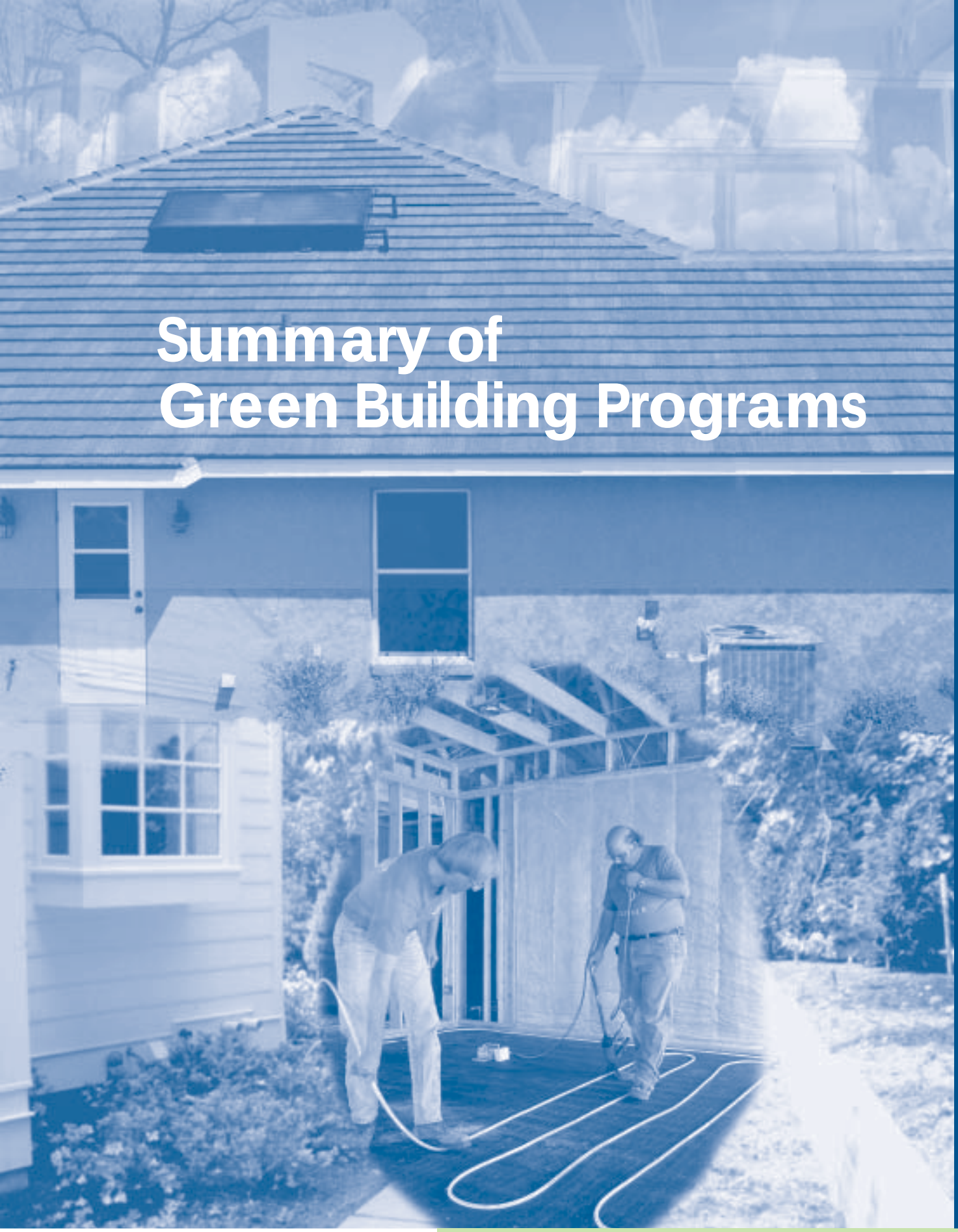
Summary of Green Building Programs



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Conclusion

For more information on Green Building Programs, contact the NAHB Research Center, 400 Prince George's Boulevard, Upper Marlboro, MD 20774-8731, (800) 638-8556, or visit our website at www.toolbase.org.

This document can also be downloaded from www.toolbase.org.

Summary of Existing Green Building Programs

Prepared for:
National Renewable Energy Laboratory
Golden, Colorado

Prepared by:
NAHB Research Center, Inc.
Upper Marlboro, MD

Second Edition
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Foreword

In early 2002, the NAHB Research Center completed a census of residential green building programs across the United States to assess differences and similarities among programs. Although the Research Center recognizes that other (e.g., commercial) green building programs exist, the focus of this report is on residential programs. In addition to presenting basic facts about the programs, information provided catalogs different ways builders participate in green building programs. This guide assumes that readers have a basic understanding of green building techniques.

Key Findings

Basic Facts

Over 18,000 homes have been built in compliance with the twenty-six green building programs surveyed in this study. The majority of these homes are in Denver, Austin, and Seattle. The Austin and Denver programs have the most builder members; the Austin program has been in existence the longest.

Most Established Programs

Built Green Colorado in Denver and the Austin Energy Green Building Program in Texas are the largest and best established green building programs in the country. Built Green Colorado was established in 1995 and currently has 111 builders participating in the program. Over 9,000 homes have been completed to date in accordance to the program's guidelines. Participation in the Built Green Colorado program is voluntary. Builders receive marketing materials and recognition in the market.

Austin Energy's Green Building Program was established in 1990. This voluntary program currently has 111 builders participating, with over 2,000 homes completed to date in accordance with the program's guidelines.

Programs with Mandatory Participation

For builders in Boulder, Colorado and Frisco, Texas, compliance with the local green building program is required to get building permits.

Programs in Development

There are several green building programs in the early stages of development. These are: Southern Arizona Green Building Alliance, Western North Carolina Green Building Council, Alameda County, Chula Vista, Hudson Valley Home Builders Association (HBA) Green Building Program, and the Schenectady HBA Green Building Program.

