

# THE GREEN MARKETPLACE





As a non-profit agent of change, Recycle Ann Arbor will develop, deliver, promote, and support effective services, programs and demonstrations that improve environmental quality through recovery, reuse, recycling, and effective energy use.

# RAA Today

- Curbside Recycling
- Full-Service Drop-off Station
- ReUse Center
- Environmental House
- Emerging Construction and Demolition Debris Recycling Program through Calverts Roll-Off Containers
- Approx 50 employees





# Overview of the Green (Building) Marketplace

- Where Has it Been? (History)
- Where are we now? (Present)
- Where is it going? (Future)
- Today's Green Wood Markets
- Where does Urban Reclaimed Wood fit?



# Defining Green Building

“the practice of 1) Increasing the efficiency with which buildings and their sites use energy, water, and materials, and 2) reducing building impacts on human health and the environment through better siting, design, construction, operation, maintenance and removal – the complete building life cycle.”

**-The Office of the Federal Environmental Executive**





Green buildings come in all shapes and sizes!



# History of the Green (Building) Marketplace

- The USGBC's White Paper on Green Building:

<http://www.usgbc.org/Docs/Resources/BDCWhitePaperR2.pdf>



# Historic References



# Modern History



Products of a fossil fuel age



# Things Change.

- Mounting **Social, Ecological, Economic** challenges led to formation of green building programs/non-profits in local communities



Sunday Mar 26, 2006



## What Was Their Call to Action?

### *Environmental Impact of Buildings\**

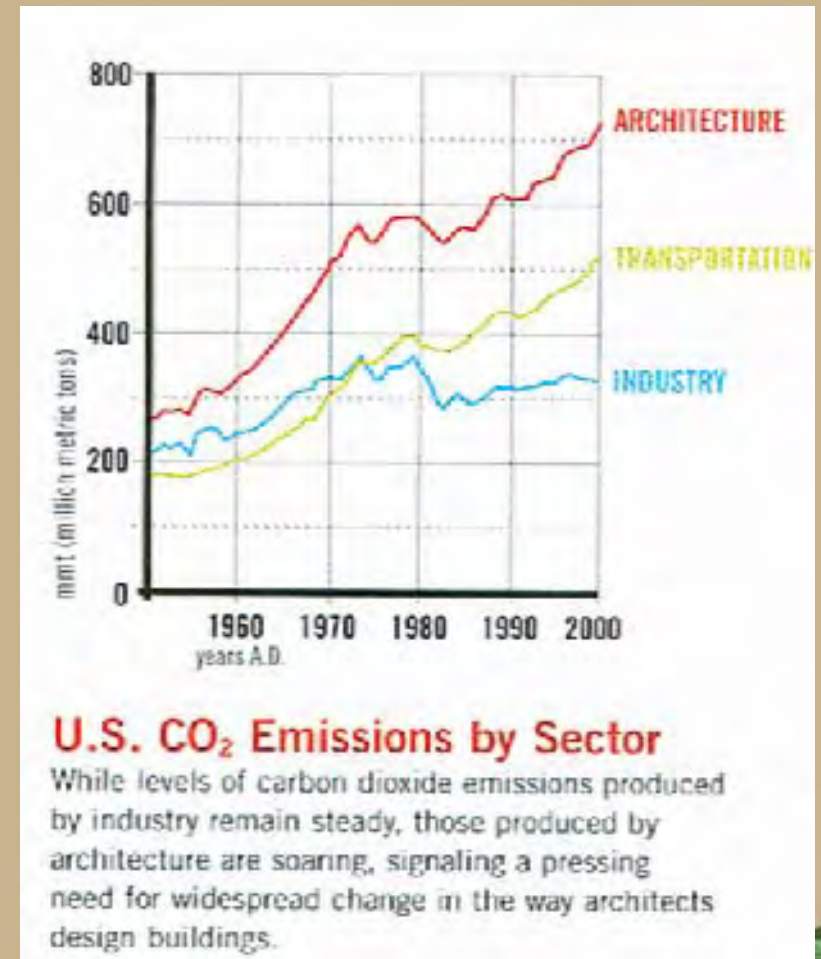
- **65.2% of total U.S. electricity consumption**
- **>36% of total U.S. primary energy use**
- **30% of total U.S. greenhouse gas emissions**
- **136 million tons of construction and demolition waste in the U.S. (approx 2.8lbs/person/day)**
- **12% of potable water in the U.S.**
- **40% (3 billion tons annually) of raw materials use globally**

