



Build it Green's GreenPoint Rated Homes and Title-24



**Presented by:
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Lead Trainer
Build It Green**

May, 2010





Let's talk about...



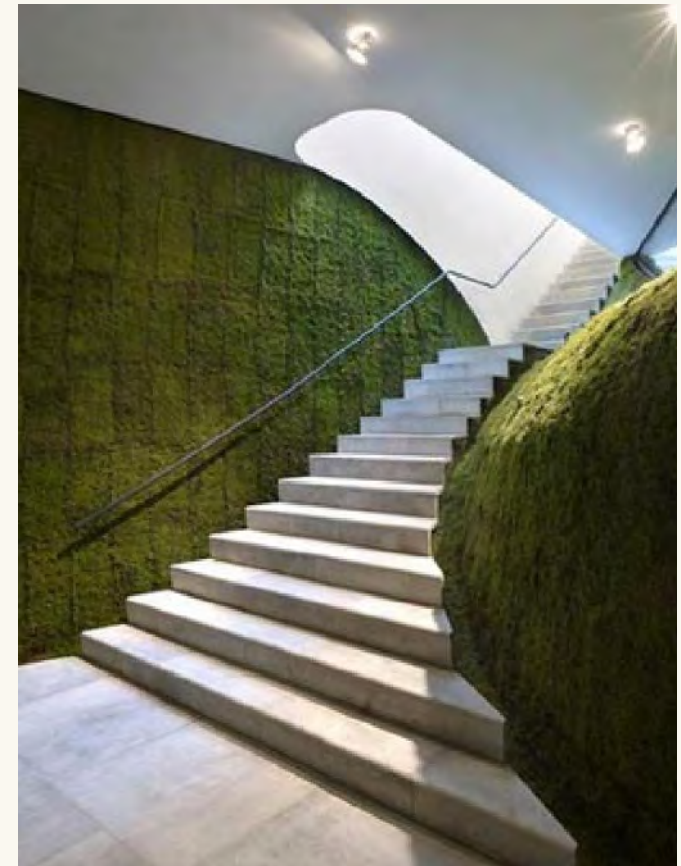
- ❖ Who is Build it Green and what is the 'GreenPoint Rated' program?
- ❖ Effective and Practical Green Building Practices (within the GPR checklist) that can increase energy performance of home
- ❖ The role(s) of the Energy Consultant on GreenPoint Rated projects
 - ❖ T-24s / Energy Consulting
 - ❖ GreenPoint Advisor ?
 - ❖ GreenPoint Rater ?



Green is probably here to stay



- ❖ Over 14 active Green Rating Systems around the world
- ❖ Over 200 communities and 36 states require or incentivize green building
- ❖ ARRA - \$30 billion in direct and indirect investment to spur green building





Top reasons homebuyers give when purchasing a “green” home



- ❖ Operational cost savings
- ❖ Health
- ❖ Environmental concerns
- ❖ Greater resale value



McGraw Hill 2008





Who is Build It Green?



- ❖ Non-profit, established 2003
- ❖ Member Driven Organization
- ❖ Residential Green Building For CA
- ❖ Advocate for healthy & resource efficient buildings
- ❖ Trusted resource for professionals & public entities
- ❖ Your partner in residential green building!

BIG's Objectives

1. Support credible policies and standards
2. Expand professional development and expertise
3. Increase public awareness by providing access to Products, Resources and Expert Advice



BIG: Tools And Resources



- ❖ GreenPoint Rated
 - New Construction
 - Existing Homes
- ❖ Climate Calculator
- ❖ On-line Product Directory
 - 1000+ products
 - Searchable by location
- ❖ Website (tools, fact sheets, lists)
- ❖ Certified Professionals Directories
- ❖ Professional Trainings (CGBP, GPR Advisor/Rater, Advanced)





Introducing...





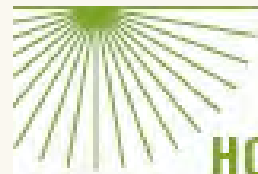
What Is Green Building?



