

GREEN BUILDING

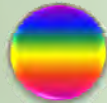
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Permitting Services Division Manager
City of Orlando



WHAT IS GREEN?



Green Initiatives



LEED



Green Building



Common Myths



Sustainability





Green Initiatives

“Green Works Orlando” Orlando’s Green Initiative

August 2007



www.cityoforlando.net/elected/greenworks



Green Works Orlando Pillars

- Energy Efficiencies and Green Buildings
- Transportation
- Sustainable Infrastructure and Conservation
- Green Spaces
- Advocacy and Education

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Pillar 1- Energy Efficiencies and Green Buildings

- All new **City buildings to comply with LEED standards,**
- Develop a comprehensive **Green Building Program-**
encourage and create standards for environment-friendly buildings.
- Amend the **Land Development Code and Growth Management Plan**
include options for natural and water conserving landscaping, green roofs and other residential and commercial development elements that encourage conservation (power, water and natural resources).
- Create **standards for green homes.**
- Explore the development of a **sustainable business park-**
attract and promote green building and clean energy companies and jobs.

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Pillar 2-

Transportation

- Transition the City fleet to **bio-diesel, hybrid, flex fuel and other alternative fuels**
- Convert every stop lights and pedestrian signals to **Light Emitting Diode (LED)** technology.
- Implement a **car sharing program** in Downtown Orlando.
- Improve **bicycling and pedestrian opportunities** *through expansion of existing amenities.*
- **Enhance transportation choices** including Commuter Rail, Lymmo and LYNX- *Partner with regional transportation providers*

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Pillar 3- Sustainable Infrastructure and Conservation

- Determine the feasibility of a **solid waste gasification facility (renewable resource power)**- *partnership with Orange Co. and OUC*
- Expand the City's **reclaimed water projects**
- Create **green office standards** for City operations
- Pilot test a **green power reactor**
- Create healthy, **livable urban centers**- *promote walk able neighborhoods, affordable housing, mixed-use transit-orientated development, open space and job creation.*
- Encourage the three R's: **reduce, reuse and recycle**. *The "greenest" building is the one that's already built!*
- **Rehabilitating existing and historic buildings**- *this is the ultimate in recycling*

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Pillar 4- Green Spaces

- Restore City tree canopy/**10,000 Trees Initiative** – *reducing carbon dioxide levels*
- Promote **Orlando Easterly Wetlands**- *green space that also serves as an advanced wastewater treatment system, wildlife habitat and a recreational and educational center.*
- Develop a **master plan for park expansion**
- Implement **community gardens**- *through partnerships with local businesses*

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Pillar 5- Advocacy and Education

- Develop partnerships to promote **conservation and efficiency programs.**
- Increase **awareness by educating, encouraging and empowering** *City employees, residents and business owners to reduce climate pollution and live an environmentally-friendly lifestyle.*
- Achieve **community green designations** from the Florida Green Building Coalition, Cities for Climate Protection and Best Workplace for Commuters, and **achieve green certification** from LEED.

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LEED is the Buzz Word!