\*statistics borrowed from US Green Building Council data



# Taking Action Today...

- Organizations have developed standards to define what a "green" building is
- Certification systems evolved to monitor implementation and recognize successful projects



# National GB Programs Today

## *Commercial:*

LEED

Green Globes

Energy Star

## *Residential:*

Healthy House

American Lung  
Association

Energy Star

NAHB



# NAHB Numbers

- NAHB Research (2005):
  - 62,000 homes certified
    - Most in Denver, Frisco, Seattle
  - 26 different local programs(+)
  - Green Built MI now online

Green Home Building Statistics for Local Green Home Programs  
Source: NAHB Research Center - 2005

Program	City, State	Total Homes Built	2004 Homes Built	2003 Homes Built	2002 Homes Built	2001 Homes Built
Build Green Program of Kansas City	Kansas City, MO	18	6	9	3	N/A
Built Green Colorado	Denver, CO	24,242	5,742	5,000	3,854	3,646
Built Green Kitsap	Bremerton, WA	445	67	47	53	278
Built Green of SW Washington	Vancouver, WA	47	11	10	26	N/A
Built Green Seattle	Bellevue, WA	5,652	1,652	1,800	1,200	1,000
California Green Builder Program	Sacramento, CA	635	0	90	545	0
City of Aspen Efficient Building Program	Aspen, CO	47	47	N/A	N/A	N/A
Earth Advantage™	Portland, OR	2,527	1,113	916	498	N/A
Earth Craft House	Atlanta, GA	2,430	400	1,230	300	500
EcoBUILD	Memphis, TN	47	39	8	N/A	N/A
Green Building Program (Austin Energy)	Austin, TX	4,545	753	602	715	2,475
Green Building Program (City of Frisco)	Frisco, TX	11,239	1,932	2,910	4,797	1,600
Green Building Program (City of Scottsdale)	Scottsdale, AZ	469	239	38	54	129
Green Home Choice	Arlington, VA	3	2	1	N/A	N/A
Green Home Designation	Cocoa, FL	80	65	10	3	2
Green Points Program	Boulder, CO	2,155	450	139	260	1,306
"GreenStar" Building Incentive Program	Chula Vista, CA	0	N/A	N/A	N/A	N/A
Hawaii Built Green	Honolulu, HI	4	3	1	0	0
I-Built	Flagstaff, AZ	0	0	0	N/A	N/A
Innovative Building Review Program	Santa Barbara, CA	993	26	18	16	933
NC HealthyBuilt Homes	Raleigh, NC	49	37	12	N/A	N/A
New Mexico Building America Partner Program	Albuquerque, NM	3,227	727	N/A	N/A	2,500
NJ Green Affordable Green Program	Trenton, NJ	1,078	472	161	144	142
Southern Arizona Green Building Alliance	Tucson, AZ	0	N/A	N/A	N/A	N/A
Tacoma-Pierce County Built Green™	Tacoma, WA	0	0	0	N/A	N/A
VT Built Green	Burlington, VT	14	14	N/A	N/A	N/A
WI Green Built Home	Madison, WI	1,981	792	637	350	202
<b>TOTALS</b>		<b>61,927</b>	<b>14,589</b>	<b>13,639</b>	<b>12,818</b>	<b>14,713</b>



# USGBC Green Building Facts

- **The products and services market for green building is expected to exceed **\$12 billion in 2007.****
- **The construction market accounts for 14.2% of the \$10 trillion U.S. GDP (According to EPA).**



# USGBC Green Building Facts

- *Membership: 91,000* actively engaged individuals
- *Commercial buildings registered or certified: **1,062 million sf***
- 6,415 Registered Projects
- 824 Certified Projects



# The Future of Green (Building)

- Money to be Made! (and JOBS!)
- Carbon Guidelines (Tax?)
- Third Party Verification
- More Organics/Natural Products
- Consumer Demand to Increase



# NAHB Study

Green Building to become a  
**40-50 billion dollar**  
Market by 2010  
(April 2, 2007 study)

