

National Green Building Certification

RESNET

March 2011



National Green Building Certification

Agenda

- Who is the NAHB Research Center?
- The National Green Building Standard
- Certification Program
- Certification Costs
- The Green Scoring Tool
- Green Approved Products

Mission

To improve the durability, affordability, and environmental performance of housing

Methodology

Remove barriers to innovation

Organizational History

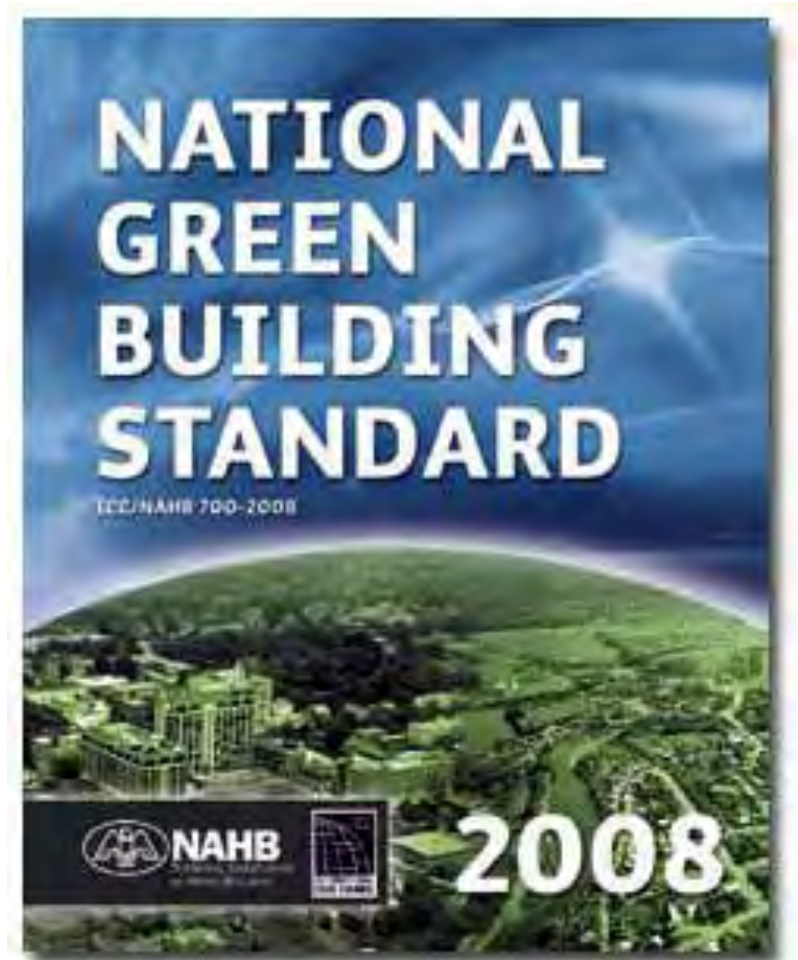
- Founded in 1964
- Internationally-recognized housing research and testing lab
- Full-service product and technology commercialization
- Extensive market research capabilities
- Independent, third-party for certification



National Green Building Certification

National Green Building Standard

- ICC and NAHB
- ANSI-approved Jan 2009
- Only ANSI-approved green building rating system
- Referenced in ICC International Green Construction Code



The Difference

- ANSI-approved consensus standard
- Written in code language
- Few mandatory provisions
- Expansive, flexible point-based system
- Multiple paths for energy compliance
- Four performance levels
- All residential
- Intended to be above-code, voluntary, market driven certification program

Scope

- Communities
- Homes
 - Single Family
 - Additions
 - Renovations
 - Multi-family
 - Additions
 - Renovations
 - Green Remodel Path

Land Development

- One - Four Stars
- Point-based performance criteria
- Measures for planning, design, and construction
- Mixed-use development
- Urban, suburban, rural
- Various certification options
- Can help builders earn points for home compliance

Single Family



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Multi-family



- Green practice in all units for points
- MF remodeling
- One verification report per building
- Mixed-use