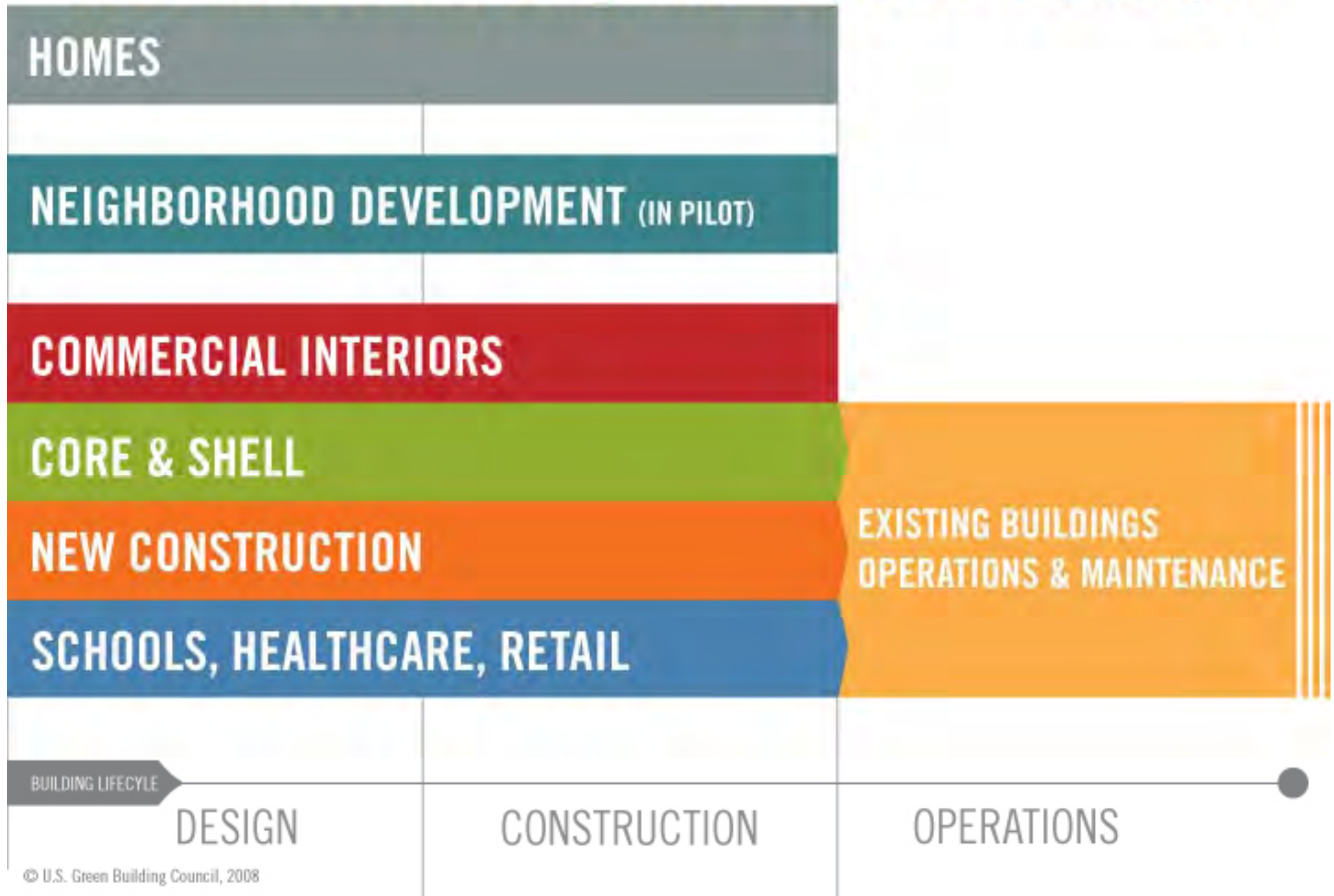
What is LEED®?

The Leadership in Energy and Environmental Design (LEED) **Green Building** Rating System™ encourages and accelerates global adoption of sustainable **green building** and development practices *through the creation and implementation of universally understood and accepted tools and performance criteria.*



Leadership in Energy & Environmental Design

LEED address the complete lifecycle of buildings:



USGBC has four levels of LEED:



Cross-Functional Team

ENGINEERS OPERATIONS AND MAINTENANCE TEAMS
BUILDING OCCUPANTS BUILDING MANAGERS BU
FACULTY ENVIRONMENTAL HEALTH AND SAFETY STAFF
GROUNDSKEEPERS CAPITAL PLANNING STAFF GR
UTILITY MANAGERS INTERIOR DESIGNERS UTILITY MANA
CUSTODIAL TEAM PROPERTY MANAGERS CUSTODI
HUMAN RESOURCES BUILDING OWNERS HUMAN
PURCHASING STAFF ENVIRONMENTAL GROUPS
ENGINEERS OPERATIONS AND MAINTENANCE TEAMS
BUILDING OCCUPANTS BUILDING MANAGERS BU