\*represents 10% of homes built  
-Approx 2% in 2006



# NAHB Study

Important factor to consider:

- More than 60% polled said that consumer awareness, add'l costs and the limited availability of homes are obstacles to bigger market share. However, most agreed that the **BIGGEST** hurdle was **EDUCATION**
- VERY consistent with series of Focus Groups conducted by RAA and SeMiRCD Council



# Green Schools

- Another study by McGraw-Hill:
  - Largest growing sector is educational institutions and universities. Good news: This also represents the largest sector in the construction industry at 53 billion in 2007. Reasons include:
    - Fiscal advantages (Cost Savings)
    - “Improved Health and Well-Being”

First costs and product awareness  
Still hurdles



# NET ZERO by 2030!

- American Institute of Architects (AIA), the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), Architecture 2030, the Illuminating Engineering Society of North America (IESNA), and the USGBC finalized a memorandum of understanding this month (May 2007) establishing a common starting point and goal of net zero energy buildings.
- **Carbon neutral buildings** use no energy from external power grids and can be built and operated at market values



# More Third Party Verification

- According to recent research conducted by Consumers International and AccountAbility:
  - 70% of consumers want climate change claims made by businesses to be proven by independent third parties
  - Over 50% of consumers believe govt's should be forcing businesses to phase out products that contribute to global warming
  - 60% of consumers want companies to provide more information at the point of sale about the effects of the products on climate change



# More Natural Products

- Where do we spend most of our time? **INDOORS!**
  - Children spend about 85% of their time indoors, 68 minutes more per day than their adult counterparts\*
  - Children are at greater risk than adults with exposure to “small” amounts of toxins
    - California study supported by EPA statistics on Asthma and Environmental Tobacco Smoke



# Consumer Research

- 2007 Image Power Green Brands Survey:
  - 40% of US believes concerns about global warming increasing enviro awareness
  - 20% blame themselves
  - 80% believe it is important to buy from green companies, and most responded they would spend more on green
  - Significant shift from similar study conducted in 2006

DEMAND FOR GREEN



# Today's "Green" Wood Markets

**Engineered Wood Products**

**Sustainably Managed Forests/3<sup>rd</sup> Party Audited**

**Salvaged Wood Products**



*Engineered wood products may be used as columns, beams and floor joists.*



# "Green" Wood Products and Alternatives

## Engineered Wood Products

- Dimensional lumber alternatives
- Panelized systems

SIPS

ICAN

- Recycled content composites

Plastic/wood fibers

Fiber cement board

- Bio-composites

"Agri-board"

- Rapidly-Renewable Products

Bamboo and Cork



# “Green” Wood Products and Alternatives

## Sustainably Managed Forests/3<sup>rd</sup> Party Audited

- Most recognized established US standard

## **Qualifies for LEED** Forest Stewardship Council (FSC) Sustainable Forestry Initiative (SFI)

- Third party auditing provided to preserve “chain-of-custody” or procurement source

Groups like Scientific Certification Systems (SCS) provide auditing

Requires significant commitments from each service provider in process

If one link in “chain” is broken, no certification awarded



# “Green” Wood Products and Alternatives

## Sustainably Managed Forests/3<sup>rd</sup> Party Audited

- Additional Global Certifications

Canadian Sustainable Forestry  
Certification Coalition

Pan European Forest Certification



CERTIFICATION CANADA 



# “Green” Wood Products and Alternatives



## Reclaimed Wood Products

### National Salvage Market

- Deconstruction
- Dredged/Recovered
- 3<sup>rd</sup> party certification (Smartwood)
- no FSC recognition

