



The Kentucky Green and Healthy Schools Program:
How can it improve your school?

Kentucky Association of School Administrators
2009 Summer Institute

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Kentucky Green and Healthy Schools Program



- Kentucky Green and Healthy Schools Improvement Projects
 - involves students and teachers
- *Green and Healthy Schools Kentucky Design Manual*
 - new or renovated schools program
- www.greenschools.ky.gov



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A Green and Healthy School is a High Performance School



- Improved student and staff health
- Improved student performance
- Improved building energy efficiency
- Cost savings
- Environmentally sustainable



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Kentucky's Existing Schools Program



- Design initiated six years ago, piloted in 2007, launched in 2008 school year
- Winner of the USGBC Outstanding Green Curriculum for 2008
- 101 schools currently enrolled
- Designed to complement, rather than complicate, the curriculum
- Student centered, inquiry based, aligned to the core content

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How it Works



- Students conduct inventories of various aspects of their school environment

ENERGY	INDOOR AIR QUALITY	SOLID WASTE
WATER	HAZARDOUS MATERIALS	TRANSPORTATION
HEALTH AND SAFETY	GREEN SPACES	INSTRUCTIONAL LEADERSHIP

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Each Inventory Includes



- A list of about 25 questions
- Web based resources to help students learn more about the topic and answer the questions in the inventory
- Core content alignment for each question, at each grade level
- Ideas for school improvement projects

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Examples of Inventory Questions



- Are energy conservation measures in place for after school hours, evening activities, and vacations? (e.g., Is there a building schedule for use after hours? Is there a schedule for setback thermostat temperatures after school hours?)
- Does your school have a policy for the reduction of paper usage (e.g., electronic record storage, use of email, printing on both sides of the paper, online tests, reusing scrap paper)?
- How are asthma triggers (e.g., mold, dust, pests, pesticides, air intakes) addressed at your school?
- How often are all water pipes and faucets checked for leaks and other maintenance?
- Does your school have a student energy team that monitors or promotes energy conservation at school?
- When are lawns watered (e.g., twice a week in the morning, daily in the evening, as needed, not watered)?

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How it Works (cont.)



- After conducting each inventory, students analyze their findings and decide on an improvement project.
- Based on the number of inventories and improvement projects completed, schools receive awards including plaques, banners and flags.



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Examples of Improvement Projects



- Students write an energy policy for their school. This policy consists of three parts: structure recommendations, procedure recommendations, and equipment recommendations. Students will present this policy to their site-based decision making team in the fall.
- Students implement the "EPA Indoor Air Quality Tools for Schools" kit to improve indoor air quality and reduce absenteeism.
- Students design and construct a rain garden to manage storm water on school grounds
- Students keep food logs and create a newsletter to raise awareness about nutrition and exercise.
- Students compost cafeteria scraps to reduce solid waste and create nutrient rich soil. The soil is used on school grounds and is reducing need for fertilizer.

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Kentucky's New Schools Program



- Healthy and productive
- Sustainable
- Cost effective



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Healthy and Productive



- High acoustic, thermal and visual comfort
- Natural daylight
- Indoor air quality
- Safe and secure



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Sustainable



- Energy conservation and renewable energy strategies
- High performance mechanical and lighting
- Environmentally responsive site planning
- Environmentally preferable materials
- Water efficient design



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Cost Effective



- Energy analysis tools to optimize performance
- Life cycle costing
- Commissioning



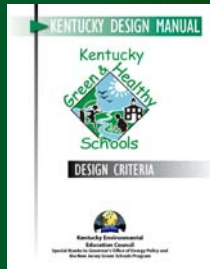
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Green and Healthy Schools Kentucky Design Manual



- 20 criteria organized into 4 sections

- 1) Energy
 - building shell
 - HVAC
 - daylighting
 - electric lighting
 - energy analysis
 - commissioning
- 2) Health and Comfort
 - visual comfort
 - thermal comfort
 - acoustic comfort
 - indoor air quality



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Green and Healthy Schools Kentucky Design Manual



- 20 criteria organized into 4 sections (continued)

- 3) Environment
 - environmentally responsive site planning
 - water efficiency
 - environmentally preferable materials, products and practices
 - renewable energy
- 4) Safe and Accessible
 - flexibility and adaptability
 - safety and security
 - accessibility
 - learning-centered design
 - information technology
 - outdoor learning areas



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Design Manual Organization



- What, why, how
- Impact on other systems
- Recommendations
- Reference standards and guidelines
- Resources
- Criteria checklist



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Energy



- Energy efficient building shell

What/Why

- efficient walls, windows and roof
- reduce energy use and costs

How

- high performance windows and glazing
- proper sun orientation and shading
- light-colored roof materials
- highly insulated exterior walls and roof



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Health and Comfort



- Visual Comfort

What/Why

- enhance learning through proper natural and artificial lighting

How

- integrate natural and artificial lighting
- balance quantity and quality
- control or eliminate glare



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Health and Comfort



• Acoustic Comfort

What/Why

- noise interferes with teaching and learning
 - outside, classroom and mechanical
 - few schools would pass national guidelines

How

- sound absorption materials
- design walls to block noise
- locate HVAC away from classrooms



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Environment



• Environmentally Responsive Site Planning

What/Why

- select and design site to minimize environmental impact
- design site to be outdoor learning environment

How

- conserve existing natural areas and restore damaged ones
- minimize storm water runoff and control erosion
- shade pavement to reduce heat island effect
- minimize exterior light pollution



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Environment



• Environmentally Preferable Materials

What/Why

- building materials impact both the environment and human health
- use non-toxic materials for healthier indoor air quality
- use materials high in recycled content

How

- facilitate recycling
- minimize construction waste
- specify efficient, recycled and low-VOC materials



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Safe and Accessible



• Safety and Security

What/Why

- design building to minimize risk of accident, injury, crime and vandalism

How

- control access
- integrate security technology
- increase visibility
- reinforce sense of ownership

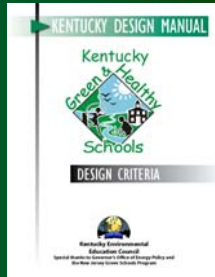


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To Be Designated a New Kentucky Green and Healthy School



- Complete the Criteria Checklists contained in the *Kentucky Green and Healthy Schools Design Manual*
- Receive LEED (Leadership in Energy and Environmental Design) Certification by the US Green Building Council



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Goal of a High Performance School



- Use resources wisely
- Build a school that is energy efficient
- Improve student achievement
- Reduce operating costs
- Protect the environment



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