LEED- Building Categories

Key terms



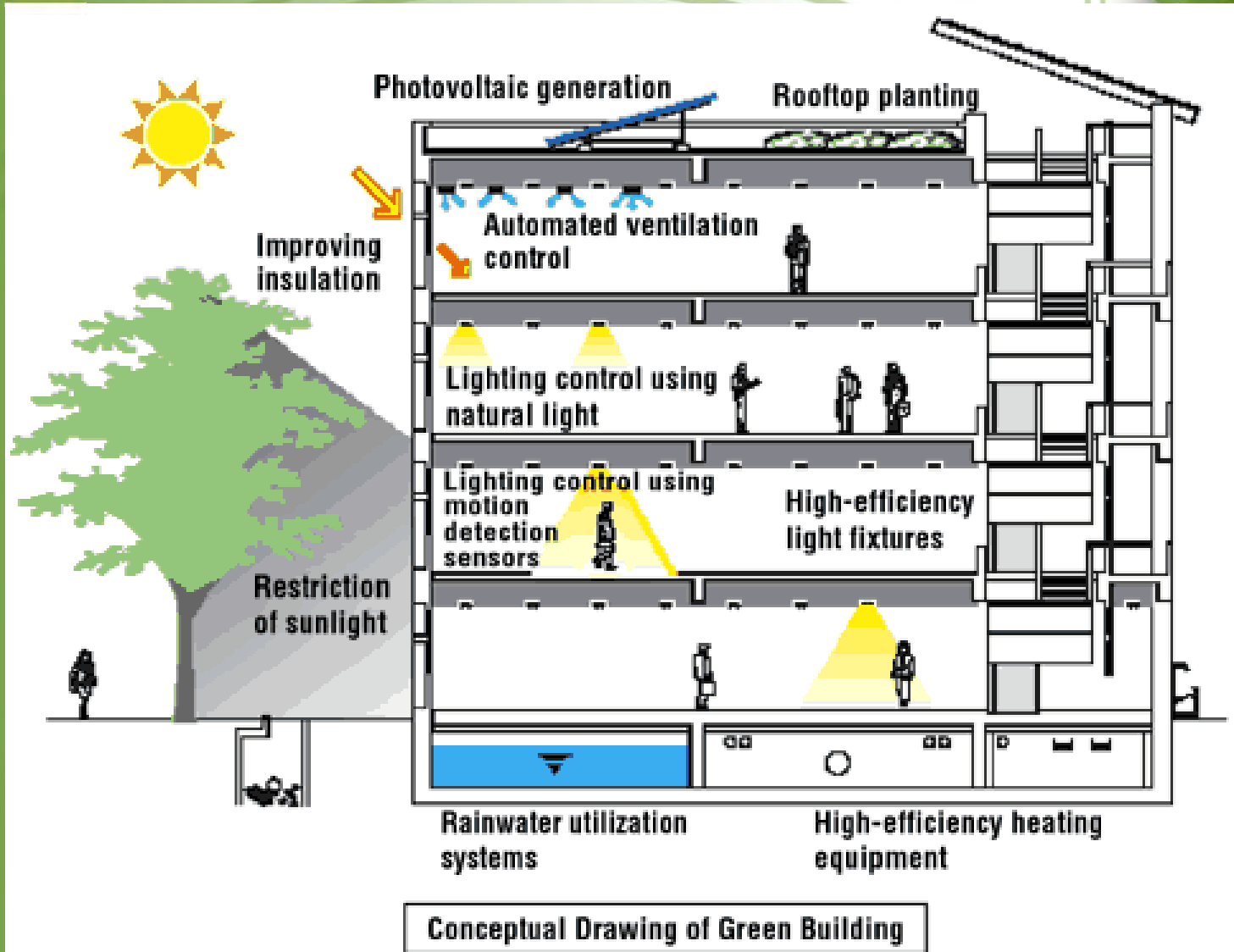
- **Sustainable Site-**
- **Energy and Atmosphere-**
- **Material Resource-**
- **Indoor Air Quality-**
- **Water Efficiency-**
- **Innovation and Design-**

What Is Green Building?





Green Building





Myths about Green Buildings

Myth #1 Building Green is more expensive.

This is the biggest myth because "expensive" is a relative term. More expensive than what?





Myths about Green Buildings

Myth #2 Green Products don't really help the environment.

Most building products that are natural and non-toxic will be good for the indoor and outdoor environment (even though they cannot be tolerated by some due to sensitivities).



There is no question about the positive effect of using non-toxic materials to reduce or eliminate indoor air pollution.



Myths about Green Buildings

Myth #3 If it's zero VOC or VOC compliant it must be Green.

A great deal of emphasis has been placed on the term VOC (volatile organic compound) to the extent that many have begun to believe that all VOC's are "bad" and should be eliminated. This is an overstatement.