### Local Custom Processing

- Urban Reclaimed
- Non-Harvested
- Small operators



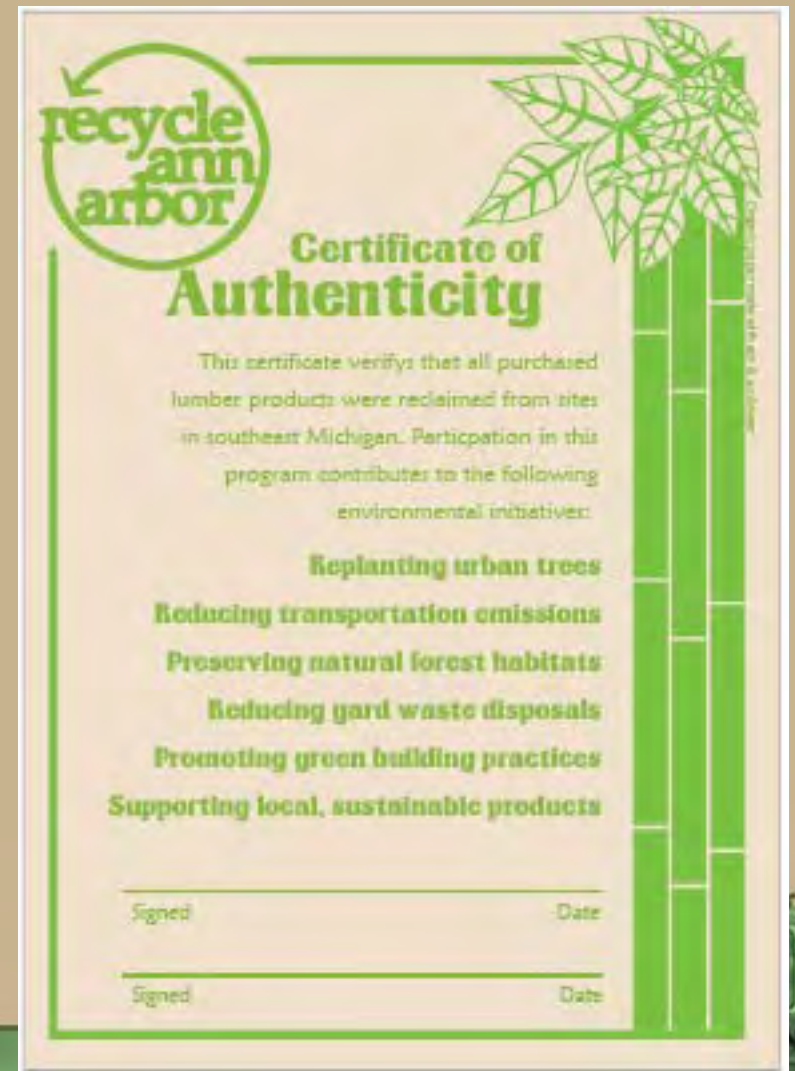
# Urban Reclaimed Wood Products in the future of Green (Building...)

- VERY CONSISTENT with research
  - Cost competitive
  - VERY carbon friendly
  - Natural product
  - Green “companies”
  - Need to address awareness, convenience and availability



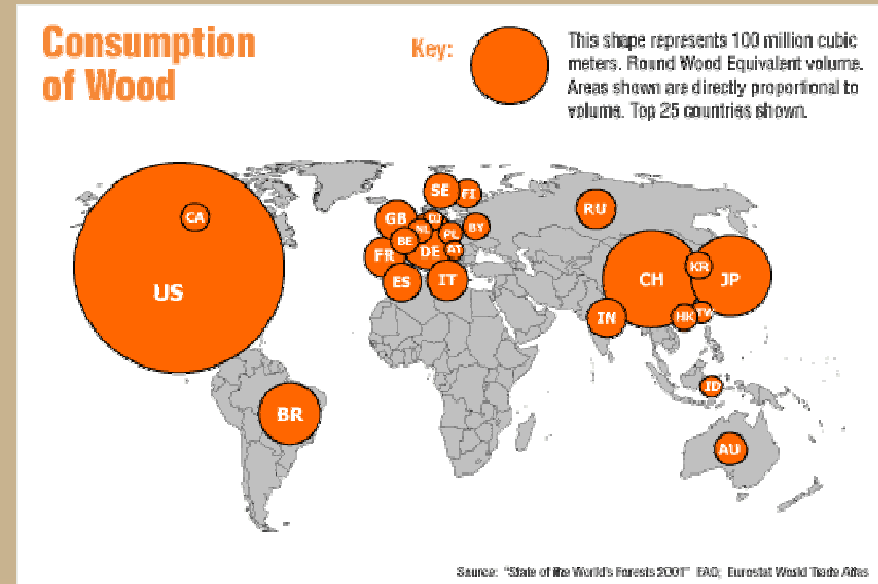
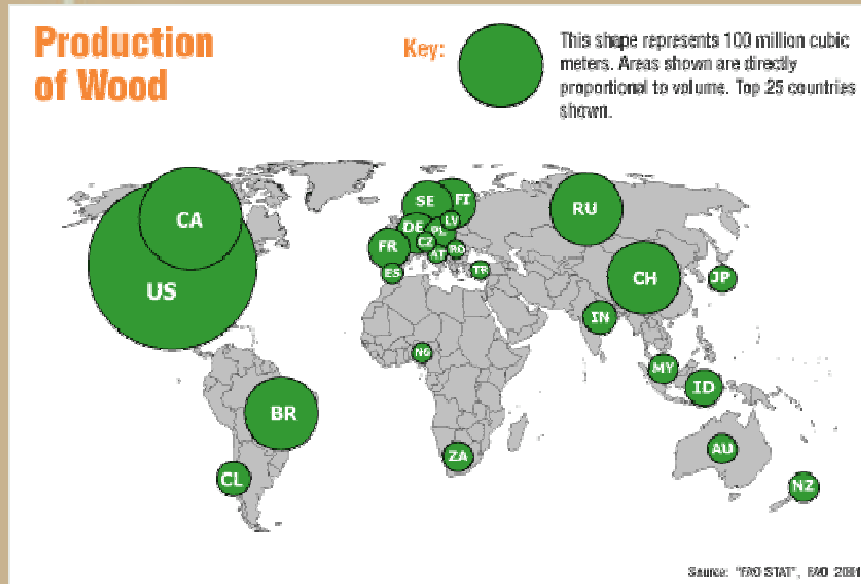
# What does a Climate Neutral Product look like?

