

2007 Market Research Study

co-sponsored by the National Association of Home Builders

The Preferences of Green Home Buyers: The Survey Says

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McGraw-Hill Construction



U.S. Impact of Buildings On Resources Today

- 40% of Total Energy Use
- 71% of Electricity Consumption
- 38% Carbon Dioxide Emissions
- 36% of all Greenhouse Gas Emissions
- 30% of Raw Materials Use
- 30% of Waste Output
- 12% of Potable Water Consumption



What is Green Home Building?

**The Careful Design, Construction, Operation,
and Reuse or Removal of the Built Environment
in an Environmentally, Energy-Efficient,
and Sustainable Manner**

Green Home Building will Reach Tipping Point this Year



- **2005 – 2006:**
20% increase of those builders dedicated to green building issues
- **Expected rise in 2007:**
Another 30%

Views From the Green Home Owner



Why Did McGraw-Hill Construction and NAHB Launch the Green Home Owner Study?

To Determine...

- **Size and future trends** of the national green home market
- **Green home buyer profile**
- **Knowledge and awareness** of green techniques and practices
- **Decision making process** and opinions and attitudes around green home buying
- **Green home owner satisfaction**
- **Green home customer loyalty**
- **Awareness and use of green products** for home renovations

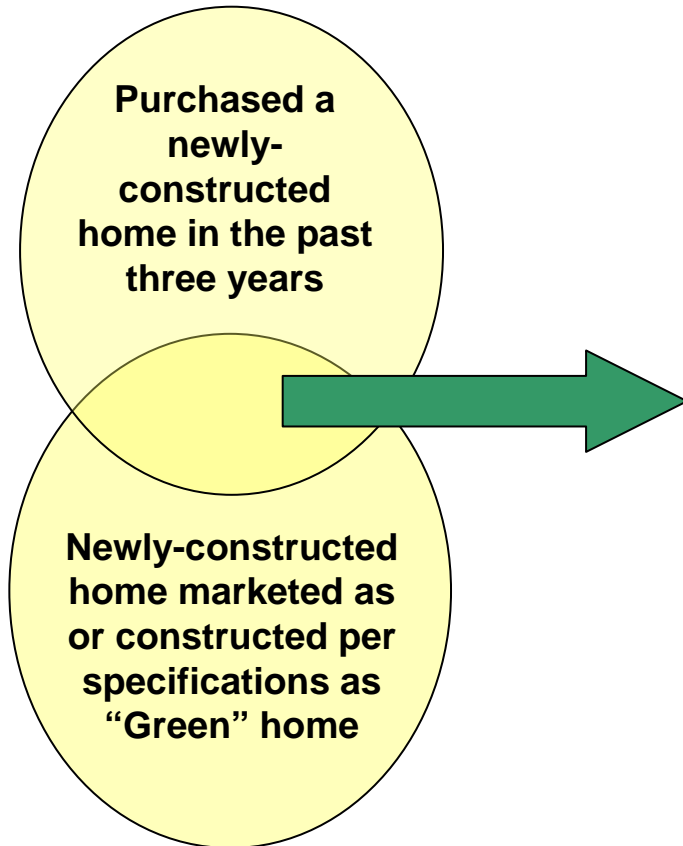


Research Methodology

- Sample source: Synovate's Online Home Owner Panel
- Green home screener sent to 450,000 households
 - 115,885 responses (26% response rate);
54,240 renovated in 2006
 - 341 green home purchasers from 2004 – 2006;
sample for green home survey
 - 21,509 renovated with “green” products;
569 randomly selected for green renovation survey
- Green Home Survey:
147 respondents (43% response rate);
95% confidence interval +/- 8.1%
- Green Renovation Survey:
218 respondents (38% response rate);
95% confidence interval +/- 6.65%



Methodology: Qualifying Criteria for Green Home Owner Study



MUST CHOOSE AT LEAST ONE OF THE "GREEN" PRODUCTS LISTED IN AT LEAST THREE OF THE FIVE SEPARATE CATEGORIES BELOW

1. ENERGY

Example: High-efficiency HVAC (heating, ventilating and air-conditioning) Equipment