The government is interested in regulating VOC's because some, not all, react with chlorine in the atmosphere to form smog creating compounds. That is, they are interested in reducing outdoor air pollution.



Myths about Green Buildings

Myth #4 Green Building is still new and not as efficient as traditional building.

The design, methodologies, materials and building procedures of the Green Building movement have been around for thousands of years albeit in a slightly different form.



Modern technologies have made Green Building materials more readily available, useful and reliable than ever before.



Myths about Green Buildings

Myth #5 Green Building may work in California but it won't work here, or

Green Building is just a fad for hippies

California certainly is one of the pioneers in Green Building but it certainly is not the only place it is being used. Green Building is also very popular in Europe where it has been very successfully implemented.



Once considered a fad of the 70's, Green Building is fast becoming mainstream with the help of numerous organizations dedicated to the environment and human health.



So what can I do to make my Building/Home GREEN?

1

Make sure your walls and attic are well insulated.

- *Spray Foam Insulation gets into tight places that are inaccessible*
- *Batt Insulation is now made with Natural Fibers or Recycled Materials*
- *A Well insulated building is more resistant to temperature changes and cost less to heat and cool*





So what can I do to make my Building/Home GREEN?

2

Upgrade or replace windows and doors.



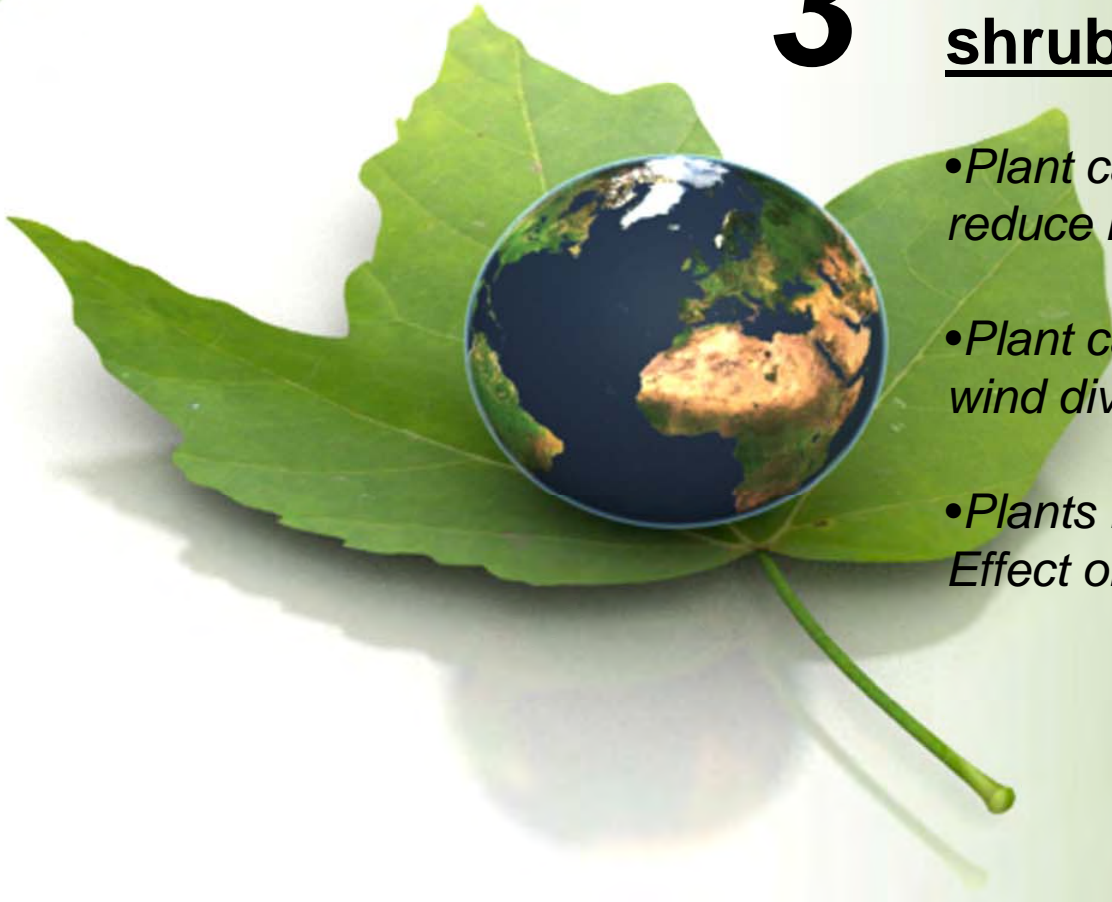
- *Windows and Doors can leak through gaps around the edges or through openings created by repeated use*
- *Door sweeps and weather stripping will wear out over time or after repeated use*
- *Caulk around existing windows and doors to ensure weather tightness*



So what can I do to make my Building/Home GREEN?