“Whole-Systems” approach for designing and constructing buildings that:

- consume less energy and water
- are healthier, safer, and more comfortable
- are durable and easier to maintain
- use resource efficient techniques and materials
- are integrated into the building site and community resources





HOW CAN YOU TELL IF A HOME'S BEAUTY IS MORE THAN SKIN DEEP?





Trusted Labels





Why Rate?



- ❖ Help consumers identify green homes
- ❖ Create consumer confidence
- ❖ Generate market value
- ❖ Builder differentiation
- ❖ Plug and play for govt. policies & incentives

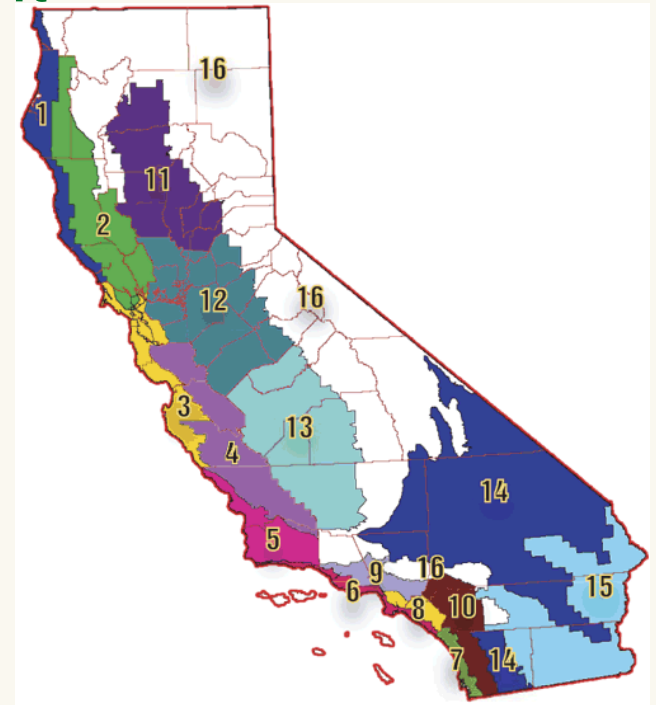




GreenPoint Rated

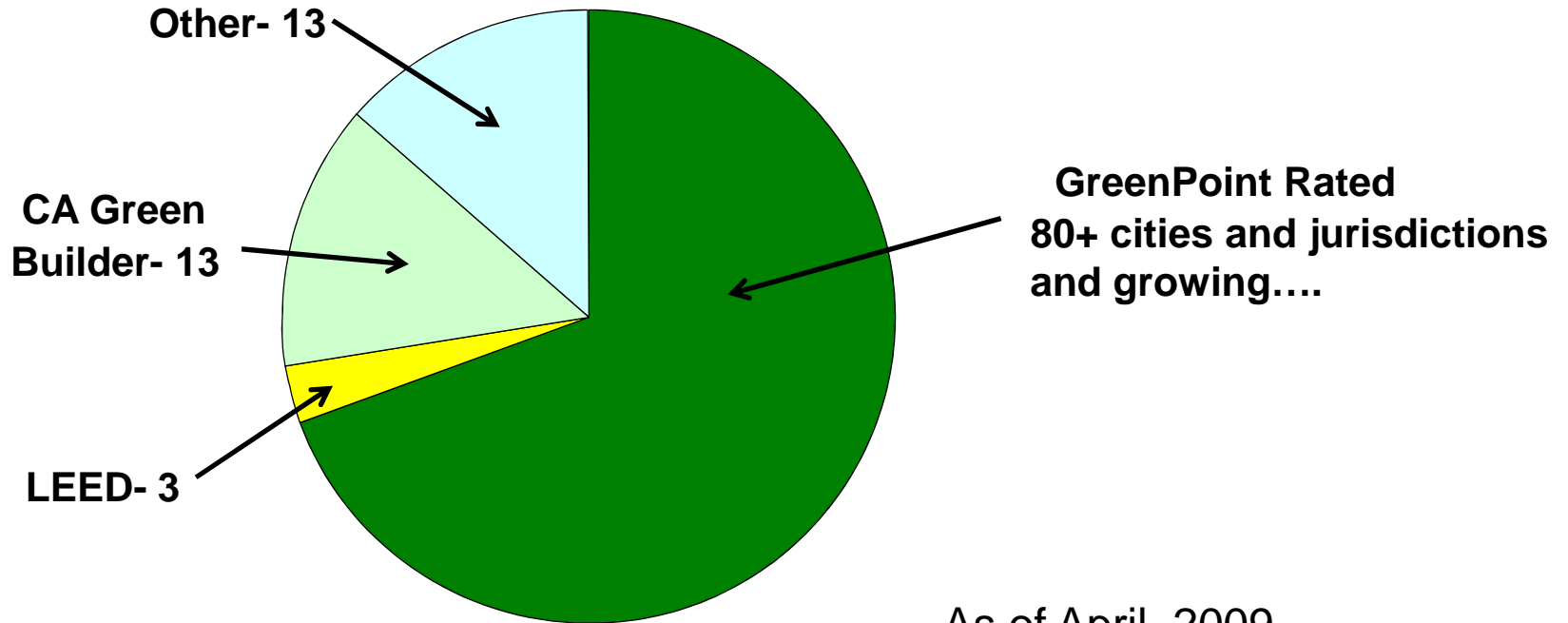


- ❖ Checklist of green practices
- ❖ Credible but accessible entry point
- ❖ Educational focus with pathway for improvement
- ❖ Five Environmental categories
 - Energy Efficiency
 - Water efficiency
 - Indoor air quality
 - Resource conservation
 - Sustainable community issues
- ❖ Open ended to accommodate the greenest of builders



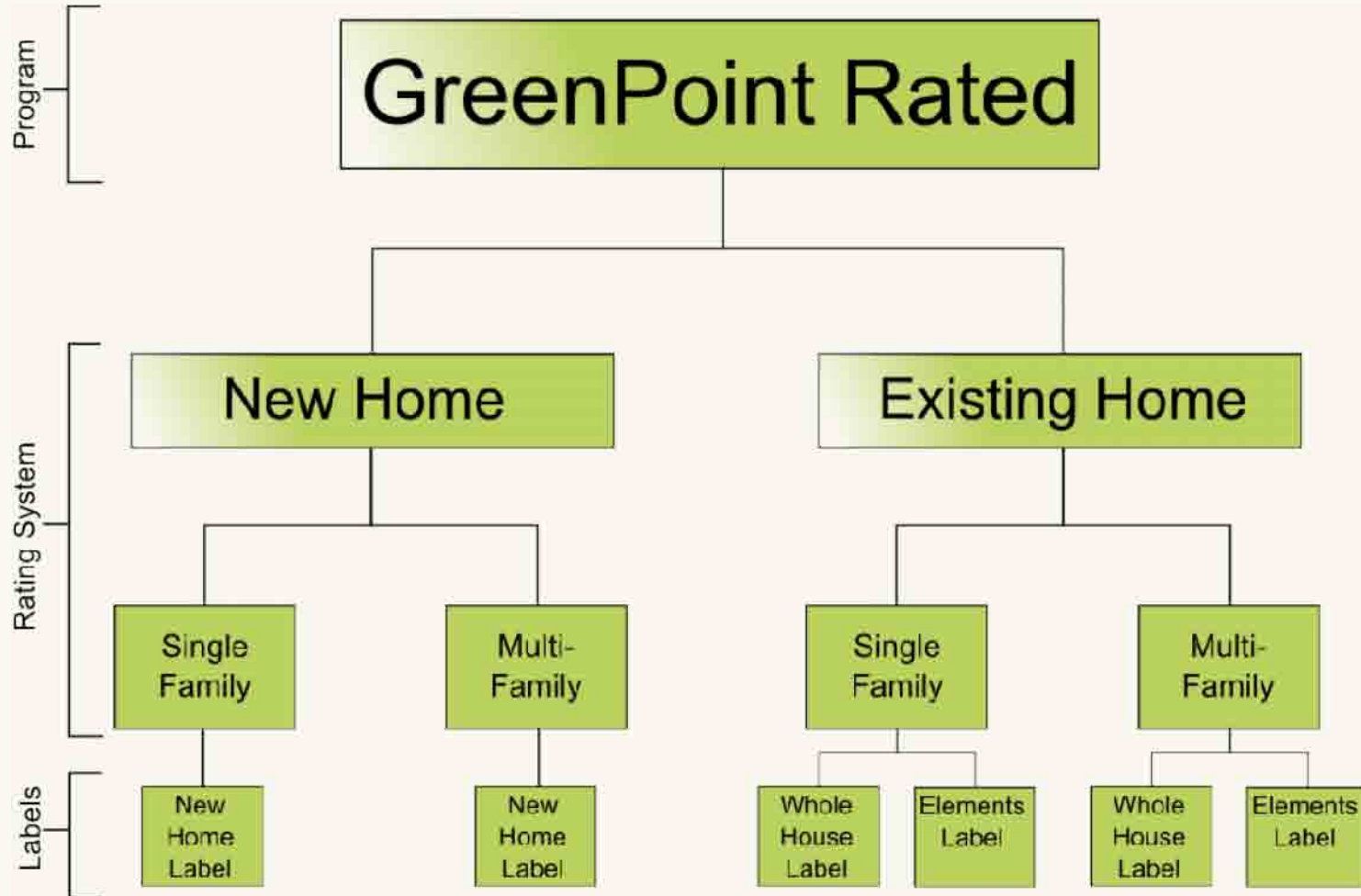
GPR: Local Government & Residential Green Building Programs