3. RESOURCE MANAGEMENT

Example: Recycled or salvaged building materials

2. INDOOR ENVIRONMENT

Example: Allergen-free, chemical-free building materials

4. SITE MANAGEMENT

Example: Use of native and/or drought-resistant plants

5. WATER EFFICIENCY

Example: Water conserving appliances

OR

MUST CHOOSE AT LEAST ONE OF THE "GREEN" PRACTICES LISTED BELOW

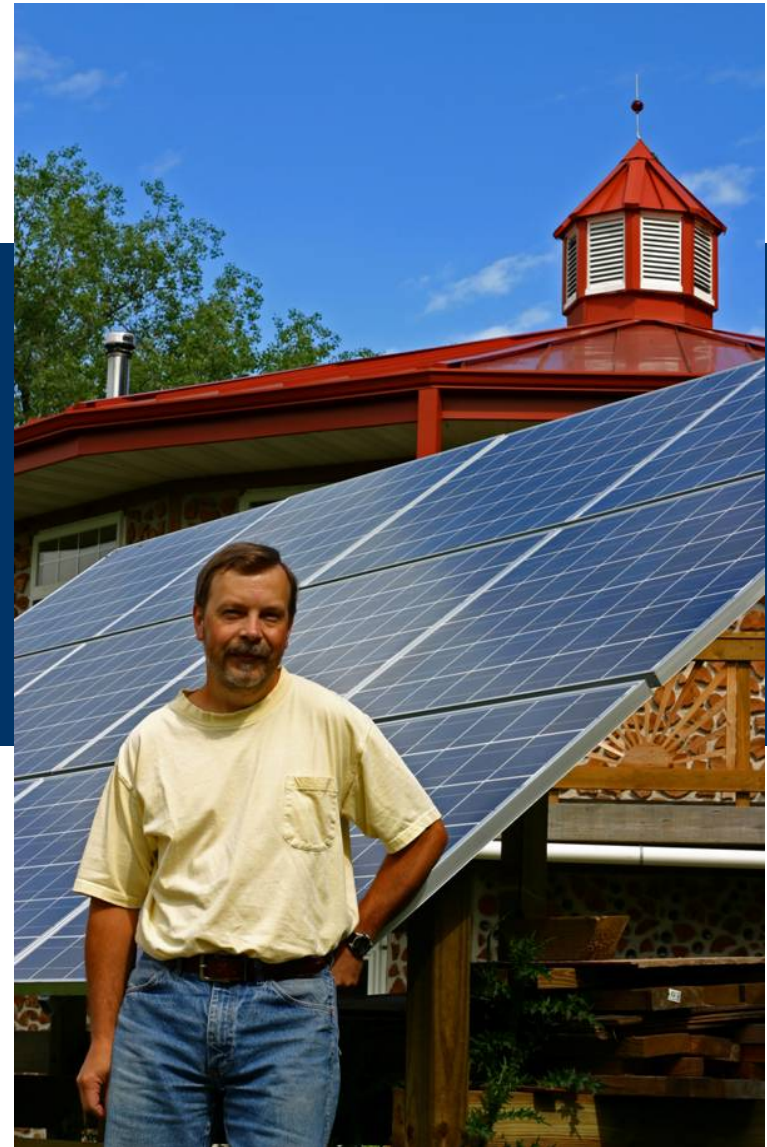
- Geothermal heat pump
- Ground water system
- SIPS (steel structured insulated panels) or ICFS (Insulating Concrete Forms)
- Solar Heating
- Passive Cooling design/solar shading
- Renewable Energy (e.g., photovoltaic, wind)
- Built per Certified Home Owners Manual / Instruction on Green Home

Methodology: Qualifying Criteria for Study of Home Owners Who Used Green Products when Remodeling

**MUST HAVE
REPLACED
EXISTING
PRODUCTS WITH
“GREEN”
PRODUCTS IN
AT LEAST ONE
CATEGORY**

- Window Equipment/Hardware
- Replacement and New Windows
- Doors
- Plumbing
- Flooring
- Siding
- Roofing
- Cabinets
- HVAC (Heating, Ventilation and Air Conditioning)

Green Home Owner Profile

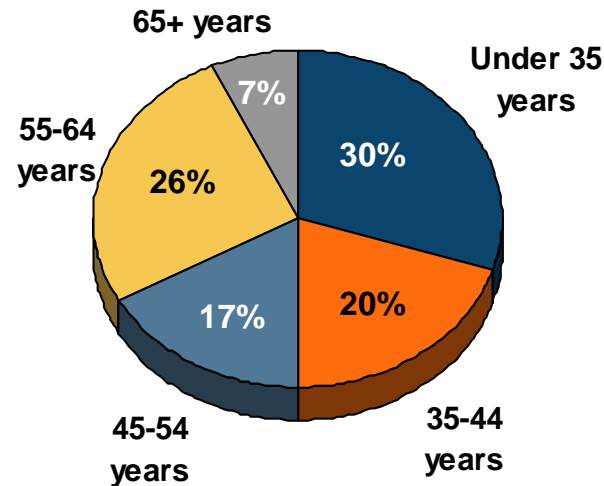
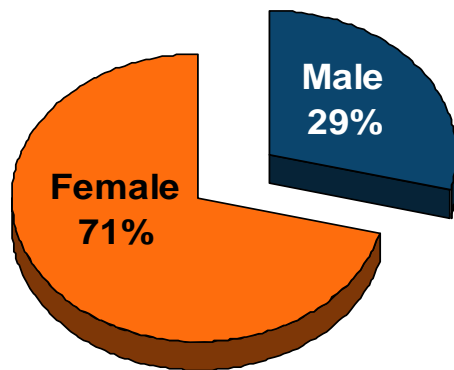


Who's Buying Green Homes?

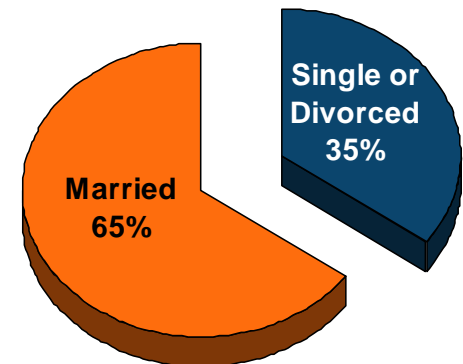
Highest % of Green Home Buyers:

- **Women**
- **Average age of 45**
- **Married couples**

Green Home buyers are keen to learn, like to travel, and are willing to spend time to get the best deal.