Table of Contents

1. Green Built Home (Wisconsin Environmental Initiative)

Overview:
Checklist with very little weighting—the most points that are allocated to any one practice is four.

Certification method:
For each home, the builder submits a checklist, registration form, and a working set of plans. Green Built Home conducts an initial plan review and conducts random site visits.

Levels of certification:
One

Qualification:
Minimum of 50 points to qualify. Point breakdown is as follows: meet all mandatory requirements (15 points), and include a minimum of 35 additional points from any combination of other categories from the checklist (out of 232 total checklist points).

Year of inception:
1999

Number of builders:
30

Incentives offered to builders to participate:
Logos in homes, yard signs, plaques on certified homes, local press, ribbons and shirts for builders.

Number of homes constructed to date:
202

Contact information:
Green Built Home
Wisconsin Environmental Initiative
John Imes
16 N. Carroll Street, Suite 840
Madison, WI 53703-2726
p. 608-280-0360
f. 608-280-0361
http://www.wi-ei.org/GBH/index.htm
jimes@wi-ei.org

Mandatory Requirements

Category	Points
WI Energy Star home	10 Required
Energy Star appliances	1 Required
Erosion control plan (available in builder guidebook)	1 Required
One recycled material (min 50%)	1 Required
No uncertified Lauan or other tropical hardwood plywood, doors, or trim	1 Required
Homeowner handbook (prepared by program)	1 Required

Continued next page

Green Built Home (Wisconsin Environmental Initiative) continued

Checklist Requirements	
Category	**Maximum Possible Points**
Landscape conservation	13
Energy use (general)	7
Water conservation	5
Materials selection	4
Energy use	
Insulation and air sealing	14
Glazing	9
Mechanical systems	17
Indoor air quality	15
Water heating	14
Indoor water conservation	3
Appliances	7
Lighting	11
Integrated climatic design	6
Materials	
Below grade	10
Structural frame	18
Envelope	16
Insulation	5
Roof	3
Subfloor	5
Finish floor	15
Doors, cabinets, and trim	14
Finishes and adhesives	6
Waste management	15
Total Possible Points	**232**

2. Build A Better Kitsap Home Builder Program (Kitsap HBA)

Overview:
Builders qualify at a one-, two-, or three-star level determined by mandatory criteria plus points awarded from a checklist. Checklist items are generally weighted from one to three points.

Certification method:
Self-certification checklist (plus mandatory one-time program orientation)

Levels of certification:
One-, two-, or three-stars (★)

Qualification:
★ All mandatory requirements plus 10 points from Section 2 through 8 of checklist.
★★ All mandatory requirements plus 30 points from Section 2 through 8 of checklist. Earn at least 3 points from each section.
★★★ All mandatory requirements plus 30 points total from Section 2 through 8 of checklist. Attend a workshop within 1 year of certification.

Year of inception:
1997

Number of builders:
27

Incentives offered to builders to participate:
Marketing such as billboards, Internet marketing, print brochures

Number of homes constructed to date:
278

Contact information:
Build a Better Kitsap
Art Castle
5251 Auto Center Way
Bremerton, WA 98312-3319
p. 360-479-5778
f. 360-479-0313
acastle@kitsaphba.com
http://www.kitsaphba.com

Mandatory Requirements	
Category	**Points**
Meet Washington State energy code	Required
Meet Washington State ventilation/indoor air quality code	Required
Meet Washington State water use efficiency standards	Required
Program orientation (one time only)	Required
Provide "Operations and Maintenance Kit"	Required
Checklist Requirements	
Section	**Maximum Possible Points**
Site protection	18
Site design	22
Reduce	20
Reuse	8
Recycle	14
Resource-efficient material selection	31
Maximize energy efficiency	43
Indoor air quality and health	58
Manage hazardous waste	9
Promote responsible operation and maintenance	16
Total Possible Points	**239**

3.

EarthCraft House (Greater Atlanta HBA)

Overview:
Places emphasis and value on providing training and technical assistance to builders. Requires energy efficiency plus other green features. All homes are inspected and blower door tested by specially trained EarthCraft House inspectors. Checklist is weighted toward features that have the most environmental benefits. Allows bonus points for proximity to mass transit, PV and/or solar hot water, or other innovations. Includes a workbook for builders to educate about various items on the checklist.

Certification method:
Required third-party inspection plus self-certification worksheet

Levels of certification:
One

Qualification:
Certification requires 150 points from the checklist out of 489 total possible points

Year of inception:
1999

Number of builders:
89

Incentives offered to builders to participate:
All first inspections are free to the builder, some incentives to homeowners in the form of reduced closing costs and lower interest rate mortgages, other loan assistance programs.

Number of homes constructed to date:
500

Contact information:
EarthCraft House
Greater Atlanta Home Builders Association, Inc.
P.O. Box 450749
Atlanta, GA 31145
p. 770-938-9900
f. 770-934-8363
earthcraft@earthcrafthouse.com
http://www.earthcrafthouse.com

"EarthCraft House renovation is perhaps the most exciting new aspect to our program. We've worked with six of the city's top renovators to outline how the program might work. We're currently in the pilot state, and so far the response just through word of mouth has been amazing. We plan to officially launch this part of the program in mid summer [2002] with a detailed workbook, and special training class."

Jim Hackler
EarthCraft House Greater Atlanta HBA

Checklist Requirements	
Category	**Maximum Possible Points**
Site planning	45
Tree protection and planting measures	15
Energy efficient building envelope and systems	90 (for ENERGY STAR certification)
Energy measures	House must either be Energy Star certified or must get at least 75 points from "energy measures" below
Air leakage test	35
Air sealing measures	30
Insulation	50
Windows	32
Heating and cooling equipment	42
Ductwork/air handler	58
Energy efficient lighting/appliances	12
Resource efficient design	26
Resource efficient building materials	
Recycled/natural content materials	10
Advanced products	29
Durability	15
Waste management	
Waste management practices	14
Recycle construction waste	15
Indoor air quality	
Combustion safety	30
Moisture control	13
Ventilation	26
Materials	13
Water—indoor use	19
Water—outdoor use	35
Homebuyer education/opportunities	26
Builder operations	13
Bonus points (mass transit, brownfield development, etc.)	55+
Total Possible Points	**489**

4.