The **GreenPoint Rated** Program is the foundation for over 80 local jurisdiction green building ordinances throughout California.





Program Overview





GreenPoint Rated Results



Status		MF	SF	EH	Projects
GreenPoint Rated Completions		2124	1183	13	171
GreenPoint Rated in Progress		3008	5401	17	279
Total: As of February 24, 2010		5132	6584	30	450

Total Combined = 11,746 housing units



GreenPoint Rated New Home: Prerequisites & Requirements



- ❖ **Perform 15% above Title 24**
- ❖ 50% Waste Diversion by Weight (Recycling or Reuse)
- ❖ GreenPoint Rated Checklist in Blueprints
- ❖ 3-Year Contractor Warranty for Shingle Roofs on Multifamily Projects

Category	Single-family		Multifamily	
	Min. Pts	Available Pts.	Min. Pts	Available Pts.
Community	0	31	6	60
Energy	30	124	30	68
IAQ/Health	5	51	5	25
Resources	6	103	6	64
Water	9	67	3	36
Total	50	376	50	253



GreenPoint Rated Certificate



BUILD IT GREEN

CERTIFICATE of EVALUATION

Congratulations,
your home has been



GreenPoint RATED

NEW HOME

79

ADDRESS: Zephyr Gate
1785 14th Street
Oakland, CA 94607

BUILT BY: Pulite Homes
RATED BY: Gabriel Lopez
RATED BY: 1/28/2008
RATED BY: Single Family 2307

5  **Community:** Living Green extends beyond the boundary of the individual home to the entire neighborhood.

42  **Energy:** Efficient energy systems designed to create the greatest comfort for you while lowering utility bills to save you money.

7  **IAQ/Health:** Breathe easy with healthier products and practices that will reduce any negative impacts on your family and keep your children safe.

14  **Resources:** Green building products will last longer, be stronger, work efficiently and use earth-friendly materials to keep all environments beautiful.

11  **Water:** Effective water management systems and products that help us conserve a vital resource by reducing demand.