Average = 45 years

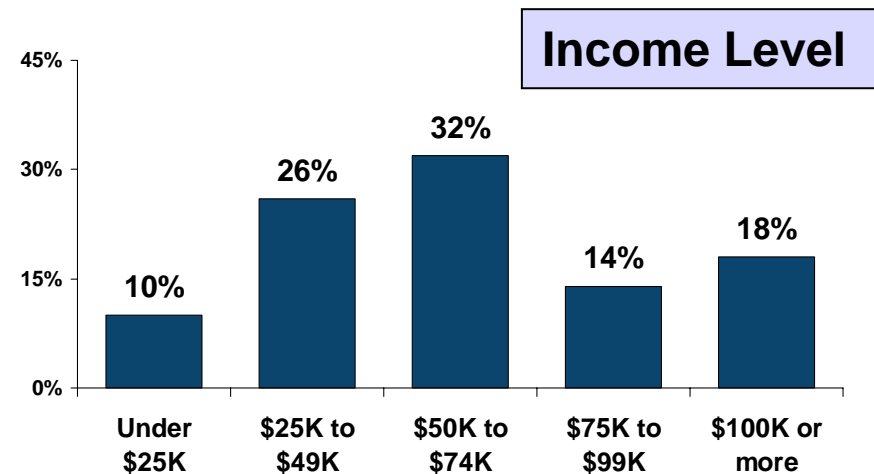
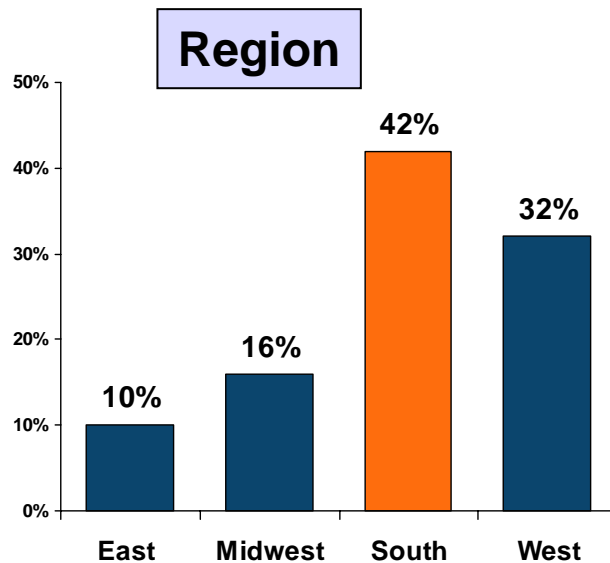


Who's Buying Green Homes?

Family and personal relationships are two key values for Green Home buyers.

Highest % of Green Home Buyers:

- **79% College-educated**
- **Located in South & West**
- **Nearly two-thirds have annual incomes over \$50,000**



Green Home Marketplace

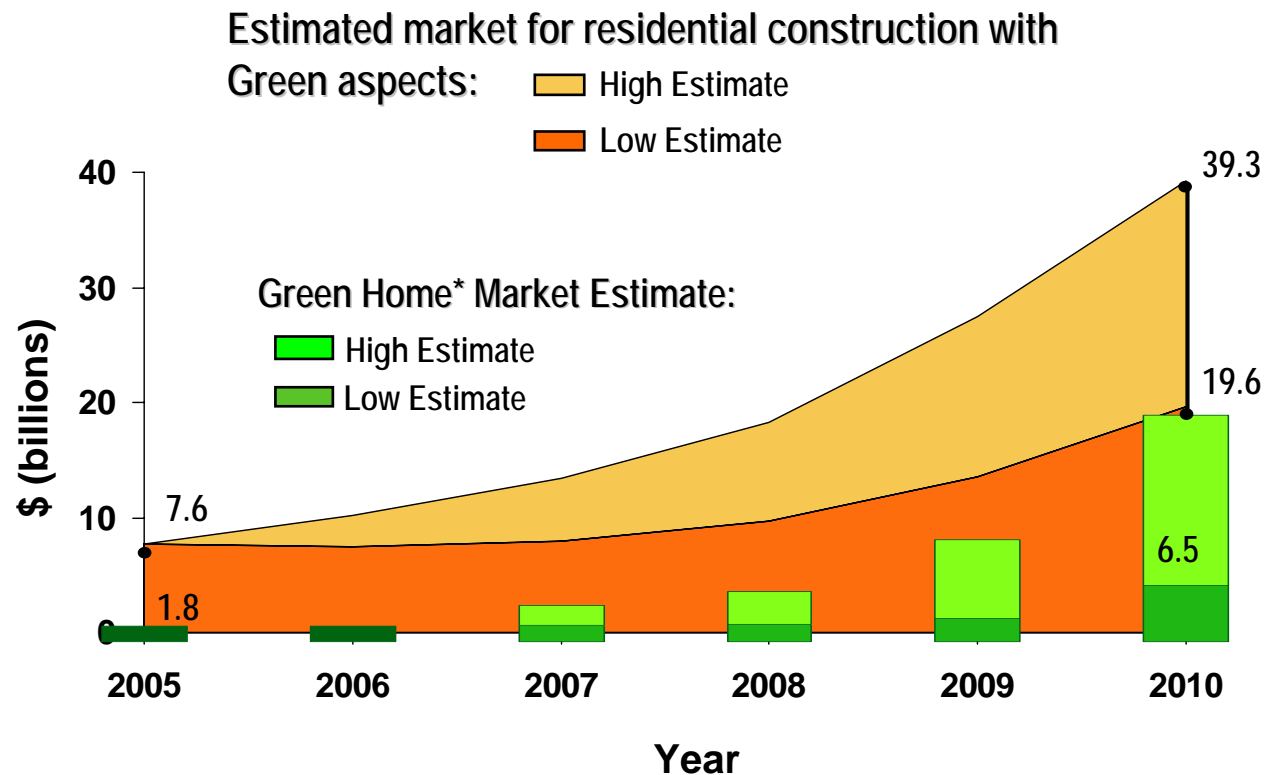


Green Home Building Market Expected to Increase

**Current Green Home Market = \$1.8 billion;
0.3% of all homes in U.S.**

Indicators of Growth:

- ➔ High green home owner satisfaction
- ➔ High recommendation rate
 - Most green home owners learned about green homes through word of mouth
- ➔ Rapid rate of increase in builders constructing green homes
- ➔ Rising energy costs



Green Home Owner Motivations, Incentives & Obstacles



What Do Green Home Owners Think About Green Homes?

Benefits

Green Building not only protects the environment, but also saves money in the long run.