Built Green™ Colorado (HBA of Metro Denver)

Overview:
Comprehensive checklist that requires builders to meet the Energy Efficiency Minimum Requirement and then reach a cumulative point total of 70.

Certification method:
Self-certification checklist; 5% of all residential homes are inspected on random basis by third-party services.

Levels of certification:
One

Qualification:
Builders must have 70 points; the points can come from anywhere in the checklist.

Year of inception:
1995

Number of builders:
111

Incentives offered to builders to participate:
Market distinction, education, TV ads

Number of homes constructed to date:
9,646

Contact information:
Built Green Colorado
HBA of Metro Denver
1400 S. Emerson
Denver, CO 80210
p. 303-778-1400
f. 303-733-9440
info@builtgreen.org
http://www.builtgreen.org

Checklist Requirements	
Category	**Maximum Possible Points**
Energy requirement (Required)	3
Energy efficiency	
Envelope	60
Mechanical systems	158
Water heating	43
Appliances	34
Lighting	16
Materials	
Foundation	33
Structural frame	72
Subfloor	10
Windows	13
Doors	8
Insulation	16
Exterior wall finishes	34
Roof	14
Finish floor	31
Cabinetry and trim	14
Health and safety	
Indoor air quality	95
Resource conservation	
Land use	17
Materials reduction	9
Materials re-use	16
Waste reduction and recycling	7
Water	35
Total Possible Points	**738**

5.

BuiltGreen™ (MBA of King and Snohomish Counties)

Overview:
Comprehensive checklist with weighted items
Certification method:
Self-certification checklist
Levels of certification:
One-, two-, or three-stars (★)
Qualification:
★ Attend program orientation; meet mandatory green codes and regulations; earn 25 points from checklist; prepare and post a jobsite recycling program; and provide an "Operations and Maintenance Kit".
★★ One star requirements plus 75 additional points (100 points minimum) from checklist with at least 6 points from each section; Attend a Built Green workshop within one year of certification.
★★★ Meet two-star requirements plus 105 additional points (180 points minimum).
Year of inception:
2000
Number of builders:
9 participating
Incentives offered to builders to participate:
Access to marketing tools
Number of homes constructed to date:
1,600
Contact information:
Built Green
Master Builders Association of King and Snohomish Counties
2155 112th Avenue, NE
Bellevue, WA 98004
p. 425-451-7920
builtgreen@mba-ks.com
http://www.builtgreen.net

Mandatory Requirements	
Category	**Maximum Possible Points**
Meet Washington State water use efficiency standards	Required
Meet stormwater/site development standards	Required
Meet Washington State ventilation/indoor air quality code	Required
Meet Washington State energy code	Required
Provide Homeowner with operations and Maintenance kit	Required
Checklist Requirements	
Site and water	
Overall	13
Protect sites natural features	22
Protect natural processes on-site	58
Eliminate water pollutants	37
Design alternatives	25

Energy efficiency	
Envelope	128
Heating/cooling	20
Water heating	5
Lighting	6
Efficient design	3
Alternative systems	15
Health and indoor air quality	
Overall	25
Jobsite operations	19
Layout and material selection	50
Moisture control	9
Air distribution and filtration	21
HVAC equipment	30
Materials efficiency	
Overall	40
Jobsite operations	
Reduce	9
Reuse	13
Recycle	40
Design and material selection	
Overall	10
Framing	29
Foundation	4
Subfloor	1
Doors	5
Finish floor	15
Interior walls	2
Exterior walls	8
Windows	2
Cabinetry and trim	12
Roof	7
Insulation	5
Other exterior	10
Promote environmentally friendly homeowner O&M	
Water conservation—outdoor	40
Water conservation—indoor	31
Eliminate water pollutants	5
Energy	
Heating/cooling	9
Water heating	19
Appliances	10
Efficient lighting	9
Health and indoor air quality	3
Recycling	6
Total Possible Points	**830**

6.

Green Home Designation (Florida Green Building Coalition)

"The most valuable aspect of Florida's Green Building Program is the one-on-one assistance available to builders through program Certifying Agents, and the Building America Industrialized Housing Partnership."

Eric Martin
Florida Green Building Coalition

Overview:
Program that features a comprehensive, weighted checklist of efficiency measures. Gives value to meeting Florida energy code plus additional energy points for HERS rating above 80 and design, appliances, lights, and amenities. Also has categories for water, site, health, materials, and disaster mitigation.

Certification method:
Mix of self-certified and inspector certified items. Some items require special submittals for verification

Levels of certification:
One level

Qualification:
Builders must achieve a minimum number of points in each category to encourage diversity and to consider the house as a system. However, if there is a deficit in one category, it can be amended if the deficiency is added to the total minimum score of 200. For example, if the home achieves only 10 points in a category with a minimum of 15 required, the builder can still qualify for a Green Building Designation if the total number of points is, at minimum, 205.

