



“Thinking Sustainably in 2011”

**ACEC / NC and PENC
Environmental Education
& Networking Event**



Presented By:
Christine L. Hilt, RLA, ASLA, LEED[®] AP
President
CLH Design, PA

About LEED ...

- USGBC - Leadership in Energy & Environmental Design
- LEED Rating System (GBCI administered)
 - 16,000 member companies and organizations
 - 157,000 professional credential holders



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About LEED ...



Why is LEED needed?

- In the US, buildings are responsible for 39% of CO2 emissions
- 40% of energy consumption
- 13% of water consumption

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About LEED ...



Things to know ...

- LEED registered buildings can be found in 114 countries
- 10,000 homes have been certified under the LEED for Homes rating system
- 2010 milestone – One billion square feet of LEED certified green building projects

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About LEED ...



What's new ...

- LEED for Healthcare and LEED for Retail pilot rating systems have just been unveiled
- The residential green construction market and LEED for Homes is rapidly growing

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About LEED ...



What's new ...

LEED 2012 revisions introducing:

- Performance Section
 - credits for installing advanced energy metering systems
 - sharing energy usage data for five years after certificate of occupancy
- Integrated Process
 - Required team and stakeholder meetings
- Location and Transportation credits
 - Giving preference to buildings with high performance attributes in locations that enhance existing neighborhoods, transportation networks, and urban infrastructures.

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About LEED ...



On the legislative front ...

- The 2011 national dialogue is shifting from the climate change debate to “going green” to improve the corporate bottom line and homeowners energy bills.

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About LEED ...



On the legislative front ...

- California is the first state to adopt green building code standards (CALGREEN code).
 - Energy efficiency
 - Indoor air quality
 - Water conservation
 - Site development
 - Recycling

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About LEED ...



On the legislative front ...

- FHA is introducing Powersaver loans of up to \$25,000 available to homeowners for:
 - efficient water heaters
 - solar panels
 - geothermal systems

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Sustainable trends ...



- Redevelopment of brownfield sites
 - Reinvestment in blighted urban areas
 - Potential tax credits and other incentives
 - Less new infrastructure costs in urban areas
 - Multi-transit options, lower emissions impacts
 - Density development and community connectivity credits
 - Communities are beginning to protect/preserve greenfield sites as open space
 - More habitat restoration projects



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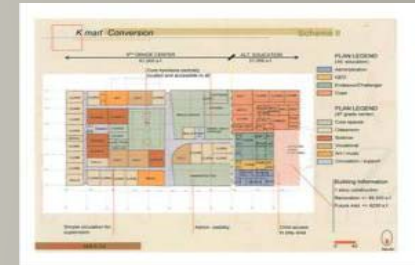


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Sustainable trends ...

- Adaptive Reuse

- Repurposing existing buildings
- Reducing waste
- Revitalizing economically blighted communities



- The urban prairie/"shrinking cities" movement

- Downsizing blighted urban cities
 - greenbelts
 - urban farming



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Sustainable trends ...



- Challenges:

- Eliminating credits for existing impervious area (pre versus post development) could hurt redevelopment efforts in urban areas.
- Municipalities/LEED need to find more ways to reward urban redevelopment. (Brownfields, adaptive reuse)



Sustainable trends ...



- Seeing a ***holistic*** approach to stormwater management where no net increase in water runoff volumes is required (LEED, some municipalities)
 - infiltration (when it works)
 - evaporation
 - boiling/chilling/cooling
 - flushing



Sustainable trends ...



- Requires strong coordination amongst the site and building system designers.

- A pond



- A green roof



- Water reuse



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Sustainable trends ...



- More innovative stormwater/wastewater treatment devices to meet LEED and regulatory requirements
 - Bio-retention in a box, more pre-fab devices for urban solutions
 - Pervious pavers that don't look like pervious pavers
 - Living machines/systems for treating wastewater

- Seeing higher recycled contents in new products.
- More efforts to achieve LEED approval of products prior to marketing to the design industry



Sustainable trends ...



Challenges

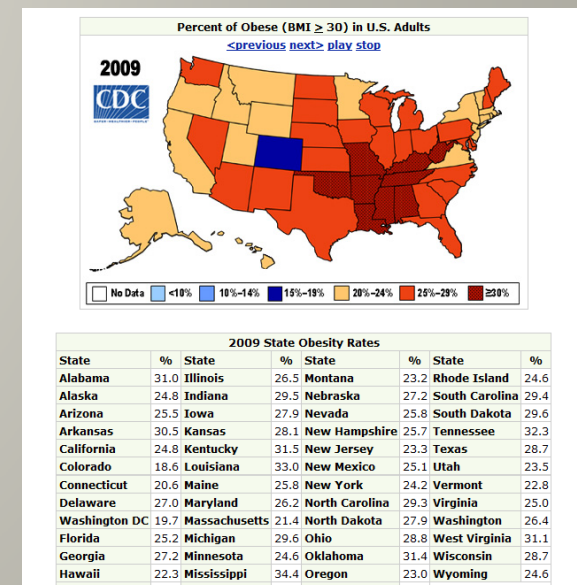
- Universally accepted practices (interpretations vary agency to agency)
- Uniform testing criteria for innovative BMP's
- Allowing proprietary products in a rapidly changing market
- Maintenance and operation of untested systems
(when our clients can't or don't maintain the existing ones!)



Other things to think about ...



- Outdoor air quality/noise pollution and site selection
 - Creating healthy schools and healthy children
 - Integrating fitness and well-being into schools and corporate campuses



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Other things to think about ...



- Smog-eating roof tiles???



Other things to think about ...

- Innovation points for integrated environmental education



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The economic good news for NC ...



- The largest solar farm in North Carolina has just been completed. The Duke Energy/SunEdison LLC 17.2 megawatt facility is on 200 acres in Davidson County.
- The NC Utilities Commission is currently reviewing an application by Iberdrola Renewables of Oregon for the first wind farm in North Carolina, a 300 megawatt facility designed to power 55,000 homes.



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The national economic good news ...



- Nearly 8 million green jobs will be created between 2009 – 2013
- The green industry will contribute 554 billion dollars to the US economy during that time
- The green building industry has grown by 50% in the past two years
- Sustainable living, (just like our parent's embracing recycling),

is becoming our way of life.

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Questions?

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