



### **The Green House: New Directions in Sustainable Architecture and Design**

reveals exciting trends in green technology, materials, and design, yielding houses and apartments that are as aesthetically compelling as they are environmentally friendly.

At the National Building Museum through June 30, 2007.

Travel begins January, 2008.

### **EXHIBITION BRIEF**

To go “green” or not to go green is a key question being asked by virtually everyone interested in the future of the American home. Even though green, or environmentally sensitive features such as energy-efficient air conditioners, double-pane windows, and kitchen cabinets made with non-toxic materials are being built into almost 20 percent of new homes in areas across the country, many Americans are still wondering about the advantages of green housing. What makes a house green? Is a green house healthier, safer, and more comfortable? Is it aesthetically appealing? Can green houses be architecturally attractive, even beautiful?

The National Building Museum’s exhibition *The Green House: New Directions in Sustainable Architecture and Design* is the first major traveling exhibition to explore the entire field of green residential design as it reaches a turning point of acceptance by both home builders and the general public. *The Green House* exhibition will begin to travel in November 2007. The exhibition builds on the popular and critical success of the Museum’s pioneering *Big & Green: Toward Sustainable Architecture in the 21<sup>st</sup> Century*, which focused on sustainable skyscrapers and other large-scale structures and toured to major museums in the United States from 2003 through 2004.

### **CONTENT**

*The Green House* is organized into four sections: Five Principles of Sustainability; Contemporary Green Houses; a Materials Samples Room; and a concluding gallery.

#### **Introduction and Five Principles of Sustainability:**

*The Green House* exhibition discusses five principles that underlie sustainable homes:

1. Optimizing use of the sun.
2. Improving indoor air quality.
3. Using the land responsibly.
4. Creating high-performance and moisture-resistant houses.
5. Wisely using the Earth’s natural resources.

An introductory animation breaks down energy consumption from a global to a local scale in the home. It gives visitors context for the exhibition's message of advocacy for greener living and design, while underscoring the impact their actions and choices at home will have on energy consumption rates around the world.

Next, visitors learn how and what makes a home "green" and are provided with examples of how to incorporate green building practices into new constructions and renovations. Interactive elements in this section include the heliodon - a "sun machine" that allows visitors to simulate the sun's movement in relation to a structure. Visitors observe how this passive use of the sun's energy, the orientation of a structure, can optimize natural heating and cooling. Visitors will also learn how an active use of the sun's energy, photovoltaic cells, convert sunlight directly into electricity through an active solar interactive display that shows how variable amounts of electricity are produced depending upon the sun's strength. Visitors will also see and be able to touch a display of solar photovoltaic roof slates.



### Projects

Illuminated photographic images and architectural models of 21 projects from around the world document the emergence of a new brand of sustainable building. The single- and multi-family dwellings are organized by geographic region: Desert, Waterside, Mountainside, Tropics, Suburb, and City. Text describes the particular assets or challenges of each region and the unique sustainable responses or strategies

employed by the architects. Included in the exhibition are projects by architects such as Americans Rick Joy and Jennifer Siegel, Dutch firm Stuhlmacher + Korteknie, Australian Peter Carmichael, and German Werner Sobek. 1+2 Architecture's Walla Womba Guest House, an island vacation home in Tasmania that is completely "off-the-grid," provides a perfect example for an interactive teaching tool about water and energy consumption.



### Materials Samples Room

The interactive Materials Samples Room, highlights a variety of green domestic materials from carpets to countertops, as well as a selection of environmentally friendly structural systems. Each material was selected for high levels of recyclability, reusability, and/or durability and for low levels of embodied energy and

environmental impact. Visitors are encouraged to touch the materials, which include Kirei Board made from sorghum plant agricultural waste; recycled glass tiles by Sandhill Industries; textile wall coverings made with natural fibers and recycled content by Maharam, American Clay natural clay plaster; MIOculture three-dimensional recycled wallpaper; Durapalm® coconut palm flooring by the Smith and Fong Company; Marmoleum® flooring by Forbo Flooring, EnviroGLAS® terrazzo countertop material; Interface FLOR™ modular carpet tiles; 3form® ecoresin™ panels; and Richlite® recycled paper composite countertop. Additionally, this gallery includes two interactive computer displays where visitors can use to find further information about green building and materials.

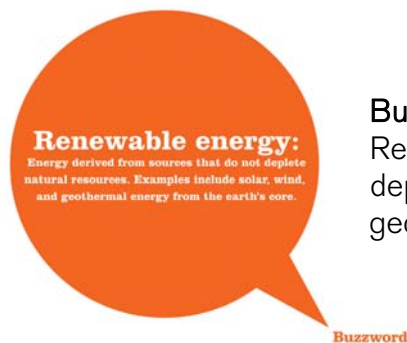
## Conclusion

Simple steps to achieve a greener, more sustainable home are presented in a series of statistics and 'smart moves' graphics that reiterate the earlier presented five principles of sustainability: optimizing use of the sun; improving indoor air quality; using the land responsibly; creating high-performance and moisture-resistant houses; and, wisely using the Earth's natural resources.

As well, this concluding gallery offers visitors the opportunity to revisit one of the contemporary projects featured earlier in the exhibition, architect Michelle Kaufmann's Glidehouse™ in Novato, California. Kauffman gives an on-screen tour of her own Glidehouse™ while discussing some benefits of living in an energy-efficient house. Two other screens located in the gallery feature video that evoke the four other principles of sustainability and remind us of the many ways in which our homes are connected to the natural world.

## Additional exhibition components

"Buzzwords" and "Quick Tips," found on tags and labels throughout the exhibition, introduce and familiarize visitors with vocabulary commonly used in the field of green architecture and design, and offer helpful suggestions on how the visitor can adopt greener ways of living.



### Buzzword:

Renewable Energy: Energy derived from sources that do not deplete natural resources. Examples include solar, wind, and geothermal energy from the earth's core.

**Quick Tip:**

Check your refrigerator's seal by closing the door with a lit flashlight inside. If you see light seeping out, the door should be adjusted or the seal replaced to stop energy leaks.

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All elements of the exhibition are presented on and constructed with green materials. Exhibition text is silk screened on Dakota Burl panels; an agricultural waste composite board made from sunflower seed hulls. Armature is constructed with rapidly renewable Smith & Fong Plyboo® bamboo plywood and Primeboard, an agricultural waste composite board made from wheat. Graphics in the Contemporary Projects section are presented on 3form's ecoresin™, a composite material made with 40% post industrial recycled content. All paints, stains, and varnishes are eco-friendly and models bases are outfitted with low voltage LED lights.

**OPEN AVAILABILITY**

**Space Requirements:** 5,000 square feet minimum.

**Fees:** \$40,000 participation fee plus pro-rated shipping.

**Security:** High.

**Insurance:** NBM provides wall to wall insurance.

**Duration of Exhibition:** 2–3 months.

**Exhibition Layout:** The National Building Museum will work with Exhibitor to create a layout appropriate for Exhibitors exhibition area.

**Installation:** The National Building Museum will assist Exhibitor with the installation of the exhibition.

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The **National Building Museum** is America's premier cultural institution dedicated to exploring and celebrating architecture, design, engineering, construction, and urban planning. The Museum is located at 401 F Street NW, Washington, D.C. Museum hours are Monday through Saturday from 10 am to 5 pm and Sunday from 11 am to 5 pm. Admission is free. Museum Shop. Café. Public inquiries: 202.272.2448 or visit [www.nbm.org](http://www.nbm.org).