The one thing you don't need is the environment in your home being detrimental to your health and children.

I feel that what I am doing for the environment, I am also doing for my children and grandchildren.

Doing the Right Thing

I love my Green house and I firmly believe in green building.

Costs

Being Green is great, but a lot of it is expensive and out of the reach of many people.

There are not enough builders who use Green building to make a difference.

Availability

Publicity

The media needs to hook on to Green Building to make people more aware of this option.

What Do You Need In A Green Home?

Energy Conservation

High energy conservation ratings, lower electric bills

Solar and fluorescent lighting

Reduced waste and utilization of fossil fuels

Renewable Materials

Building with recycled materials

Use of renewable lumber

Global Warming

Anything that can reduce global warming

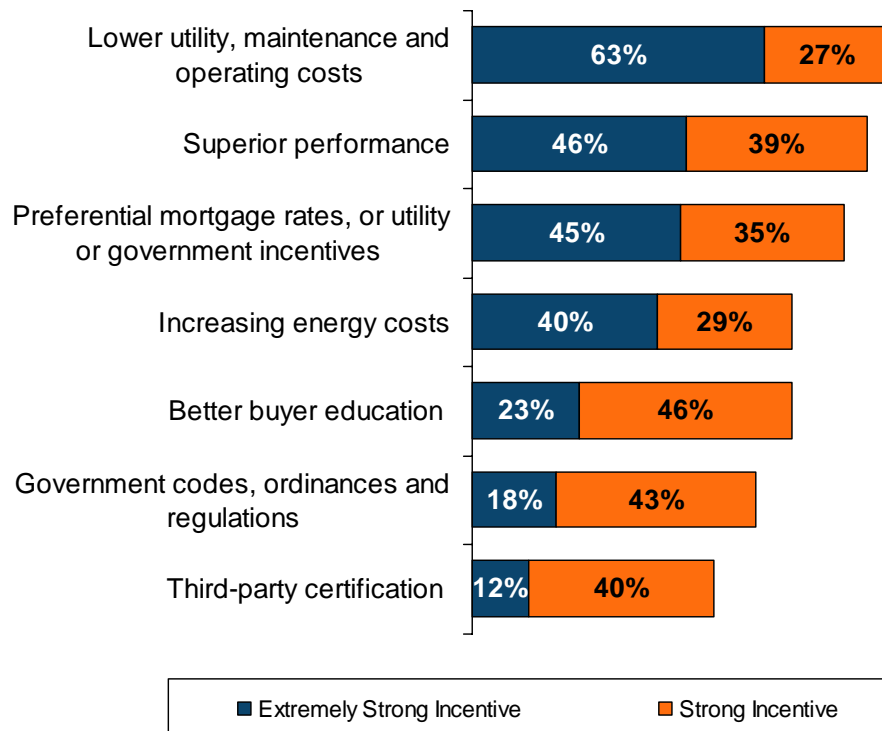
Cost savings from energy savings

Costs Savings

Incentives for Buying Green Homes

Saving money (lower costs) is a key incentive when purchasing a green home.

Incentives Behind Purchase of a Green Home



Demographic Differences:

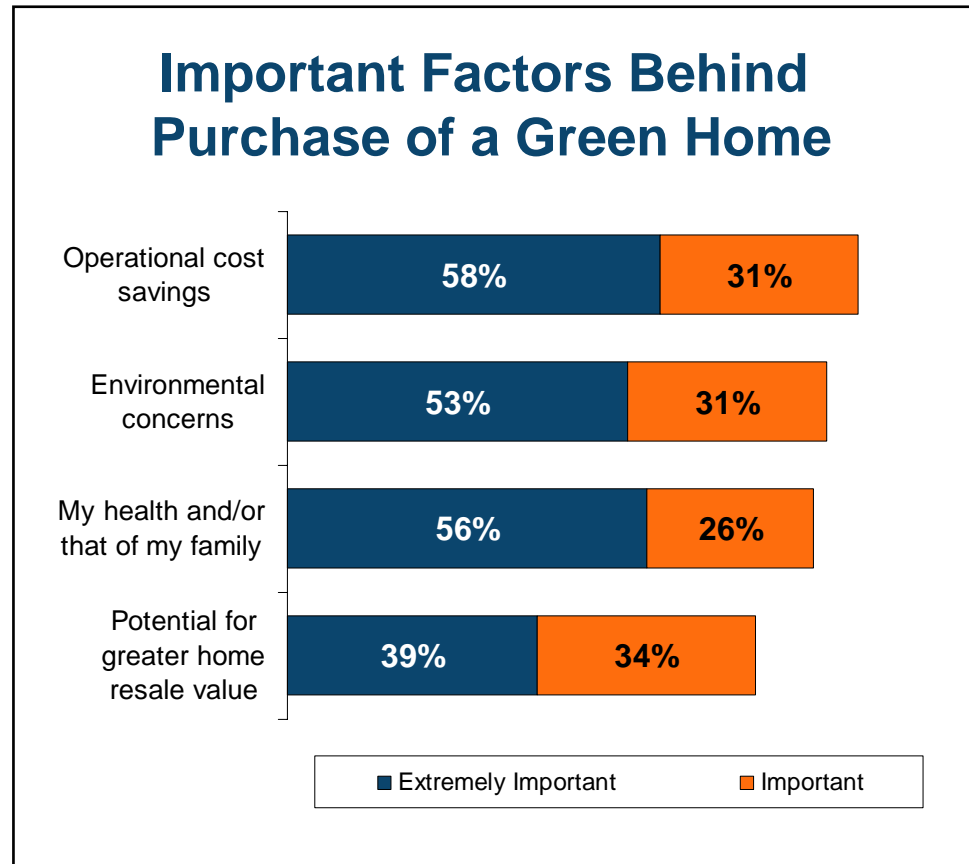
- Lower utility, maintenance and operating costs: **Importance increases with buyer age and income**
- Energy costs: **More important in the East compared to other regions**