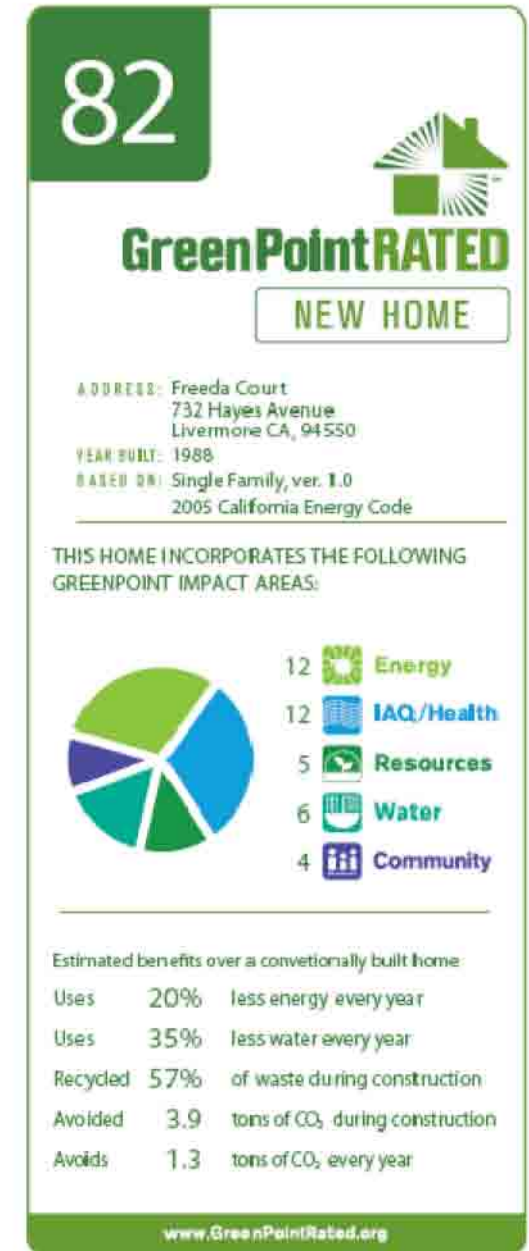

BRIAN GITT, EXECUTIVE DIRECTOR

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Climate Calculator

- ❖ Savings from building green:
 - Therms
 - kWh
 - GHGs of refrigerant
 - Waste (tons)
 - Gallons of water indoors & outdoors
 - Vehicle miles traveled
- ❖ CO₂ equivalents of all above
- ❖ Forecasted and actual savings
- ❖ Footprint
- ❖ Scope 1, 2 & 3 emissions
- ❖ Results on GPR Consumer label





GreenPoint Rated: Existing Home



Tier	Elements – Entry Level	Whole House - Comprehensive
Use	Home remodel, home upgrade, existing home	Comprehensive remodel, extensive upgrade, existing home
Prerequisites	6 basic prerequisites	11 basic prerequisites
Energy Evaluation	Energy survey – visual Prescriptive based or Performance based Energy Evaluation	Energy evaluation –testing Performance based
Overall Points	Minimum 25 Points, Capped at 49 pts Minimum pts in each category	Minimum 50 Points Higher pt threshold in each category



GPR EH Certificates



BUILD IT GREEN
CERTIFICATE of EVALUATION

Congratulations,
your are now a



GreenPoint RATED

EXISTING HOME

Elements

49

ADDRESS: Jesse & Pam Graham
 3575 18th Street
 San Anselmo CA, 94110
 YEAR BUILT: 1905
 BUILT BY: Habitat for Humanity East Bay
 RATED BY: Marc Richmond on: 11/30/2006
 RATED ON: Single Family, ver. 1.0



Community

Energy

IAQ/Health

Resources

Water

The Home has been evaluated across five categories: Community, Energy, IAQ/Health, Resources, & Water. Homes that receive more than 50 points are eligible for our Whole House label.

Brian Pitt
BRIAN PITT, EXECUTIVE DIRECTOR

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BUILD IT GREEN
CERTIFICATE of EVALUATION

Congratulations,
your home has been



GreenPoint RATED

EXISTING HOME

Whole House

106

ADDRESS: Freeda Court
 732 Hayes Avenue
 Livermore CA, 94550
 YEAR BUILT: 1950, upgraded to 2005 codes
 BUILT BY: Habitat for Humanity East Bay
 RATED BY: Marc Richmond on: 11/30/2006
 RATED ON: Single Family, ver. 1.0

11

Community: Living Green extends beyond the boundary of the individual home to the entire neighborhood.

60

Energy: Efficient energy systems designed to create the greatest comfort for you while lowering utility bills to save you money.

9

IAQ/Health: Breathe easy with healthier products and practices that will reduce any negative impacts on your family and keep your children safe.

13

Resources: Green building products will last longer, be stronger, work efficiently and use earth-friendly materials to keep all environments beautiful.

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Water: Effective water management systems and products that help us conserve a vital resource by reducing demand.