Year of inception:
2001

Number of builders:
15

Incentives offered to builders to participate:
Discount on per home registration fee

Number of homes constructed to date:
2

Contact information:
Green Home Designation
Eric Martin, Research Engineer
Florida Solar Energy Center
1679 Clearlake Road
Cocoa, FL 32922
p. 321-638-1450
f. 321-638-1439
info@floridagreenbuilding.org
http://www.floridagreenbuilding.org

Mandatory Requirements	
Category	**Maximum Possible Points**
Prerequisite 1 (use at least one measure)	
Sanitation system that reduces/eliminates chlorine use (salt water, ionization, etc.)	Required
Pool cover	Required
Solar pool heating system	Required
Efficient pool pumping	Required
No swimming pool or spa	Required
Prerequisite 2 (use at least one measure)	
Use of native aquatic vegetation in shoreline area	Required
Low maintenance plants placed between lawn and shoreline; no turf adjacent to water	Required
Use of terraces, swales, or berms to slow stormwater movement into water body	Required
Home site does not border natural water body	Required

Checklist Requirements	
Energy (Building Envelope/Systems)	(100 min/150 max)
Codes/Ratings (both inspector certified)	150
Design	19
Energy (Appliances, Lights, Amenities)	(10 min/25 max)
Energy-efficient appliances/amenities	9
Energy-efficient lighting	19
Water	(15 min/40 max)
Appliances	12
Greywater reuse	4
Rainwater harvesting	4
Installed landscape	25
Installed irrigation	14
Site	(10 min/30 max)
Native tree and plant preservation	15
On-site use of cleared materials	2
Erosion control/topsoil preservation	5
Drainage/retention	10
Health	(10 min/30 max)
Combustion	10
Moisture control	7
Ventilation	20
Source control (materials)	9
Cleanability	4
Universal design	4
Materials	(10 min/45 max)
Structure	14
Sub-assembly	7
Partitions/Trim	4
Finishes	4
Durability	6
Waste management	12
Disaster mitigation	(5 min/30 max)
Hurricane (wind, rain, storm surge)	20
Flood (check all 4 to receive 5 points)	5
Wild fire (check all 3 to receive 5 points)	5
Termites (check all 12 to receive 10 points)	10
General	(0 min/50 max)
Small house credit	50
Renewable power generation	20
Reconfigurability	6
Lot choice	10
Other	14
Total Possible Points	**400**

7.

City of Boulder Green Points

Overview:
Checklist of features that are weighed.
Certification method:
City or Self-certification checklist (method required is specified for each checklist item).
Levels of certification:
One
Qualification:
Point requirements are based on square footage. Homes smaller than or equal to 1,500 square feet need 50 points. Homes between 1,501 and 2,500 square feet need 65 points. Homes larger than 2,501 square feet need one additional point for each 50 additional square feet up to the maximum allowable points. The program also covers remodeling and additions over 500 square feet.
Year of inception:
1997
Number of builders:
38 have gone through training. All builders in Boulder participating because it is mandatory.
Incentives offered to builders to participate:
Must participate to get building permit.
Number of homes constructed to date:
Approximately 116
Contact information:
Mike Weil
Director, Energy Programs Coordinator
City of Boulder
Office of Environmental Affairs
P.O. Box 791
Boulder, CO 80306
p. 303-441-4191
f. 303-441-4070
weilm@ci.boulder.co.us
http://www.ci.boulder.co.us/environmentalaffairs/green_points/

Checklist Requirements	
Category	**Maximum Possible Points**
Construction/Demolition and Use of recycled materials	29
Land use and Water conservation	25
Framing	30
Energy code measures	113
Plumbing	5
Electrical	10
Insulation	34
HVAC	51
Solar	79
Indoor air quality	48
Innovation	10
Total Possible Points	**Approximately 434**

8. Green Building Program, Austin Energy (TX)

Overview:
Comprehensive, weighted checklist
Certification method:
Self-certification
Levels of certification:
One-, two-, three-, four-, and five-stars (★)
Qualification:
★ 40-59 points
★★ 60-89 points
★★★ 90-129 points
★★★★ 130-179 points (must include blower door test, duct blaster test or ducts located in conditioned space, and combustion/backdraft test)
★★★★★ 180 or more points (including requirements listed in four stars)
Year of inception:
1990
Number of builders:
111
Incentives offered to builders to participate:
Training (e.g., monthly seminars); support services; plan reviews; one-on-one consultation; marketing
Number of homes constructed to date:
2,475
Contact information:
Richard Morgan
P.O. Box 1088
Austin, TX 78767
p. 512-505-3709
f. 512-505-3711
Richard.morgan@austinenergy.com
http://www.ci.austin.tx.us/greenbuilder

Mandatory Requirements	
Category	**Maximum Possible Points**
Durable finish (min. 50-year warranty)	Required
One recycled content material (min 50%)	Required
Meet City of Austin Building and Energy Code	Required
Efficient and effective cooling and dehumidification system	Required
Two ceiling fans	Required
Meet City of Austin Building Code requirements	Required
No vapor barrier on inside perimeter wall	Required
One-inch minimum pleated filter on HVAC system	Required
Low-VOC paints on interior	Required
If termite control used, pyrethroid or borate based	Required
Any planting beds mulched to min 2" depth	Required
Rating certificate and homeowner information packet given to homeowner	Required
Rating submitted for all homes in greater Austin Area	Required

Continued next page

Green Building Program, Austin Energy continued

Checklist Requirements	
Section	**Maximum Possible Points**
Energy	
Design	43
Thermal envelope	22
Heating, cooling, water heating	38
Lighting and appliances	13
Materials	
Design, structure	15
Finish materials	16
Excess jobsite resources	10
Water	
Indoor	6
Outdoor	28
Health, Safety	
Molds, mites, fibers	21
Chemical outgassing	18
Combustion gases	7
Electromagnetic fields	2
Integrated pest management	7
Community	28
Total Possible Points	**274**

"After 10 years of promoting Green Building in Austin we now have home buyers asking for "green" features in the homes they buy. We have achieved this through a long-term effort to educate the consumer about the benefits of green building...Builders [also benefit] from the technical assistance they get from us. This assistance ranges from free monthly seminars for members of our program to individual sessions with our staff to help them achieve a higher level of energy efficiency, comfort and durability in their homes."

Richard Morgan
Austin Energy Green Building Program

9.

City of Scottsdale Green Building Program

Overview:
Weighted rating (checklist) that emphasizes a system's approach by requiring 26 prerequisites. After meeting these requirements, projects get points from various rating categories. Projects qualify as "entry level" (26 points from the rating categories) or "advanced level" (56 points from the rating categories).