Green Building Path- *Green Renovation*

- Available for any home or multi-family building
- Requires:
 - Follows green building path
 - Similar to new construction
 - Would work for gut rehab
 - Uses Notes specified in the Standard, as applicable

Green Remodel Path



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CERTIFICATION PROGRAM



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Certification to the Standard



Key Program Elements

1. Green Scoring Tool / Scoring Spreadsheet
2. Third-party verification of all points
3. Requires progressively higher levels of environmental performance in every category to obtain higher levels of green certification
4. Process designed for home builders
5. Affordable



The TurboTax® for the Standard

THE GREEN SCORING TOOL



National Green Building Certification



About NAHB Green

Who is Green?

Green Scoring Tool

Rating Systems

Certification

Education

:: Home : Green Scoring Tool

Greening the American Dream

NAHB Green Scoring Tool

Quick Links

[CGP - Certified Green Professional Designation](#)

[Become a Verifier](#)

[Home Certification](#)

[Find a Local Program](#)

[Find a Verifier](#)

SIGN IN

You are currently signed in to the NAHB Green Scoring Tool.

[View My Projects](#)

[Sign out](#)

DOWNLOAD

[NAHB Model Green Home Building Guidelines](#)

[Verifier's Resource Guide](#)

Section Total:

37

37 82 100+

Bronze Silver Gold

Ready to build green? Score your home design using this interactive tool based on the *NAHB Model Green Home Building Guidelines*.

The NAHB Green Scoring Tool is useful to skilled professionals as well as novices, providing information about the why and how of green building at every step.



Get Started!

Sign in or register using the box to the left to begin scoring your green home.

Ready to go green? [Register](#) or sign in to determine how many points your project would earn using the *NAHB Model Green Home Building Guidelines*.

The Green Scoring Tool uses the *NAHB Model Green Home Building Guidelines* as its basis. Additional tools are currently under development to be released when the National Green Building Standard is officially available to the public.

Consumers can develop ideas to discuss with their builders or remodelers. Builders or remodelers can develop green home designs to discuss with their trades or customers, and if they are intending to get the homes certified, they can develop their designs to

It doesn't really cost more to build green. It's not a matter of what materials you use, it's how you use them. Green building is about best practices.

Jeff Junkert, Jeff Junkert Construction, Billings, MT



Online Green Project Management

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:: Home : Green Scoring Tool Greening the American Dream

Green Scoring Tool for the National Green Building Standard

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My Projects

Project Name	Scoring Path	Score	Green Level Achieved	Options
Green Acres Emerald Model Home <small>Created on 4/17/2009 12:27:19 PM</small>	Single-Family New Construction	0	None	Checklist Project Scoring Analysis Reports Edit Project Details Copy Project Delete Project
Greener Pastures Bronze Starter Home <small>Created on 4/17/2009 3:03:13 PM</small>	Single-Family New Construction	0	None	Checklist Project Scoring Analysis Reports Edit Project Details Copy Project Delete Project
Energy Smart Park Gold Standard Home <small>Created on 4/20/2009 3:07:08 PM</small>	Single-Family Green Remodel	N/A	None	Checklist Project Scoring Analysis Reports Edit Project Details Copy Project Delete Project






Green Scoring Tool for the *National Green Building Standard*

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- Scoring Tool Checklist**
- [Reports](#)
- [Project Scoring Analysis](#)
- [Builders Challenge](#) 

Hide Chapter Navigation

- Chapter 5 - Lot Design, Preparation, and Development
- Chapter 6 - Resource Efficiency
- Chapter 7 - Energy

Scoring Tool Checklist

Project Name: Green Acres

Project Description: Emerald Model Home

Scoring Path: Single-Family New Construction

Green Level Achieved: None


This project is 1234 square feet, requiring 50 additional points for Bronze and 100 additional points for Silver, Gold, and Emerald.

