

Green Building - It's Where It's At!

Howard Fortunato, C.G.P.
JCM Environmental

The Northeast Window and Door Association

- Winter Meeting
- Trump Plaza, Atlantic City, New Jersey
- Tuesday, January 27, 2009



Howard Fortunato (JCM), Senator Tom Carper (Delaware), Bob Thornton (Silverstock), Jim McCulley (JCM) and Jacki McCulley (JCM). Senator Carper visited on the afternoon following the Democratic Convention in 2008.



Congressman Castle (Delaware) discusses Green Building with Bob Thornton at the Silver Woods Green Day Event in 2008.

WHAT IS GREEN?

- LEED
- NAHB
- Environments for Living
- Etc.
- Etc.

NAHB Green

Green homes incorporate environmental considerations and resource efficiency into every step of the building and development process to minimize environmental impact. The design, construction, and operation of a home must focus on energy and water efficiency, resource efficient building design and materials, indoor environmental quality, and must take the home's overall impact on the environment into account.

ENERGY INNOVATION

How Homes Become GREEN

More durable roof coverings = less frequent replacement. Lighter colors = less cooling costs. Newer solar roof products.

OSB is an engineered product which uses less raw materials

Tree preservation provides winter wind breaks and summer shading

Low flow toilets, faucets, and showerheads use less water and energy to heat

Energy smart windows are warm in winter and cool in summer

Recycled materials & plastic lumber reduce need for chemical preservatives and decreases maintenance

Maintenance free vinyl siding

Increased insulation saves energy, reduces costs

Energy efficient appliances use less water & electricity

South facing windows with awnings/overhangs warm in winter

Engineered trusses use less raw materials, cuts down on construction waste

Xeriscaping with native plants requires less water, maintenance

Covered entry prevents water intrusion

Correctly sized HVAC equipment costs less

Insulated foundations enhance energy efficiency

Low VOC interior materials improve indoor air quality



Why is Green Building Important for NWDA, to Builders:

- Gives builder credibility for using green products
- Helps builder achieve sales of green homes, promote energy efficiency
- Helps you sell more to the builder

Why Important to Home Buyers?

- Buyers greatly value the certification
 - In Fact – In one of our client's communities previously settled buyers (who settled before the NAHB program) are jealous that they don't have all the green options and elements
- Differentiation
 - Brings in new buyers
- Buyer Preferences
 - Environmental Awareness, Energy Efficiency
 - Lower Utility Bills, Cost Savings
 - Increased Comfort
- Buyers willing to pay more
- Mortgage Companies willing to finance more

Sales and Traffic

- Increased Traffic
- Increased Sales
- Press and Buzz
 - National Press
 - Local Press



GREEN HOUSE

SUSTAINABLE DESIGN, CONSTRUCTION, PRODUCTS & SALES ■ EDITED BY RICH BINSACCA



SPARKLING GREEN: Good looks, convenience, and location will attract empty-nester buyers, but builder/developer Robert Thornton hopes that preserving natural features will help seal the deal.

GREEN DEVELOPMENT

Raising the Bar

Green communities are providing builders and developers with attractive economies of scale and marketing advantages.

DELAWARE'S NEW SUPER GREEN PROGRAM SETS a higher environmental bar for land use and infrastructure and will reward developers and builders who adhere to the voluntary standards with fast-tracked approvals that may shave two years off the average planned unit development application process.

Builder/developer Robert Thornton, who helped draft the policy, looks forward to applying the standards to the remaining phases of Silver Woods, an approved, 357-unit, 129-acre community in Ocean View, Del. He's already made a commitment to green development by preserving trees and open space and providing nature trails instead of tennis courts, as

well as building upper-end empty-nester homes to the current NAHB Model Green Building Guidelines and rating system.

"It's value gained, not money lost," he says of the likelihood that he's sacrificing some parcels to gain faster approvals and also benefiting from larger, more desirable lots. "We may actually get a check at the closing table."

Silver Woods is one of several green developments taking shape across the country. Thornton's project, among the first out of the ground, is selling. Within the first nine months of the first 30-lot release, with house prices averaging in the \$450,000s, he's closed on eight homes and has contracts (see page 56)

Green Products – Windows and Doors !

- Products requiring no additional finish – 4pts
- Recycled content building materials – 3pts
- Products made from renewable resources – 3-5pts

Green Products – Windows and Doors !