Certification method:
Checklist items verified by inspector. Certification and Homeowners Guide provided at completion of project.

Levels of certification:
Entry and advanced

Qualification:
63 points out of 368

Year of inception:
1998

Number of builders:
47

Incentives offered to builders to participate:
Expedited plan review: permitting time reduced by half

Number of homes constructed to date:
129

Contact information:
Anthony Floyd
7506 East Indian School Road
Suite 125
Scottsdale, AZ 85251
p. 480-312-4202
f. 480-312-7314
afloyd@ci.scottsdale.az.us
http://www.ci.scottsdale.az.us/greenbuilding/

Requirements		
Category	**Required Elements**	**Maximum Possible Points**
Site use	1	26
Structural elements	1	23
Building envelope	5	63
Heating, cooling, and ventilation	6	59
Indoor air quality	4	21
Electrical power, lighting, and appliances	3	25
Plumbing system	3	38
Roofing	–	12
Exterior finishes	–	12
Interior finishes	1	10
Interior doors, cabinetry, trim	–	15
Finish floor	1	13
Pools and spas	–	26
Solid waste	1	7
Special options	–	18
Total Possible Points	**26**	**368**

10.

New Mexico Building America Partner Program (HBA of Central New Mexico)

Overview:
Minimum standards for energy conservation (prescriptive or performance-based compliance), indoor air quality, water conservation, building materials conservation, solid waste reduction through recycling, and testing. No check-list or optional items. In addition to addressing Building America objectives of performance-based goals for indoor air quality, energy conservation, and water conservation, this program addresses solid waste reduction and material conservation.

Certification method:
Third-party testing done by HERS raters

Levels:
One

Qualification:
Two technical seminars and two public seminars

Year of Inception:
2001

Number of builders:
15

Incentives offered to builders to participate:
Marketing niche

Number of homes constructed to date:
830

Contact information:
HBA of Central New Mexico
Building America Partner Program
Lindsay Chism
PO Box 1881
Los Lunas, NM 87031
p. 505-866-6479
f. 505-565-8207
ldcconsulting@aol.com
http://www.hbacnm.com/green_builder

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County of Santa Barbara Innovative Building Review Program

Overview:
Free program that advises developers on how to make developments more energy efficient. Includes a few green features beyond energy efficiency. Incentives to meeting targets include expedited plan review, 50% reduction in energy plan-check fee, marketing materials, and eligibility for Energy-Efficient Building of the Year.

Certification method:
Plan review (by committee at regularly scheduled meetings) and self-certification checklist.

Levels of certification:
Target 1, 2, or 3

Qualification:
Target 1: 20% better than Title 24 (California Energy Code); 5 points from checklist.
Target 2: 30% better than Title 24; 12 points from checklist.
Target 3: 40% better than Title 24; 30 points from checklist.

Year of inception:
1995

Number of builders:
60

Incentives offered to builders to participate:
Expedited review and reduced fees for checking energy plan.

Number of homes constructed to date:
890

Contact information:
County of Santa Barbara
Innovative Building Review Program
Kathy Pfeifer
30 E. Figueroa Street, 2nd Floor
Santa Barbara, CA 93101-2709
p. 805-568-2507
f. 805-568-2522
kathypm@co.santa-barbara.ca.us
http://www.silcom.com/~sbcplan/ibdrc.html

Mandatory Requirements	
Category	**Maximum Possible Points**
Exceed Title 24 requirements by 20%	Required (Target 1)
Exceed Title 24 requirements by 30%	Required (Target 2)
Exceed Title 24 requirements by 40%	Required (Target 3)
Checklist Requirements	
Category	**Maximum Possible Points**
Energy	51
Siting	4
Summer shading and wind protection	52
Non-energy related building techniques	23
Total Possible Points	**130**

12.

Build a Better Clark (Clark County Washington HBA)

Overview:
Builders qualify at a one, two, or three-star level determined by mandatory criteria plus points awarded from a checklist. Checklist items are generally weighted from one to three points.

Certification method:
Self-certification checklist (plus mandatory one-time program orientation)

Levels of certification:
One-, two-, or three-stars (★)

Qualification:
★ All mandatory requirements.
★★ All of 1-star requirements plus earn additional 50 points total. Attend a workshop within last twelve months.
★★★ 2-star requirements plus an additional 40 points total (for a minimum total of 90 points). Attend a workshop within last twelve months.

Year of inception:
1999

Number of builders:
16

Incentives offered to builders to participate:
In development

Number of homes constructed to date:
26

Contact information:
Build a Better Clark
Attn: Mary Gould
5007 NE St. John's Road
Vancouver, WA 98661
p. 360-694-0933
f. 360-694-1606
joel@cchba.com
http://www.cchba.com/build_a_better_clark_page.htm

Mandatory Requirements	
Category	**Maximum Possible Points**
Meet Washington State energy code	Required
Meet Washington State ventilation/indoor air quality code	Required
Meet Washington State water use efficiency standards	Required
Prepare a job-site recycling plan and post on-site	Required
Use at least one recycled-content building product	Required
Provide a "Homeowner's Kit"	Required
Program orientation (one time only)	Required
Checklist Requirements	
Category	**Maximum Possible Points**
Treat site appropriately	
Site protection	19
Site design	20
Prevent waste	
Reduce	23
Reuse	8
Recycle	12
Resource-efficient material selection	32
Maximize energy efficiency	46
Indoor air quality and health	56
Manage hazardous waste	9
Promote responsible operation and maintenance	16
Total Possible Points	**241**

13.

Earth Advantage™ Program (Portland General Electric)

Overview:
Earth Advantage is a utility-run program that provides marketing and technical support to builders. The program starts with a plan review by an Earth Advantage technical specialist. The specialist conducts on-site inspections to check for proper installation of materials. Two diagnostic tests are performed: one in the early stages of building to test the duct air loss and the second–a blower door test–is conducted when the home is complete. A certificate is given that lists the features for the home, the appliance ratings, and the diagnostic test results.