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GreenPoint Rated Existing Home: An Overview



- ❖ First comprehensive existing home program in the nation
- ❖ Mirrors GreenPoint Rated New Home
- ❖ Credible criteria based on nationally accepted standards for home performance
- ❖ Matches California Energy Commission's HERS Phase II protocols for evaluation criteria for existing homes
- ❖ Compatible with Home Performance with Energy Star (HPwES)



EH Basic Components



- ❖ Energy Evaluation (by GP Rater)
- ❖ Basic Health, Safety, and Integrity prerequisites
- ❖ Two Tiered Program / Consumer Labels
 - Entry Point – **“Elements” Label**
(25 point minimum, 49 point maximum)
 - Comprehensive – **“Whole House” Label**
(50 point minimum)

Minimum Point Thresholds for EH: “Elements”

“Elements” Label

- ❖ 25 Minimum points, Capped at 49 points
- ❖ Minimum point thresholds
 - ❖ Energy Efficiency – 8 points
 - ❖ Indoor Air Quality – 2 points
 - ❖ Resource Conservation – 2 points
 - ❖ Water Conservation – 4 points



Minimum Point Thresholds for EH: “Whole House”

“Whole House” Label

Home must meet higher point thresholds in green building categories

- Energy efficiency – 20 points
- IAQ/Health – 5 points
- Resource Conservation – 6 points
- Water Conservation – 8 points





GP measures related to Energy Efficiency



N/E = New Construction / Existing Home

- ❖ Plant Shade Trees N/E
- ❖ Install insulated headers N/E
- ❖ Energy Heels on roof trusses N/E
- ❖ 24" overhangs N/E
- ❖ Insulate water pipes N/E
- ❖ Demand controlled re-circulation pumps N/E
- ❖ Central Core plumbing layout N/E
- ❖ Manual J, D, and S (4 Points!) N/E
- ❖ Post test supply air flow rates N/E
- ❖ Zoned Hydronic Radiant Heating N/E
- ❖ HVAC Ducts in conditioned space N/E
- ❖ Duct Mastic N/E
- ❖ Pressure-relieve the ductwork system N/E



GP measures related to Energy Efficiency



- ❖ Energy Star ceiling fans N/E
- ❖ Whole House fans N/E
- ❖ Integrated-ventilation system for fresh air (3 Points)
- ❖ On-site renewable generation (up to 25 Points)
- ❖ QII (Quality Insulation Installation) inspections N/E
- ❖ Passes Blower Door Test
- ❖ **15% Above Title-24 (2 Points per % above) Required**
- ❖ Design/Build “Near Zero” Energy Homes (2-6 Points) N/E
- ❖ **T-24 Signed by CEPE/CEA (1 Point!!)**
- ❖ Participating in Energy Efficiency/Renewable Utility Program
- ❖ Thermal Mass Floors N/E
- ❖ Energy Star dishwasher, washing machine, fridge N/E
- ❖ High Efficacy Lighting



GP measures related to Energy Efficiency



- ❖ Homeowner's Manual N/E
- ❖ Home Energy Monitoring System
- ❖ Vegetated Roofs N/E
- ❖ Drain water heat-recovery System N/E
- ❖ Hot Water De-Superheater (2 Points)

“Existing” Home: Whole House & Elements measures:

- ❖ Solid Wall Systems (2 Points per assembly)
- ❖ High-Efficiency Shower Heads and Faucets
- ❖ Visual Survey of HVAC Equipment **Required WH/E**
- ❖ Conduct Diagnostic Testing (2 Points)
- ❖ Conduct Flow Hood Tests



GP measures related to Energy Efficiency



“Existing” Home: Whole House & Elements measures:

- ❖ AC Compressor Tested, refrigerant charge and air-flow
- ❖ Buried Ducts
- ❖ Air-to-air heat exchangers (HRVs, ERVs)
- ❖ Solar water heating systems (4 Points)
- ❖ PV Install (up to 18 Points)
- ❖ Energy Survey (Required for “Elements”)
- ❖ **Meets Energy Budget (energy modeling run through EnergyPro with GreenPoint rated module) Required**
- ❖ Energy Bill Analysis
- ❖ Energy Efficient Lighting, controls
- ❖ **Energy Budget Analysis conducted by CEPE/CEA**