Chapter 8, Step 14 of 14

Summary of Chapter 8: Water Efficiency

Below is a summary of the points available and your points claimed for each line item in Chapter 8: Water Efficiency.

Depending upon a variety of project specific factors, it may not be possible to claim all of the points indicated.


 This practice may be mandatory depending upon location and specifics of the design.

Practice Number	Practice Name	Maximum Points Available	Points Claimed	*Mandatory Item Status
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Project Status

Chapter 8 Score: [How do I reach a green level?](#)

Chapter Minimums: 14 26 41 60

[Mandatory Status:](#) 

[Don't forget your Additional Points!](#)


[Chapter Summary](#) | [Project Scoring Analysis](#) | [Project Reports](#)



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Scoring Requirements Tally

 Please read carefully

Additional Points

According to 601.1 of the National Green Building Standard, a dwelling greater than 4,000 square feet will require an increase in the additional points needed to reach a particular level (1 point per every 100 square feet over 4,000).

For this project:

Square Footage = 1234

Additional Points needed for Bronze = 50

Additional Points need for Silver, Gold, or Emerald = 100

Energy Efficiency Path

Path chosen = Performance Path

Because this project follows the Performance Path, it is eligible to attain the Emerald

The Project Scoring Analysis provides an overview of the points achieved for your project, and allows you to see what points are necessary to reach each level of green building.


Hide Bronze Scoring Analysis

Chapter	Required Points	Claimed Points	Additional Claimed Points Above Bronze	Point Shortfall	Mandatory Status
Chapter 5: Lot Design, Preparation, and Development	39	58	19		Not Applicable
Chapter 6: Resource Efficiency	45	25		20	Not Met
Chapter 7: Energy Efficiency	30	60	30		Not Met
Chapter 8: Water Efficiency	14	4		10	Not Applicable
Chapter 9: Indoor Environmental Quality	36	53	17		Not Met
Chapter 10: Operation, Maintenance, and Building Owner Education	8	3		5	Met
SECTION TOTALS	172	203	66	35	
Additional Points Above Bronze	50	--	66	0	
TOTAL POINTS	222	203	--	35	

To achieve Bronze:

- Reach required Bronze score for each chapter
- Reach required Additional Points for this project
- Meet all mandatory items