Certification method:
Points worksheet and onsite inspections

Levels of certification:
One

Qualification:
For the house to be certified the builder must achieve *a minimum of 50 points in each of the four categories:* 1) Energy Efficiency; 2) Healthier Indoor Air; 3) Environmental Responsibility; and 4) Resource Efficiency and pass two performance tests (duct blast and blower door).
To ensure that the house meets the requirement for performing 15% better than the Oregon energy code, core measures are required in each of the five categories that include energy-efficiency points: 1) Shell Construction; 2) HVAC/Duct Sealing; 3) Water Heating; 4) Lighting; and 5) Appliances.

Year of inception:
1999

Number of builders:
33

Incentives offered to builders to participate:
Marketing, advertising, others to be developed

Number of homes constructed to date:
100+

Contact information:
Duane Woik
16280 SW Upper Boones Ferry Road
Portland, OR 97224
p. 503-603-1733
f. 503-603-1710
http://www.earthadvantage.com

Checklist Requirements	Maximum Possible Points			
	Energy and Environmental Categories			
Construction Categories	**Energy Efficiency**	**Healthier Indoor Air**	**Environmental Responsibility**	**Resource Efficiency**
Shell construction	134	56	72	118
HVAC	160	160	20	64
Water heating	69	0	30	32
Lighting	6	0	12	8
Appliances	12	0	8	6
Foundation	0	34	12	26
Siding	0	58	44	68
Roofing	0	22	18	36
Insulation material	0	0	4	10
Interior surfaces	0	4	4	10
Surface coating	0	54	24	28
Cabinets	0	42	28	28
Countertops	0	32	12	16
Casework	0	18	12	8
Stove/fireplace	0	22	4	0
Flooring	0	46	36	42
Finish plumbing	0	0	8	6
Land and water	0	0	144	2
Waste management	0	0	28	16
Total Possible Points	**381**	**548**	**520**	**524**

14.

G/Rated (City of Portland)

Overview:
Builders participating in this city operated program are awarded points from a checklist for certification. Projects are jury-reviewed and are selected for publicity purposes.

Certification method:
Inspection plus self-certification weighted checklist.

Levels of certification:
One

Qualification:
Case Study

Year of inception:
2001

Number of builders:
0 (not tracked)

Incentives offered to builders to participate:
$3,000 grants for qualified projects that serve as case studies to be shared with the community.

Number of homes constructed to date:
35 (case studies)

Contact information:
Mike O'Brien
City of Portland Office of Sustainable Development
Green Building Specialist
p. 503-823-5494
mobrien@ci.portland.or.us
http://www.green-rated.org

Checklist Requirements	
Category	**Maximum Possible Points**
Sustainable sites	
Alternative transportation	7
Erosion and sediment control	2
Stormwater management	3
Healthy and water-efficient landscaping	14
House design	10
Energy efficiency	
Building envelope	6
Heating and cooling	13
Water heating	5
Appliances and lights	5
Renewable energy	18
Materials and resources	
Building materials	11
Efficient structural systems	20
Waste reduction and management	11
Reducing pollutant sources	13
Ventilation	9
Air cleaning	5
Reduce toxins in yard	4
Innovations	23
Partnerships	9
New technologies	5
Total Possible Points	**193**

15.

Home Builders Association of Greater Kansas City

Overview:
Self-certification worksheets. The individual items are not weighted.

Certification method:
Builders enroll in the Home Builders Association of Greater Kansas City Build Green Council and take an orientation class. Then, the builder can enroll individual homes in one of four possible levels (Platinum, Gold, Silver, or Bronze). Eight hours of classroom instruction per year are required. Each home above the bronze level requires a home energy rating. Only the builder and homebuyer receive and use the guideline, nothing is sent into the HBA.

Levels of certification:
Platinum, Gold, Silver, or Bronze

Qualification:
There are five categories of guidelines: Site, Energy, Materials, Indoor Air Quality, and Recycling. The energy aspect of the guidelines are performance-based, rather than prescriptive, i.e., the guidelines require an energy rating, but the guidelines do not dictate how the builder reaches the appropriate energy rating level. The guidelines offer suggestions that the builder can check off (e.g., sealed combustion, direct vent water heater) and submit to the HBA and also give to the home buyer. The Bronze level does not require a home energy rating. An energy rater does not have to be contacted–the builder can self-certify that the home meets the 1993 MEC.

Year of inception:
2002

Number of builders:
TBA

Incentives offered to builders to participate:
Home tours, use of logo on house listing, other marketing

Number of homes constructed to date:
TBA

Contact information:
Stan Parsons
Staff Coordinator
HBA of Greater Kansas City
600 East 103rd Street
Kansas City, MO 64131
p. 816-942-8800 x231
f. 816-942-8367
stan@kchba.org
http://www.kchba.org

16.

City of Frisco (TX) Green Building Program

Overview:
This is one of the only programs in the country where all new residential homes (platted after May 23, 2001) must meet or exceed the green building program's criteria, i.e., it is not a voluntary program. The individual items are not weighted in the minimum standards list.

Certification method:
Performance-based program

Levels of certification:
One

Qualification:
There are four categories of guidelines: Energy Efficiency, Water Conservation, Indoor Air Quality, and Waste Recycling. The Energy Efficiency aspect of the standards are performance-based, rather than prescriptive, i.e., the standards require that the house meets or exceeds the ENERGY STAR Homes designation, but they do not dictate how the builder reaches the appropriate energy rating level. There are minimum standards for the other three categories.