- Energy Star rated windows – 8 pts
- Tightly sealed door between garage and living area – 9pts
- Particleboard, medium density fiberboard certified to low formaldehyde emission standards– 6pts



E N V I R O N M E N T A L

Experience matters



**NAHB NATIONAL
GREEN BUILDING
PROGRAM™**



NAHB Green Building Guidelines

- Rolled out at IBS in 2008
- Standing Room Only

**NAHB – ANSI STANDARDS
DUE OUT SHORTLY !!!**



Legislation

- 42 States have introduced green building legislation
- City of Newark recently passed green building legislation
- New Castle County, Kent County working on green legislation
- DNREC introduced Super Green Fall 2008
- Sussex County adopted Green Building Policy December 2008



What is NAHB Green?

- 3rd party verification & certification tool
- Online scoring tool
- Network of HBA programs
- National verifier training and accreditation
- Certified Green Professional Designation



**Design
(Step 1)**

**Verify
(Step 2)**

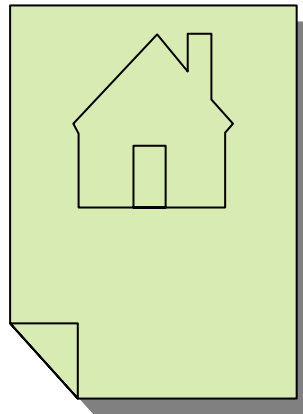
The Process

**Certify
(Step 3)**



Step 1 Design

Assist Civil Engineer
Assist Architect



Step 2 Verify

Work with site staff and
conduct inspections and
verification



Step 3 Certify

Submit paperwork including supporting documents to NAHB



Certified Green Home

This is to signify that the new home at
33997 Brenda Lane
Frankford, DE 19945

built by
Silverstock Builders, LLC

is CERTIFIED as a
GOLD Level Green Home



The NAHB Research Center certifies that this house, as originally built, is in substantial conformance with the NAHB Model Green Home Building Guidelines.

Certificate # 0003

May 23, 2008

Issuance Date

A handwritten signature in black ink, appearing to read "Michael Luzier".

Michael Luzier
NAHB Research Center President

This certification is not a representation, warranty, or guarantee of home performance. For details on builder's warranty, consult the builder.

What Comprises The NAHB Green Certification?

- Lot Design
- Resource Efficiency
- Energy Efficiency
- Water Efficiency
- Indoor Air Quality
- Homeowner Education
- Global Impact

Points Required for the Three Different Levels of Green Building

	Bronze	Silver	Gold
Lot Design, Preparation, and Development	8	10	12
Resource Efficiency	44	60	77
Energy Efficiency	37	62	100
Water Efficiency	6	13	19
Indoor Environmental Quality	32	54	72
Operation, Maintenance & Homeowner Education	7	7	9
Global Impact	3	5	6
Additional points from sections of your choice	100	100	100
Total Required Points	237	311	395



Lot Design

- Obtain a wildlife habitat plan and preserve the delineated areas
- Delineate and avoid critical root zones on the lot
- Preserve existing lot grades where possible
- Limit dirt compaction to the driveway and housewalk areas thru the use of plywood sheets.

Resource Efficiency

- Calculate lumber plans to nearly eliminate wood waste, normally can be provided by lumber supplier
- Upgrade to 2x6 exterior walls and to R-19 sidewall insulation
- Overhangs over each entry
- Use recommended-sized roof overhangs for your area

Energy Efficiency

- Use Energy Star windows and ceiling fans and appliances (dishwasher, refrigerator and washing machine)
- Install occupancy sensors in bathrooms for lighting control
- Install motion sensors for outside lighting
- Make sure HVAC sub follows Manual J for the equipment sizing of the HVAC system

Water Efficiency

- Install dual flush, low flow toilet
- Install low flow faucets and shower heads
- Install irrigation system with separate controls for lawn, with drip zones for landscape bedding areas.
- Install weather based irrigation intellisensor controls which works with NOAA satellites

Indoor Air Quality

- Mask HVAC outlets during construction
- Ensure a tightly-sealed door in between the garage and living area
- Install space heating and water heating equipment in isolated mechanical room (Closet)
- Install a direct vent from the fire place and kitchen range to the outside
- Install MERV 9 Filters

Homeowner Education

- Prepare and provide an extensive homeowners manual to homeowners which includes green components
- Instruct homeowners about the building's goals and strategies and the homeowners' impacts on costs of operating the home.
- Teach the homeowners all about all the control systems in the house.

Global Impact

- Use Low VOC Paints and Sealants



Preparing for a Green Future

Above and Beyond

- Install piping and conduit from attic to mechanical equipment so that homeowner can install future solar collector on south facing roof

NEW Green Product Seal – Opportunity for Material Suppliers!



Earn the NAHB Research Center “Green Approved” Product Seal

Green building is becoming more and more mainstream in the home building industry. But, at the same time, consumers who are inundated with green claims in every facet of their lives are becoming more skeptical of those claims. Builders and designers are looking for products that truly contribute to making a home green and supporting their marketing and certification-based claims.

