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## Local company makes do-it-yourself solar structures

June 12, 2008  
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With renewable resources gaining more popularity in the region, San Diego-based Envision Solar introduced a breakthrough solar integrated building system named LifePort in February.

The product is a do-it-yourself kit of light gauge steel components, lightweight roofing material and photovoltaic panels that form a solar structure and enable owners to provide their own form of clean, solar energy for their homes. The solar structure can be used as anything from a garage or workshop, to a cellular phone tower equipment room.

"The engineered structure is relatively inexpensive and it enables anyone to have solar," said Robert Noble, chairman and chief executive officer of Envision Solar. "It's a robust solar system for homes."

LifePort can generate up to five kilowatts of energy



Envision Solar displays its LifePort solar structure, generating energy to power two electric vehicles.

through an array of 24 polycrystalline, 200-watt photovoltaic modules, or about 5,600-kiloWatt hours per year -- enough energy for most single-family homes, according to the company's Web site.

The dimensions of the standard product are 29 by 29 feet, with a total area of 529 square feet, making it the perfect size for a two-car garage. The product also allows for up to three feet of depth for storage, as well as 16-foot openings on all four sides. Since the product can also work with a battery system, the buildings can also be easily deconstructed.

Owners can also easily clad or canvas the product and apply their specific designs to the structure.

"It has always been complicated and messy to put solar on the roof of your existing home, and it's generally not very attractive," Noble said. "But when you integrate solar with the LifePort, it's a very attractive design. The finishes and architectural treatments that can be applied are similar to the architecture and treatments of the adjacent house. It can be extremely modern or extremely traditional."

The price of the entire LifePort product totals around \$50,000, while the price of the steel structure alone amounts to \$10,000.

LifePort is aimed at homeowners, but has also seen interest from the military and industrial companies that are looking to use it as storage or utility buildings. Others interested in LifePort include golf course operators that want to use it for their golf carts and provide storage buildings.

"We call it the launch of the solar cottage industry," Noble said. "We see a tremendous opportunity for small businesses to install our product off-grid and sell vegetables in the summer on the roadside, or rent electric scooters to visitors and tourists."

Businesses that purchase the LifePort will be able to take advantage of the full 30 percent federal tax incentive, while also saving energy.

Envision Solar has a patent pending on LifePort. The company is also in the process of developing "all-green" specifications for the product, according to Noble. These specifications include installation, wallboard, heating systems and air conditioning systems.

"The LifePort is the first of many of our projects that we are in the process of announcing that proves that renewable energy is accessible to everyone," Noble said.

Envision Solar also announced in February a smaller multiuse solar structure called LifePod.

Generating about 1.5 kilowatts, the LifePod is 10 feet by 12 feet, and occupies an area of 120 square feet or less. The cost of the entire LifePod system amounts to about \$15,000, while the price for the steel structure alone is about \$3,000.



*Envision Solar's smaller multiuse solar structure, LifePod.*

Four LifePods have been built to date. Two were built for celebrities, musicians Tommy Lee and Ludacris, in the 9th ward of New Orleans, which was hit by Hurricane Katrina. One was built for the Oscars at the green carpet event this year, and another was built for David Gottfried, the creator of the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) rating system.

"The smaller LifePod is like a personal solar capsule," Noble said. "It can be used for a pool house, a cabana or a hot-house. Some recording artists have requested LifePods for performing studios. My wife even wants one for her painting studio."

The product is a breakthrough in solar technology, and the company also engineers it for different conditions. In San Diego, which is in a high-risk seismic zone, the product is engineered to adapt accordingly, while in Florida, it's engineered to withstand the harsh winds.

"It is a totally unique solar product," Noble said. "There are companies that sell little solar buildings, but there are no other companies that sell solar integrated building systems, which is our trademark."