Year of inception:
2001

Number of builders:
40

Incentives offered to builders to participate:
Mandatory participation

Number of homes constructed to date:
1,600 units are in the queue

Contact information:
Jeff Witt
City of Frisco
6875 Main Street
Frisco, TX 75034
p. 972-335-5540 x145
f. 972-335-5549
jwitt@ci.frisco.tx.us
http://www.ci.frisco.tx.us/planning/greenbuilding_index.htm

17.

Hawaii BuiltGreen™

Overview:
Comprehensive checklist with weighted items
Certification method:
Self-certification checklist
Levels of certification:
One, two, and three-stars (★)
Qualification:
★ Attend a one-time program orientation; meet mandatory green codes and regulations; earn at least 35 points for naturally ventilated homes; earn at least 45 points for air conditioned homes.
★★ One star requirements plus 85 additional points (120 or 130 points total, respectively) from Sections 1 through 5 with at least 5 points from each section.
★★★ Meet two-star requirements plus 95 additional points (215 or 225 points total, respectively); attend green building related workshop or conference within last twelve months.
Year of inception:
TBA
Number of builders:
TBA
Incentives offered to builders to participate:
Identified in Parade of Homes directory, serve in speakers' bureau
Number of homes constructed to date:
TBA
Contact information:
Karen Nakamura
Executive Vice President
Building Industry Association of Hawaii
1727 Dillingham Blvd.
Honolulu, HI 96819
p. 808-847-4666 x203
f. 808-842-0129
ktn@bia-hawaii.com
http://www.bia-hawaii.com/builtgreen/

Mandatory Requirements	
Category	**Maximum Possible Points**
No soil exposed during job (protected with mulch)	Required
No fill in sensitive areas	Required
Sensitive areas flagged and protected during construction	Required
Post-cleanup procedures for spills	Required
Hazardous wastes separated and properly disposed of	Required
Sediment traps installed for construction	Required
No adverse impacts on adjoining properties or critical areas during construction	Required
Water quality monitoring during construction	Required
Concrete trucks and pumps washed in designated areas	Required
Low flow shower heads and sinks (2.5 gpm)	Required
Low flow bath faucets (2.0 gpm)	Required
Clothes dryer vented to outdoors	Required
All wood used has approved chemical treatment for termites	Required
All cuts and drill holes in CCA-treated wood field-treated	Required
Homeowner's operations and maintenance manual	Required
Homeowner's outdoor landscaping manual	Required

For Air Conditioned Homes Only	
House meets Hawaii MEC standards for A/C buildings	Required
A/C system sized for efficient operation (not oversized)	Required
Programmable thermostats provided	Required
Heat trap installed or 1" pipe insulation on at least first 8 feet of outlet pipe from water heater	Required
Solar heater or heat pump for swimming pool heaters	Required
Checklist Requirements	
Protecting Site	
Design choices	35
Job site operations	15
Outdoor water conservation	9
Bonus points	10
Energy performance and comfort	
Site	15
Shell	24
Openings	43
Interior layout and finishes	10
Mechanical venting and cooling	21
A/C homes only	23
Water Heating – distribution	25
Indoor water conservation (double points if rainwater collection is not required)	12
Electric lighting	16
Appliances	17
Bonus points for custom homes	10
Health and indoor air quality	
Floors	38
Cabinetry and trim	8
Interior walls	8
Mechanical and other controls	14
A/C Homes only	11
Job site operations	10
Durability and Materials Conservation	
Design choices	8
Termite details	19
Framing	24
Foundation	9
Sub-floor	2
Windows and doors	10
Insulation	4
Interior walls	1
Finish floor	19
Cabinetry and trim	17
Roof	5
Exterior finish	8
Outdoor features	12
Job site operations (triple points for custom homes)	21
Bonus points	25
Environmentally friendly homeowner O&M	11
Total Possible Points	**569**

18.

California Green Builder Program

Overview:
The individual items are not weighted in the minimum standards list. However, for each of the four categories of guidelines, the program has established performance-based requirements.

Certification method:
Performance-based program

Levels of certification:
One

Qualification:
There are four categories of guidelines: Energy Efficiency, Air Quality, Waste Recycling, and Water Conservation. Below are the minimum requirements under the program:
Energy: Meet EPA/DOE Energy Star Homes efficiency levels; exceed a 15% improvement over California Title 24 Energy Code.
Air Quality: Reduce air emissions by building to Energy Star Homes efficiency level.
Waste Recycling: 50% diversion from land fill job site waste. Where recycling and diversion are not available, builder agrees to adopt the Building Industry Institute Waste Recycling Guidelines and work with local jurisdictions to overcome local market barriers.
Water Conservation: 25% decrease in water use compared to typical 1980's home.

Year of inception:
2001

Number of builders:
TBA

Incentives offered to builders to participate:
Recognition, expedited plancheck, reduced fees, and expedited field check.

Number of homes constructed to date:
TBA

Contact information:
Robert Raymer, P.E.
BII Technical Director
1215 K Street, Suite 1200
Sacramento, CA 95814
p. 916-443-7933
http:www.thebii.org/cgbp.asp

19.

Green Built Program (HBA of Greater Grand Rapids)

Overview:
Energy efficiency covered by participation in Energy Star or American Lung Association Health House. Checklist for additional points focuses on areas not addressed by Energy Star or ALA programs.

Certification method:
Independent auditor completes application

Levels of certification:
One

Qualification:
Meet Energy Star minimum requirements, plus 40 additional points from checklist

Year of inception:
Spring, 2002

Number of builders:
8, plus 6 associate members

Incentives offered to builders to participate:
Use of Green Built logos; inclusion in list of builders distributed to general public inquiring about Green Building; names included in HBA marketing materials

Number of homes constructed to date:
4

Contact information:
Ann Dykema
Home & Building Association of Greater Grand Rapids
2021 44th Street SE
Grand Rapids, MI 49508-5009
p. 616-281-2021
f. 616-281-4500
adykema@hbaggr.com
http://www.hbaggr.com

Mandatory Requirements	
Category	**Maximum Possible Points**
Attendance at training program	Required
4-Star Energy Star rating	80
Checklist Requirements	
Category	**Maximum Possible Points**
5-Star Energy Star Rating	1 for every Energy Star point over 80, up to a maximum of 100
American Lung Association Health House®	100 points
Land use	13
Water efficiency	26
Roofing	8
Framing/Decking	19
Foundation	15
Appliances	10
Lighting	8
Design Efficiency/Waste Management	19

20.