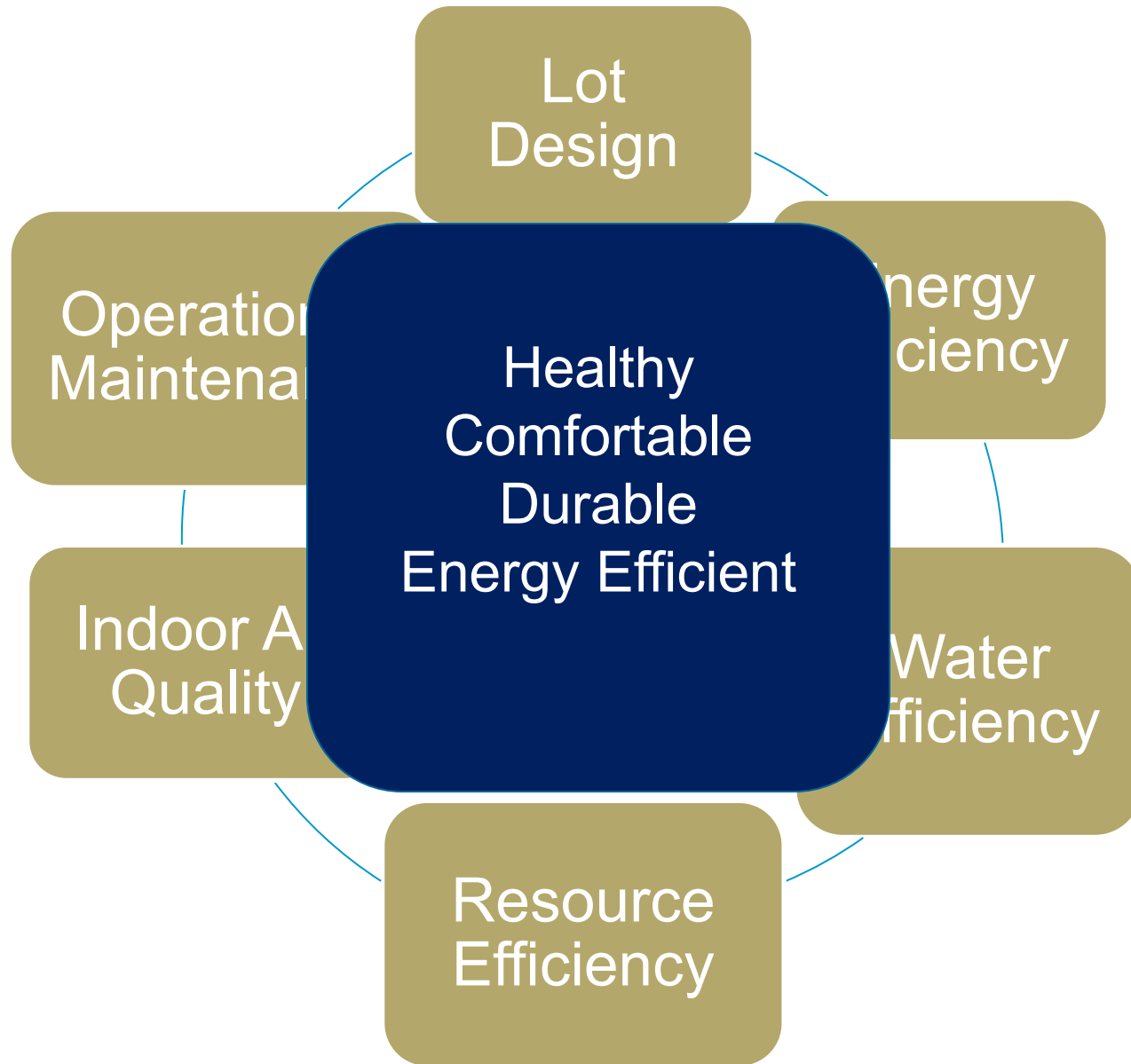
Scoring Spreadsheet

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q				
1		NGBS Scoring for New Construction										Current Status		Performance Level Minimum							
2		ICC 700-2008 National Green Building Standard™										Score	Mandatory	Bronze	Silver	Gold					
3		Revised August 26, 2010										This project has not met all the requirements for Bronze, Silver, Gold, or Emerald.									
4		♦ 2010 NAHB Research Center, Inc. Use of this document is permitted solely for the purpose of participating in the NAHB Research Center's Green Building Certification.										This Project	0	Not Met	222	406	558				
5																					
12	Last revision:		August 26, 2010					See the Errata worksheet for a list of versions & corrections.													
14	Introduction																				
15	This workbook allows you to score your new single-family or multi-unit green building projects to the ICC 700-2008 National Green Building Standard™. Use of the NGBS Scoring workbook (online Green Scoring Tool) is the required entry point for National Green Building Certification. This workbook is intended to be used in conjunction with the publications <i>ICC 700-2008 National Green Building Standard™</i> and <i>National Green Building Standard Commentary™</i> .																				
17	General Project Description																				
18	Please fill in the information below. All fields are required unless marked otherwise. This information may be used to pre-populate fields and aid in scoring decisions in this tool as well as be used for statistical reasons. Your privacy is important to us, and your information will not be shared or sold outside of the NAHB Research Center or National Association of Home Builders.																				
19	Builder Name:		<input type="text"/>																		
20	Builder Phone Number:		<input type="text"/>																		
21	Physical Address of Home:		<input type="text"/>				City:				<input type="text"/>			State:		<input type="text"/>		Zip:		<input type="text"/>	
22	Community/Lot #:		<input type="text"/>																		
24	The project I am scoring is:		<input type="text"/>				If Multi-Unit, enter # of units:		<input type="text"/>												
26	Project's Climate Zone:		<input type="text"/>				See Climate Zone Map.														
28	Square Footage:		<input type="text"/>				s.f.		For a multi-unit building, use a weighted average of the individual unit sizes.												
	The Additional Points required to reach Bronze, Silver, Gold, or Emerald will increase by 1 point for every 1000 sq. ft. over the previous level.																				
	Start Here! / Chapter 5 / Chapter 6 / Chapter 7 / Chapter 8 / Chapter 9 / Chapter 10 / Designer's Report / Scoring Analysis																				



