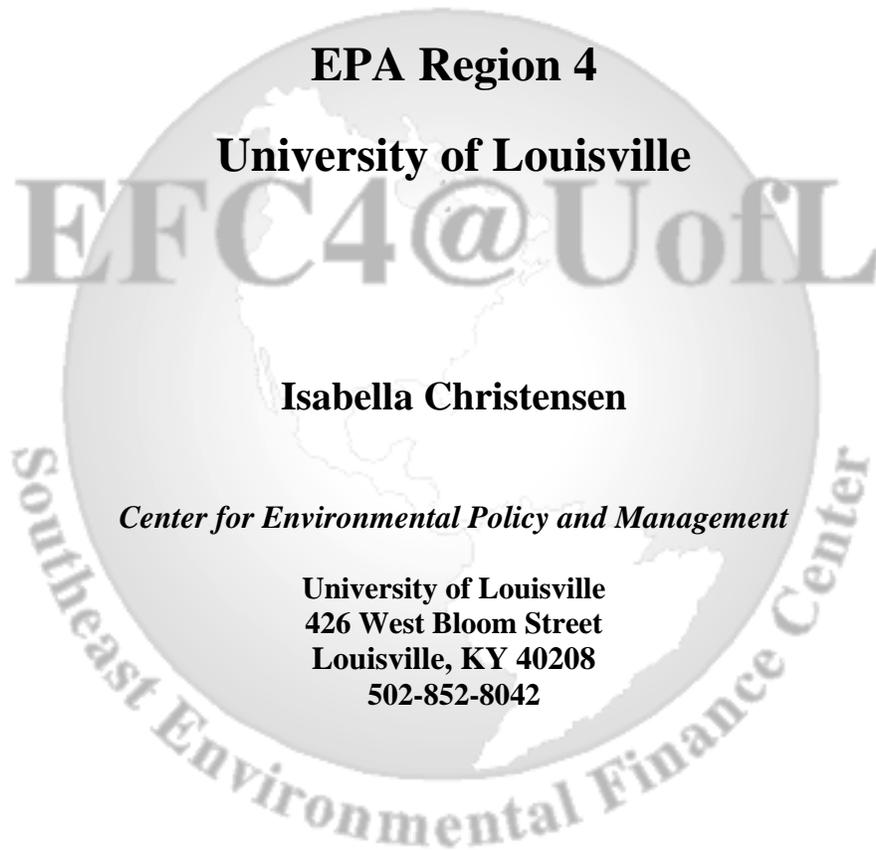


*Appendix: Case Studies for
Sustainable Construction Policies in EPA Region IV*

Practice Guide #24
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Southeast Regional Environmental Finance Center



**University of Louisville
426 West Bloom Street
Louisville, KY 40208
502-852-8042**

**efc@louisville.edu
<http://cepm.louisville.edu>**

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How to Use the Case Studies in the Appendix

The case studies presented here are a supplement to the overview of local government policies and programs presented in the third section of the Practice Guide. The appendix summaries are extremely useful for comparing specific policies and programs. The case studies show that local governments have developed unique incentive schemes, diverged in the designation of responsibility, and defined environmental goals and standards in multiple ways. These case studies are also useful for getting a longitudinal impression of the newness of the local government role in the sustainable construction business; the already-quick pace of developments in policies and practices is clearly increasing.

The state summaries in this Appendix do not do everything equally well. The digests don't, for example, explain the relationship between 1) formal policy and program provisions, 2) the ability or willingness of private industry or educational institutions to practice sustainable construction, and 3) the perceived or actual market demand for the products of this approach. The states' programs and policies are not yet mature enough to provide data in answer to these questions. Until such data exists, we can use case studies (such as those included here that detail the experiences of partnership organizations like EarthCraft) to investigate the interaction of public and private sector drivers.

Georgia

Private Sector

GreenerBuilding.org lists two residential green building programs in Georgia. One is the Envirosense Consortium, a group of companies that works with issues related to indoor air quality. The group advocates a “Total Systems Approach” which emphasizes the need to consider building design and operations as well as product specifications. The second is the Southface Energy Institute, an organization that maintains a website with resources for understanding relevant design and technical issues including the Southface Journal of Sustainable Building and information about upcoming policy debates. Southface also offers a number of consulting, inspection and training services.

In partnership with the Greater Atlanta Home Builders Association, Southface is responsible for the EarthCraft House residential green building program that began in 1999 as a local program. The AIA describes this program as an effective, privately-run venture that, as of 2007, claimed the construction of 4,000 single family homes and 1,500 multifamily units in Atlanta alone.¹ In addition to the regional expansion of its residential building program, EarthCraft launched EarthCraft Communities, a broad-based collaboration, in 2003 with the goal of addressing broader issues of residential sustainability such as walkability and community-level environmental management and planning.²

EarthCraft serves an important education function as a networking host and information clearinghouse for builders, consumers and sellers of green construction. Certainly, the program is user-friendly and appeals to both economic and environmental motivations; for example, EarthCraft’s online resource page includes the Federal Citizen Information Center’s “Energy Efficient Mortgage Home Owners Guide,” a table that incorporates energy savings into an estimation of the costs of ownership of sustainable and non-sustainable homes.³ Another source of useful information is the Georgia Department of Community Affairs website which hosts numerous documents on issues that inform the building process, including impact fee requirements and capital improvement funding options and regulations.