- Reduced Emissions related to transportation
- Reduced Energy related to managed forests
- Geographically adapted/appropriate
- Chemical Control
- Natural Forest Preservation
- Urban Reforestation
- Keep dollars local



# Reduced Emissions

- Traditionally Harvested



# Reduced Emissions

## Green Building Competition

### FSC in Michigan

- 3.75 million acres certified  
in January 2006

### Rapidly Renewable Imports

Bamboo harvested in China

Cork harvested in  
Spain/Portugal



# Chemical Control

- What's in your pre-finish?
  - Who is regulating those products finished overseas?
  - Aluminum oxides for grip resistance?
- Sanded in place, sealed and finished product allows ability to control toxin flow

- AFM Safecoat
- BONA
- Tried and True
- Bioshield
- OSMO



# Forest Preservation

- Protects critical ecologically diverse natural habitats
- Carbon Sequestration:
  - A single mature tree can absorb carbon dioxide at a rate of 48 lbs./year and release enough oxygen back into the atmosphere to support 2 human beings.

([www.coloradotrees.org](http://www.coloradotrees.org))



# Urban Reforestation

- RAA and the RC&D Council are developing a “Tree Grants” program
- Goal is to both maintain urban forest and raise awareness about the value of trees in the ground
  - One tree that shades your home in the city will also save fossil fuel, cutting CO<sub>2</sub> buildup as much as 15 forest trees
  - Planting trees remains one of the cheapest, most effective means of drawing excess CO<sub>2</sub> from the atmosphere – GO CLIMATE NEUTRAL



# The Story...

- These trees are part of the community
- Studies have shown that hospital patients with a view of trees out their windows recover much faster and with fewer complications than similar patients without such views. (American Forests, "How Trees Fight Climate Change", 1999. )
- Residents who live near trees have significantly better relations with and stronger ties to their neighbors. (Prow, Tina., ["The Power of Trees"](#))



# Analysis

Urban Reclaimed Wood Products can play a critical role in meeting consumer demands for verifiable, local, climate neutral healthy products.

These products are the **FUTURE**. We (collectively) need to work together to create viable frameworks for success, bringing multiple partners together to collaboratively grow and flourish



# Stay Tuned!

- [www.urbanwood.org](http://www.urbanwood.org)
  - Southeastern Michigan's home for Urban Reclaimed (Climate Neutral!) Wood Products



# Thank you!

- See you on the tour tomorrow!
- For more information:
  - Jason Bing
  - [jason@recycleannarbor.org](mailto:jason@recycleannarbor.org)
  - 734.662.6288
- [www.environmentalhouse.org](http://www.environmentalhouse.org)