Important Influences to Decision to Buy a Green Home

Cost savings, health and environmental concerns all have an important influence on Green Home purchase

Demographic Differences:

- **All factors are highly important** regardless of demographic
- Health concerns: **More important in the South than in other regions**



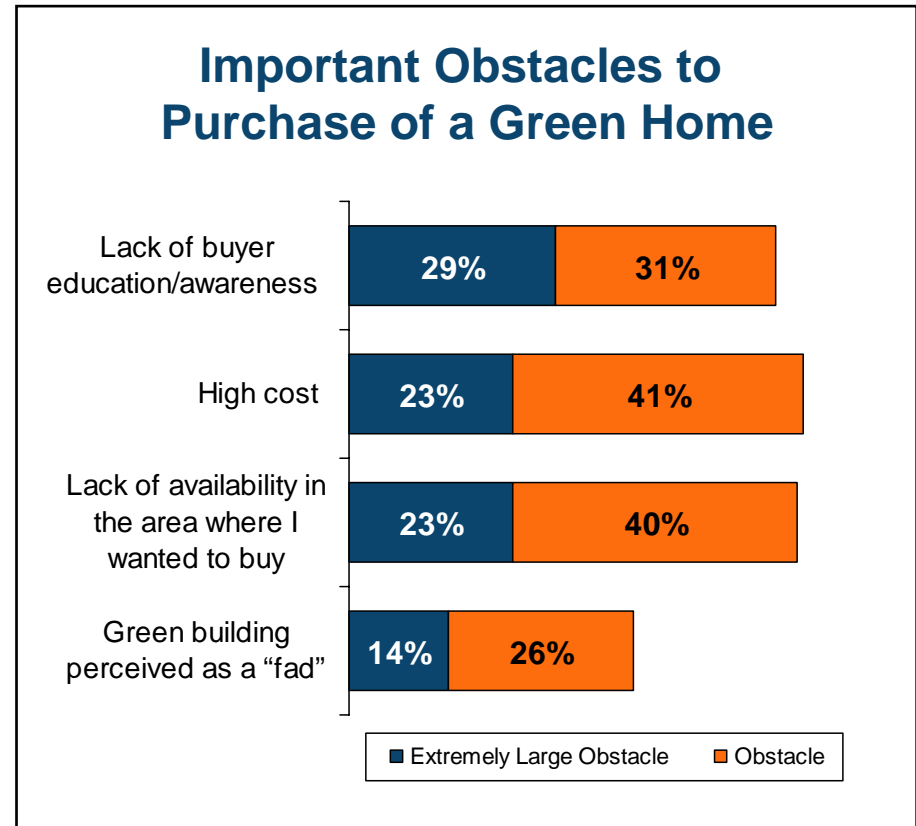
Obstacles to Buying Green Homes

→ Lack of education & awareness “most extreme” obstacle

- More of an obstacle to younger buyers (24-35)

→ Top overall obstacles:

- **High cost**
(less of an obstacle to older buyers aged 65+)
- **Availability concerns**



Builders overwhelmingly see costs as the most significant obstacle to building green

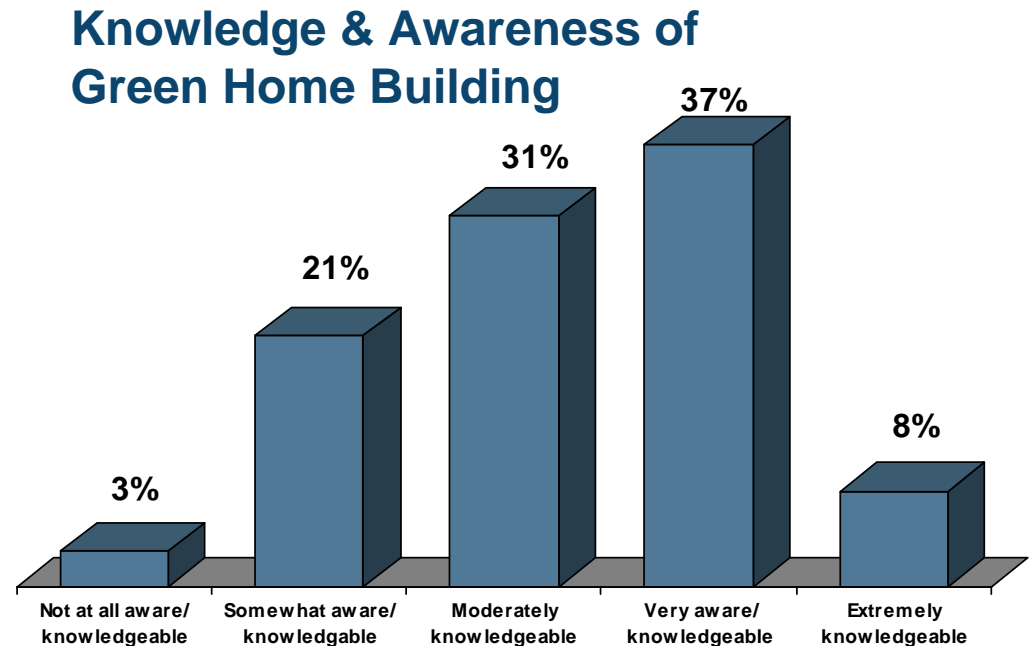
Knowledge of Green Home Building



Green Home Building is Near Critical Mass

Green Building is at or near a critical mass and poised to move rapidly to adoption stage

