on a site for maximum efficiency, reducing heating and cooling costs to near zero.

Cambridge architect Maryann Thompson, best known for designing high-end sustainable homes and an innovative trellis garden at the Arnold Arboretum, created the "HingeHouse," which is being manufactured in Acton by the parent company of Acorn Homes.

It's called the HingeHouse because it is essentially two sections with a connecting "hinge" in the middle. One section is oriented to get maximum solar exposure and the other is positioned to achieve optimum cross-ventilation and to best accommodate the building site. The house can be elongated, set up in an L-shape configuration or even built with one module on a different level than the other.

"The HingeHouse is essentially a kit of parts, like a big Lego building system, and so it is extremely customizable," said Thompson, who said the HingeHouse design is similar to a custom "zero impact" house she designed in North Easton, where the owner has not had to turn on the backup wood-pellet stove heating system for an entire winter.

Because it is premade on a production line, the HingeHouse can be built for about two-thirds of the cost of a similarly styled "stick-built" house constructed all on site, said Martin Deale, president of Empryan International,

the parent company of Acorn, Deck and Dwell homes.

The HingeHouse is part of the Dwell magazine line and, although it's just been introduced, 10 houses are already in development, Deale said. A Concord builder wants to do a subdivision of 15 HingeHouses.

A 1,300-square-foot, two-bedroom, two-bath HingeHouse can be built for about \$350,000 — about \$150,000 for the fabricated materials and \$200,000 for builder fees, Deale said.

A 2,100- to 2,200-square-foot, four-bedroom, three-bath house costs around \$620,000, while a six-bedroom, four-bath measuring 3,100 square feet can be built for about \$850,000.

The homes come with a rooftop array of photovoltaic panels, cedar siding, mahogany windows and high-end kitchens and baths. They have 2-foot-thick cement slab floors that radiate heat in the winter and windows atop 18-foot ceilings that can vent the heat in summer.

"The beauty of the design is that it can work on everything from tight urban lots, to sloping suburban sites and along mountains or along the ocean," said Deale.

Because it is made in a factory, the jointing is more precise, making the shell of the house tighter, Deale adds.

"I love the way that sustainable houses are becoming something many people want," said Thompson, who has been doing "green" architecture since the early 1980s, after getting master's degrees in architecture and landscape architecture. "We used to have to sneak these elements into buildings. Now I don't have to be subversive anymore."