Third-Party Verification





Performance Levels

Green Building Categories			Performance Level Points ^{(1) (2)}			
			BRONZE	SILVER	GOLD	EMERALD
1.	Chapter 5	Lot Design, Preparation, and Development	39	66	93	119
2.	Chapter 6	Resource Efficiency	45	79	113	146
3.	Chapter 7	Energy Efficiency	30	60	100	120
4.	Chapter 8	Water Efficiency	14	26	41	60
5.	Chapter 9	Indoor Environmental Quality	36	65	100	140
6.	Chapter 10	Operation, Maintenance, and Building Owner Education	8	10	11	12
7.		Additional Points from any category	50	100	100	100
Total Points:			222	406	558	697

Score Home

Hire Verifier

Verifier Schedules Inspection,
Notifies RC

RC Sends Builder Invoice and if
newcomer, Builder Agreement

Rough Inspection

Verifiers Schedules
Inspection, Notifies RC

Complete Home

Final Inspection

Verifiers Schedules
Inspection, Notifies RC

Complete Home

Market Penetration

- Strongest markets
 - East of Mississippi
 - NC, TN, IN, DE, TX, NH, MO
- SF Builders: regional production builder, custom, small volume, affordable
- MF: affordable, new and rehab, all sizes

Financial Incentives

- Delaware Green 4 Green
 - \$3,000 – 6,000 cash at settlement table
 - New construction, SF homes
- New York
 - Cash incentives to Silver certifications or higher
 - Buildings up to 12 units
- Maryland
 - Proposed cash incentives
- Missouri
 - LIHTC preference for certified buildings

Local Program Collaborations

- Austin Energy
- New Mexico Built Green
- North Carolina GHBT
- Wisconsin
- NE Ohio GBI

Green & Energy Certification Combined

DUAL CERTIFICATION FOR NEW HOMES



National Green Building Certification



DOE Builders Challenge

Cost-neutral net-zero energy home by
2030

Compliance, Verification, Certification

CERTIFICATION COSTS



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Cost Analysis

Practices
Products

Verification

Certification

Cost Comparison

Rating System	Bronze / Certified	Silver	Gold	Emerald/ Platinum
National Green Building Standard	1 - 2%	3%	7%	16%
LEED-H	3-6%	5 – 7%	11 – 13%	17 – 23%

Verification Costs

- Market Rate
- Inspections typically two hours each (rough & final)
- Many verifiers provide other services
 - HERS raters
 - Design services
- Nationwide network

Certification Fees

	NAHB Member	Non-member
Single Family	\$200	\$500
Multi-Family	\$200 + \$20 per unit	\$500 + \$20 per unit
Land Development	\$2,500	\$2,500

Verification Opportunities for Raters

- Have the required expertise and training
- Verification is value-added service
- Complements performance testing and energy consulting
- Most costs associated with energy, but all additional marketing value with green certification
- One trip to site - complete rough-in verification at time of energy testing
- Become trusted advisor for local builders

How to Become a Verifier

- Submit qualifications
- Take training and test online 24/7
- Submit insurance documentation
- Listed on NAHBGreen.org
- Training, Accreditation Fee \$125

**LOOK FOR THIS MARK.
IT'S PROOF THAT YOUR HOME IS
GREEN!**



National Green Building Certification

ANSI Revision Process

- Comments collected since ANSI-approval
- Consensus Committee announced
- First meeting March in DC
- Process to take 18 months
- Public comment and hearings
- Transition period after completion before effective date

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