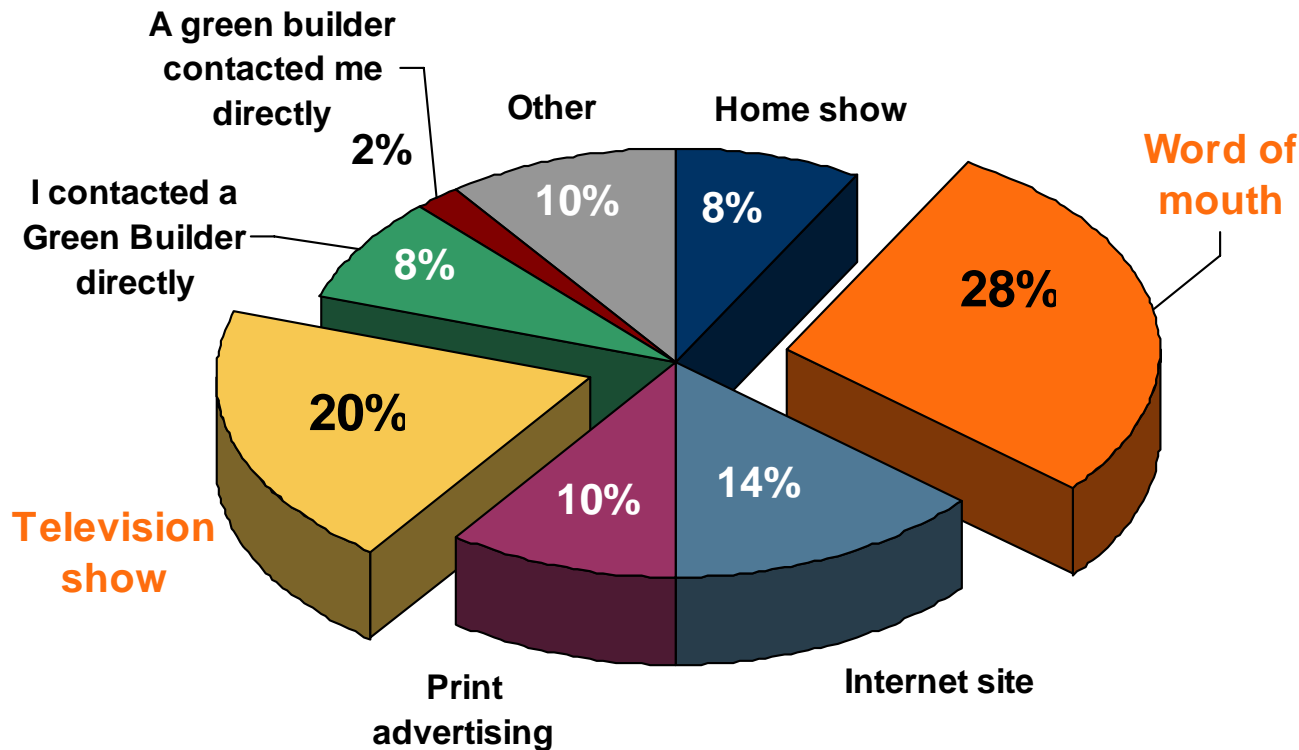
- Has a strong base
- Moving into the rapid adoption stage



Learning about Green Home Building



Buyers Hear About Green Homes by Word of Mouth and Television



“Builders see themselves as the information provider and driver of new innovation.”

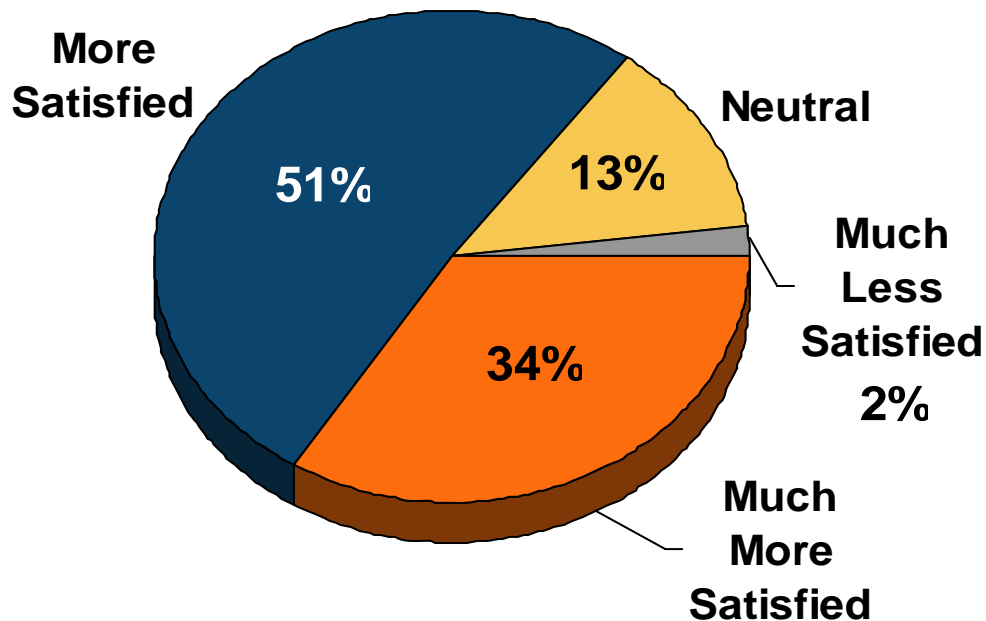
- 2006 Technical Report prepared for PATH: Residential Market Research Data for Stimulated Innovation