To help bridge the gap between manufacturers who make green products and builders/designers who want to use them, the NAHB Research Center has developed the “NAHB Research Center Green Approved” product seal of approval program. This program is available to manufacturers who provide third-party evidence that their products meet the criteria for recognition in buildings certified to the National Green Building Standard (currently under final review by ANSI). “Green Approved” products will have a certificate from the NAHB Research Center that identifies the specific sections of the Standard where points for the product are available. These reports, available from a link on the new, Standard-based green scoring tool, will facilitate designers’ selection/specification of products to be used in green homes, and the approval of those points by accredited green building verifiers.

PROCESS FOR ATTAINING GREEN APPROVED PRODUCT SEAL

- Manufacturer submits application to have product(s) recognized as “Green Approved”
- NAHB Research Center staff reviews the application and supporting third-party documentation for points to be approved
- NAHB Research Center staff determines approvable points by section and any applicable conditions of use for point eligibility
- Green Approved certificate provided to manufacturer with license agreement for use of the mark

MANUFACTURER BENEFITS FOR HAVING PRODUCTS GREEN APPROVED

- Recognition that your product is Green Approved and can be used by builders to earn points toward certification to the National Green Building Standard
- Ability to market Green Approved certificates on your website, and have them integrated into the National Green Building Certification scoring tool (on www.nahbgreen.org)



www.nahbgreen.org
(877) NAHB-GRN



SUCCESS STORY

- Silver Woods
 - Sussex County
 - Beaver Dam Road
 - First Gold Certified Home in the **Nation**



LEED

(Leadership in Energy and Environmental Design)

Vs.



NAHB MODEL
GREEN HOME
BUILDING
GUIDELINES

NAHB vs. LEED

- Intended for all builders
- Flexible program
- Cost effective
- Intended for top 25%
- More applicable to commercial const.
- Inflexible program – less choices of items to incorporate for certification
- More expensive than NAHB...

The Direct Costs of Green Building: NAHB vs LEED

Rating System	Bronze/ Certified	Silver	Gold	Emerald Or Platinum
GBG	1-1.4%	2.3-3.4%	4.7-6.4%	NA
NGBSv2	1.1-1.7%	2.8-3.1%	6.9-7.6%	16.3- 16.9%
LEED-H	3.6-5.6%	5.1-7.4%	11.2- 13.5%	17.3- 22.9%

Greenwashing



Definition of Greenwashing

“**Greenwash** is a term used to describe the practice of companies spinning their product lines as being environmentally friendly as a means to appeal to consumers, persuading them to buy that product rather than another or accept a change in a product. This can mean misleading a customer into thinking an aspect of the product is good for the environment when in reality it is merely a cost cutting method for the company, such as insisting people use less toilet paper in order to save trees when in reality the company does not want to buy as much toilet paper.”

"Six Sins of Greenwashing"

- Sin of the **Hidden Trade-Off**: e.g. “Energy-efficient” electronics that contain hazardous materials. 998 products and 57% of all environmental claims committed this Sin.
- Sin of **No Proof**: e.g. Shampoos claiming to be “certified organic,” but with no verifiable certification. 454 products and 26% of environmental claims committed this Sin.
- Sin of **Vagueness**: e.g. Products claiming to be 100% natural when many naturally-occurring substances are hazardous, like arsenic and formaldehyde (see [appeal to nature](#)). Seen in 196 products or 11% of environmental claims.
- Sin of **Irrelevance**: e.g. Products claiming to be CFC-free, even though CFCs were banned 20 years ago. This Sin was seen in 78 products and 4% of environmental claims.
- Sin of **Fibbing**: e.g. Products falsely claiming to be certified by an internationally recognized environmental standard like [EcoLogo](#), [Energy Star](#) or [Green Seal](#). Found in 10 products or less than 1% of environmental claims.
- Sin of **Lesser of Two Evils**: e.g. Organic cigarettes or “environmentally friendly” pesticides, This occurred in 17 products or 1% of environmental claims.

Eco-Labels for 'Green' Products



European Flower



Environmentally Preferable Purchasing (EPP) Program

Third party Certification for Green Homes



BUSINESS 2.0

GO GREEN. GET RICH.

SAVING THE PLANET HAS SUDDENLY
BECOME GOOD BUSINESS.

MEET 9 COMPANIES LEADING THE CHARGE.

(And learn how to get in on the action too.)

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JCM Environmental, Newark, DE

- Green Systems Branch
- Sciences Branch
- Remediation, Environmental Engineering Branch
- Land Management Branch

- www.jcmenv.com

JCM Environmental

- **THANKS FOR LISTENING TODAY !!**
- **www.jcmenv.com**
- **www.nahbgreen.org**

Questions