Vermont Built Green (in progress)

Overview:
Weighted checklist with minimum requirements. Points are accumulated for a total score.
Certification method:
Combination of self-certification and spot inspections.
Levels of certification:
Either "Vermont Built Green Certified" or "Vermont Built Green Certified with XX points"
Qualification:
TBA
Year of inception:
TBA
Number of builders:
N/A
Incentives offered to builders to participate:
ENERGY STAR certification
Number of homes constructed to date:
N/A
Contact information:
Richard Faesy
Vermont Energy Investment Corporation
255 S. Champlain Street
Burlington, VT 05401
p. 802-658-6060
f. 802-658-1643
rfaesy@veic.org
http://www.sover.net/~michaelh/bsr

Mandatory Requirements (draft)	
Category	**Maximum Possible Points**
Siting and land use	
Location	Required
Minimize damage to environment	Required
Promote community and security	Required
Building design—efficient design	Required
Quality/Durability—choose quality materials	Required
Energy use	
Envelope and systems	Required
Lighting and appliances	Required
Sustainable equipment	Required
Resource impacts	
Resource efficient materials	Required
Reduce, reuse, recycle	Required
Encourage waste reuse and recycling for homeowners	Required
Water efficiency	Required
Occupant health/Indoor air quality	
Minimize sources of pollutants	Required
Provide ventilation to remove generated pollutants	Required
Occupant education and Operations and Maintenance	Required

Continued next page

Checklist Requirements	
Category	**Maximum Possible Points**
Siting and land use	
Location	18
Minimize damage to environment	31
Promote community and security	23
Nature connection	3
Building design	
Efficient design	7
Minimize house size	(multiplication factor for total checklist points. 2,001 ft^2 - 2,500 ft^2 is 1.00; 2,000 ft^2 is 1.05; add 0.05 for each 100 ft^2 less than 2,000 ft^2; subtract 0.05 for each 500 ft^2 over 2,500 ft^2)
Quality/Durability—choose quality materials	39
Energy use	
Envelope and systems	31
Lighting and appliances	18
Sustainable equipment	18 + 0.005 points per peak watt of renewable energy (or 0.01 points per peak watt of Renewable Energy if grid-connected)
Resource impacts	
Resource efficient materials	70
Reduce, reuse, recycle	23
Encourage waste reuse and recycling for homeowners	3
Waste efficiency	18
Occupant health/Indoor air quality	
Minimize sources of pollutants	41
Provide ventilation to remove generated pollutants	12
Occupant education and Operations and Maintenance	9

21. Southern Arizona Green Building Alliance (in progress)

Overview:
Green Building Program is in its infancy and details are still being determined.
Certification method:
TBA
Levels of certification:
One, two, or three-armed 'saguaro'
Qualification:
TBA
Year of inception:
TBA
Number of builders:
TBA
Incentives offered to builders to participate:
TBA
Number of homes constructed to date:
TBA
Contact information:
Loretta Ishida
The Development Center for Appropriate Technology (DCAT)
PO Box 27513
Tucson, AZ 85726-7513
p. 520-624-6628
f. 520-798-3701
Loretta@dcat.net
http://www.dcat.net

22. Western North Carolina Green Building Council (in progress)

Overview:
No guidelines yet. The statewide program is in a very early stage of development. They are currently looking for funding to move the program to the draft stage. They are tentatively planning on teaming with the NC Solar Center.
Certification method:
TBA
Levels of certification:
TBA
Qualification:
TBA
Year of inception:
TBA
Number of builders:
TBA
Incentives offered to builders to participate:
TBA
Number of homes constructed to date:
TBA
Contact information:
Cindy Patton
PO Box 8427
Asheville, NC 28814
p. 828-251-5888
sheltereco@earthlink.net
http://www.main.nc.us/wncgbc

23. Alameda County (CA) (in progress)

Overview:
Under Development
Certification method:
TBA
Levels of certification:
TBA
Qualification:
TBA
Year of inception:
TBA
Number of builders:
TBA
Incentives offered to builders to participate:
TBA
Number of homes constructed to date:
TBA
Contact information:
Mari Soll
p. 510-614-1699

24. Chula Vista (CA) GreenStar Building Incentive Program (in progress)

Overview:
Under Development
Certification method:
TBA
Levels of certification:
TBA
Qualification:
TBA
Year of inception:
TBA
Number of builders:
TBA
Incentives offered to builders to participate:
TBA
Number of homes constructed to date:
TBA
Contact information:
Mary Venables
p. 619-691-5296

25. Hudson Valley HBA Green Building Program (NY) (in progress)

Overview:
Under Development
Certification method:
TBA
Levels of certification:
TBA
Qualification:
TBA
Year of inception:
TBA
Number of builders:
TBA
Incentives offered to builders to participate:
TBA
Number of homes constructed to date:
TBA
Contact information:
Jean Rowe
Hudson Valley Builders Association
338 Meadow Avenue
Newburgh, NY 12550
p. 845-562-0002
http://www.hvbuilder.com

26. Schenectady HBA Green Building Program (NY) (in progress)

Overview:
Under Development
Certification method:
TBA
Levels of certification:
TBA
Qualification:
TBA
Year of inception:
TBA
Number of builders:
TBA
Incentives offered to builders to participate:
TBA
Number of homes constructed to date:
TBA
Contact information:
Rita Sickles
Schenectady Builders and Remodelers Association
1004 Princetown Road
Schenectady, NY 12306
p. 518-355-0055
http://www.schenectadybuilders.com

Notice

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