Green Home Owner Customer Satisfaction & Loyalty



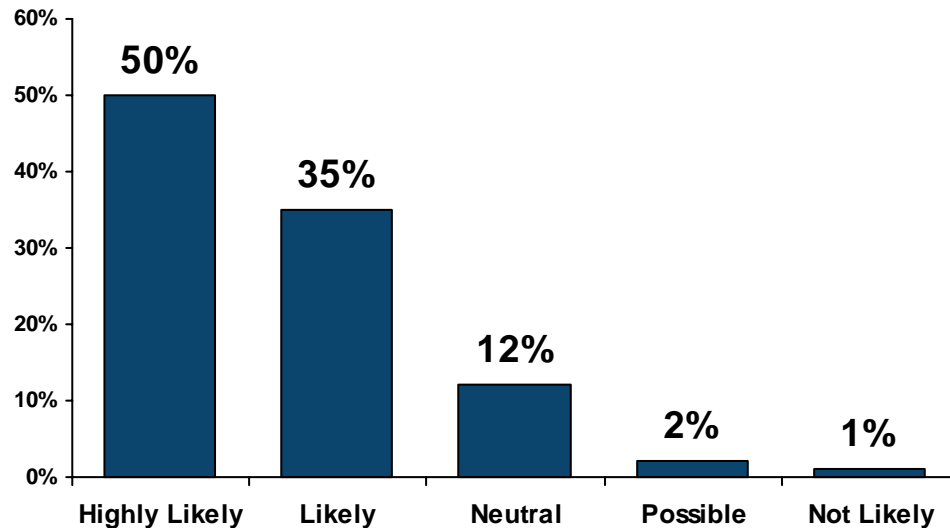
Green Home Owners Very Satisfied with New Homes

Satisfaction with New Green Home versus Previous Non-Green Home



Green Home Owners Are Recommending Purchase of a Green Home to Others

Likelihood of Recommending Green Home Purchase



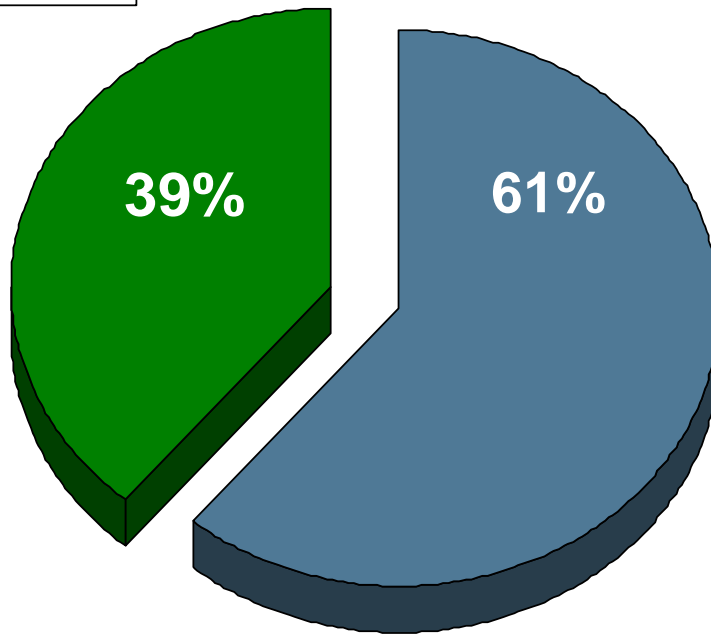
→ High Recommendation Level = **Solid Base for Future Sales Growth**