3

Plant shade trees and shrubs around your house.



- *Plant can provide natural shade to reduce heat gain*
- *Plant can serve as a wind guard or wind diversion*
- *Plants help to reduce 'Heat Island' Effect on a building*



So what can I do to make my Building/Home GREEN?

4

Replace an older furnace with a high-efficiency system.

- *Newer systems operate using much less energy*
- *Newer systems are equipped with environmentally friendly refrigerants*
- *High SEER units are quiet and are more efficient*





So what can I do to make my Building/Home GREEN?

5

Replace incandescent light bulbs with compact fluorescent lamps (CFLs).

- *They have a longer life cycles*
- *Use less energy*
- *Burn brighter*
- *Are cooler and produce very little heat*





So what can I do to make my Building/Home GREEN?

6

If you buy a new refrigerator, don't leave the old one plugged in.

- *Discontinue use of old appliances*
- *Replace older appliances with newer more efficient units*
- *Reduce the electrical demand on your building*
- *Unplug appliances when not being used*





So what can I do to make my Building/Home GREEN?

7

Schedule an energy audit for more expert advice on your home as a whole.

- *Energy audits are often provided by the Utility provider, as an incentive to reduce consumption of water and electric*





So what can I do to make my Building/Home GREEN?

8

Recycle Newspapers,
plastic water bottles, glass
and metal containers

•Recycling diverts materials from the landfills which are running out of space



So what can I do to make my Building/Home GREEN?

9

Use non-toxic water based cleaners

- *Safer to use around kids, family and pets*
- *Typically cost less and more economical to buy*
- *Consider the effect of cleaners after they are disposed of and where they will end up*





So what can I do to make my Building/Home GREEN?

10

Make a commitment to using GREEN products and practices

- *Anything that you can do to reduce greenhouse gases, helps the environment*
- *Green is not a fad, but a new standard that is becoming a way of life*
- *GREEN reduces our dependency on petroleum and other natural resources*





GREEN Resources

<http://www.renewablechoice.com/>

<http://www.rainwaterrecovery.com/index.html>

<http://www.nrel.gov/>

<http://www.thegbi.org/home.asp>

<http://www.asla.org/>

<http://www.earthship.net/>

<http://www.wupperinst.org/en/home/>

<http://www.awwa.org/>

<http://www.sustainableceilings.com/index.jsp>

<http://www.rmi.org/>

<http://www.nccecojustice.org/grbuilding.htm>

<http://www.greentimellc.com/>

<http://www.greenatworkmag.com/>

http://www.greenroofs.org/index.php?option=com_content&task=view&id=626&Itemid=116

<http://www.eere.energy.gov/greenpower/buying/index.shtml>

<http://www.globest.com/green/?kw=rem>

<http://www.egreenideas.com/index.php>

<http://www.whyygreenbuildings.com/>

<http://www.msnbc.msn.com/id/17950339/>

<http://www.eco-structure.com/>

<http://www.seattle.gov/dpd/GreenBuilding/OurProgram/DesignToolsStrategies/LEED/default.asp>

<http://csba.foresightdesign.org/>

<http://www.appa.org/>

<http://www.boma.org/>

<http://www.greenerfacilities.org/>



We are well behind the curve when it comes to Green Things.

Many regions of our Nation, Canada and Europe are light years ahead of us.

www.cityoforlando.net/permits

Green Building Focus Conference & EXPO 2010



- The Green Building Focus Conference & EXPO will return to Birmingham, Alabama on August 24–26, 2010
- Theme: “The Transformative & Restorative City”.
- *the largest sustainability event of the year in the Southeast.*

GREEN BUILDING



Questions?

