

As published in...

NATION'S BUILDING NEWS[Read the latest issue now!](#)*The Official Online Weekly Newspaper of NAHB***Mid-Atlantic PowerHouse Showcases Energy Efficiency**

Window rough opening.

The 2,900-square-foot, two-story colonial with a full basement and attached garage is typical of many new homes built in the Baltimore-Washington, D.C. area, and its only distinguishing features on the exterior are an array of photovoltaic panels and two solar thermal panels on the roof.

The photovoltaic system will generate electricity that can either be used in the home directly or fed back to the utility during times when excess power is produced. The solar thermal system will preheat the domestic hot water.

Affordable and effective energy enhancements can be found throughout the entire home, including the building envelope, space conditioning systems, water heating, lighting and appliances.

Energy-efficiency features include:

- | A Superior Walls™ foundation with an R-10 insulating value, plus additional R-13 cavity insulation
- | Continuous rigid insulation on the exterior walls, adding an additional R-5 to the standard R-13 cavity insulation
- | 14 inches (approximately R-49) of cellulose insulation in the attic
- | Low-e windows with a U-value of about 0.33 - an approximate 35% improvement over standard double-pane glazing
- | An air sealing package to minimize air infiltration
- | A tankless water heater, which will eliminate standby losses of a tank storage heater, resulting in a 10%-20% reduction in energy use for water heating
- | An Energy Star® refrigerator, dishwasher and washing machine
- | An energy-efficient lighting package, including fluorescent fixtures, compact fluorescent bulbs and motion sensors on exterior lighting

Construction on the home started in January.

April 24, 2006 - Local builders, trade contractors and designers took an "inside the walls" tour last week of the PowerHouse, the Mid-Atlantic region's first near zero-energy production model.

Built through a partnership of the NAHB Research Center with Bob Ward Companies, the Maryland Energy Administration and the Department of Energy's Building America Program, the model home demonstrates a systems approach to improving home performance.

Combining state-of-the-art energy-efficient features with solar thermal and photovoltaic technologies, the home is expected to perform about 50% better than a standard code-compliant home of similar size.



Superior Wall™ detail.