- Most green home owners found out about green homes by word of mouth

Remodeling with Green Products

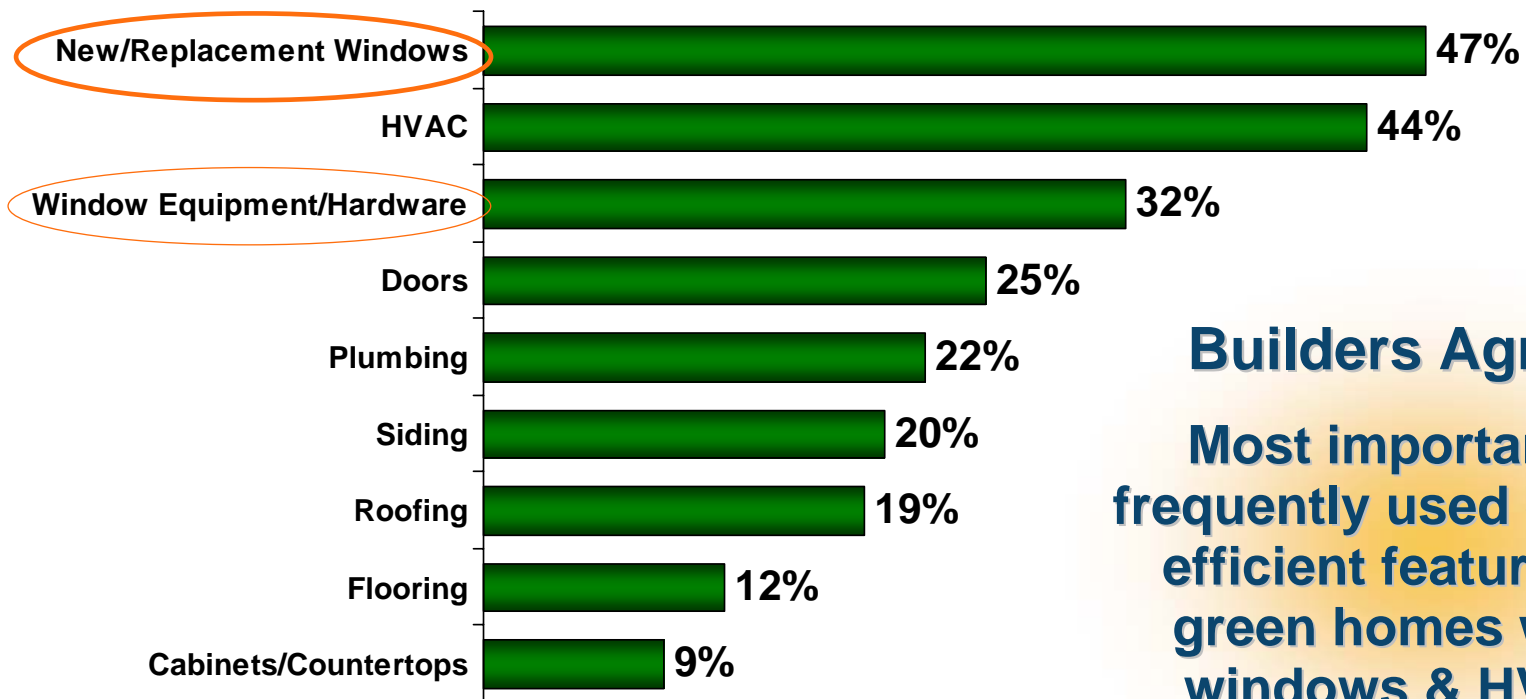


Using Green Products for Remodeling



Windows Dominate Green Products in Remodeling

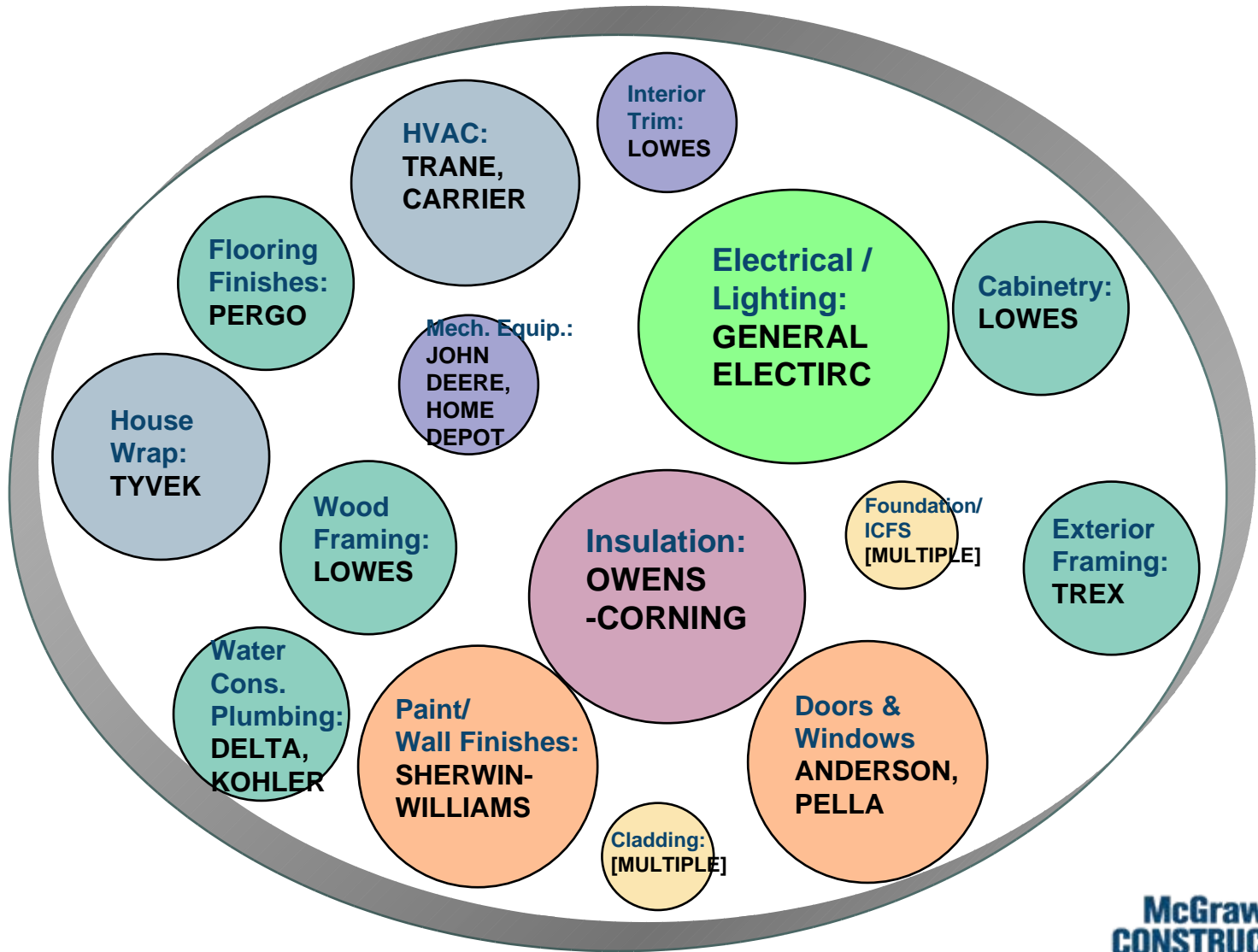
Most Used Green Products for Remodeling Projects



Builders Agree!
Most important & frequently used energy efficient features in green homes were windows & HVAC

Summary of Top 15 Major Green Brands

No. of Mentions
1
2 to 4
5 to 9
10 to 14
15 to 19
20 to 24
25 and over



McGraw-Hill Construction Green Sources

- Existing MHC Green Building SmartMarket Report Studies:
 - Education Green Building SMR
 - Commercial Green Building SMR
 - Residential Green Building SMR
 - Coming Soon! Green Building SMRs
 - Greening of Corporate America
 - Healthcare
 - Homeowner Preferences
- **GreenSource Magazine**
www.greensourcemag.com
- **MHC Green Resource Center:**
www.greensource.construction.com