GP measures related to Energy Efficiency



“Existing” Home: Elements ONLY Measures:

Tier 1

- ❖ Bring attic insulation up to current code
- ❖ Floor / Crawl Space insulation up to code
- ❖ Wall insulation up to code
- ❖ High Efficiency Furnace (90 % AFUE+)
- ❖ Duct Leakage Maximum = <15%
- ❖ 14 SEER / 11.5 EER A/C (zones: 2, 4, 8-15)
- ❖ <0.5 ACH or 50% Improvement of Shell Tightness



GP measures related to Energy Efficiency



“Existing” Home: Elements ONLY Measures:

Tier 2

- ❖ High-Efficient Water Heater: ≥ 0.62 EF (0.5 Points)
- ❖ Radiant Barrier (0.5 Points)
- ❖ Windows brought to current code (0.5 Points)
- ❖ Duct insulation brought to current code (0.5 Points)
- ❖ Programmable thermostat
- ❖ 14 SEER / 11.5 EER (zones: 1,3,5, 6, 7, 16)

Becoming a Certified GreenPoint Rater or Advisor: New Construction

- ❖ Must have prior building industry & green building experience
- ❖ Attend 3.5-day training
- ❖ Written & field exams
- ❖ Annual Recertification requirements
- ❖ BIG conducts regular Audits of Raters work



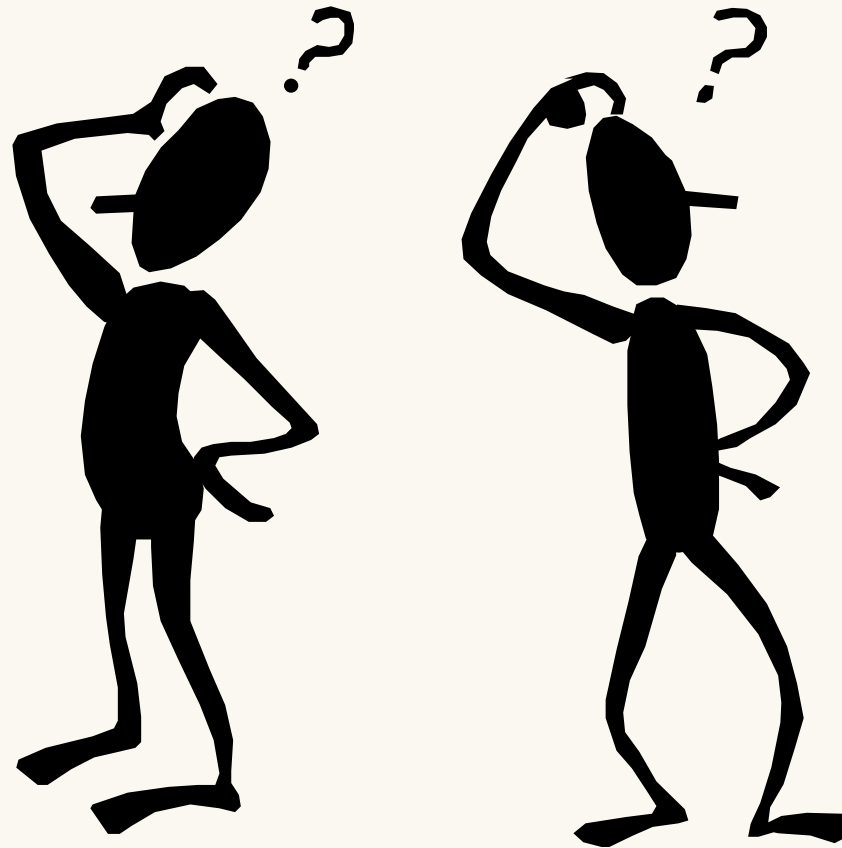
Becoming a certified GreenPoint Rater or Advisor: Existing Home

- ❖ Prior building industry & green building experience required
- ❖ Attend second module for Existing Home training
- ❖ 2-day training
- ❖ More extensive eligibility requirements (HERS, BPI)
- ❖ Written exam
- ❖ Recertification requirements
- ❖ BIG conducts regular Audits of Raters





Questions...



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