Partnerships

While EarthCraft and other programs are private initiatives, local and state governments do play an indispensable role in a handful of high-profile redevelopment projects. An example is the Beltline, an on-going project to redevelop 3,000 acres of contiguous land within Atlanta’s urban core.⁴ The Beltline plan includes provisions for rehabilitating public-use infrastructure such as parks and transit and building low-income housing. While the construction and design of the new housing does not prioritize principles of sustainability, the siting of the new development does reflect a conscious effort to reduce dependency on private transportation by improving the public transit and workability of the area and emphasizing its proximity to potential employment.

¹ [Rainwater and Cooper, “Local Leaders in Sustainability”](#)

² [Rainwater and Cooper, “Green Counties”](#)

³ [Southface Energy Institute, 2008](#)

⁴ [Garvin, Alex et al., 2004](#)

The principal financing mechanism for the major infrastructure of the Beltline project is the 6,500-acre Tax Allocation District (TAD). The 25-year TAD is expected to yield \$1.7 billion through bonds issued against the projected tax revenue increase of \$20 billion.⁵ The projected allocation of TAD funds includes \$240 million for the construction of some 5,600 units of the low-income “workforce” housing; this portion of the funding will flow through the Beltline Affordable Housing Trust Fund that is under the direction of the Beltline Affordable Housing Advisory Board. The projected allocation also includes \$100 million for the rehabilitation of the land, including an estimated 1,100 acres of brownfields and existing infrastructure.⁶ In addition to TAD funding, the city of Atlanta is investing \$165 million, a capital campaign has raised \$60 million, and federal funding, already secured for right-of-way acquisition and other start-up costs, is also expected to increase.

The funding of the rehabilitation of the Beltline’s public areas is considered an indirect incentive to developers, and brownfields and housing incentives are considered forms of direct incentives. The following are also listed on the Beltline’s website as benefits to developers: Landmark Historic Property Tax Abatement Program, Rehabilitated Historic Property Tax Abatement Program, Federal Income Tax Credit Program, State Income Tax Credit Program, City/County Urban Enterprise Zone Tax Abatement Program, and Development Impact Fee Exemption.⁷

Government

The scope of the Beltline project and the fact that Atlanta claimed more LEED buildings per capita than any other US city in 2006 might lead to an assumption that the city’s policies on sustainable construction are particularly strong or innovative. The AIA writes that, to the contrary, Atlanta’s green building program is notable for its lack of significant incentives and mandatory compliance. The AIA resolves this seeming paradox by crediting the city’s willingness and ability to work with the broader community, rather than the particulars of its programs, with generating effective leadership and innovative outcomes in green building.⁸

The accuracy of this assessment is unclear. The U.S. Green Building Council (USGBC) notes that the city of Atlanta passed an ordinance in December 2003 requiring LEED-Silver certification for all city-funded projects of greater than 5,000 square feet or costing \$2 million or more. Furthermore, projects that are exempted from this policy are required to document their sustainable design techniques using a LEED checklist.

In fact, despite the absence of state-level policy leadership, the local governments of Georgia have developed rather strong policies, tending toward mandates rather than incentives. The Chamblee City Council amended the City Code of Ordinances in March 2008 to require either LEED certification or one Green Globe for all public construction (with no qualifications) and all commercial construction greater than 20,000 square feet.

The City of Tybee Island passed a resolution in May 2006 requiring that LEED certification for all new, occupied buildings; where payback is projected a five years or less, the required

⁵ [Beltline, 2009, “Tax Allocation District”](#)

⁶ [Beltline, 2009, “Funding”](#)

⁷ [Beltline, 2009, “For Developers”](#)

⁸ [Rainwater and Cooper, “Local Leaders in Sustainability”](#)

certification level is Silver or better, and where it is greater than five years, the city staff identifies an appropriate certification standard. In addition, all non-occupied new buildings and all renovations of buildings must include as many elements of LEED and the city's own green building principles as possible.

The municipal policies followed on the heels of a number of county-level initiatives. The most recent of these was an ordinance passed in May 2006 by the Chatham County Board of Commissioners that established an incentive for some commercial buildings that achieve LEED-Gold certification. Qualifying buildings are those that house expanding or new businesses, are located in enterprise zones, and create new jobs. The incentive grants full property state and county tax abatement for the first five years, after which time the amount is reduced by 20 percent each year until the 10th year.

In an older example, the Mayor and Commission of the Unified Government of Athens-Clarke County passed a resolution in June 2004 requiring that 1) all new municipal projects to include a LEED-AP (Accredited Professional) in the design and construction oversight teams, and 2) new municipal buildings earn LEED certification, with priority given to credits for indoor air quality. The subsequent Policy and Procedure Statement added a priority certification status to buildings that are intended for regular occupancy that have more than 5,000 square feet of air-conditioned space and extended the requirements to apply to major (greater than 50 percent of the total area) building renovations.

Educational Institutions

The Beltline plan was the topic of the Master's thesis of Georgia Institute of Technology student Ryan Gravel; this might lead one to expect stronger sustainable construction policies from the educational institutions of Georgia when, in fact, the opposite is true. The Georgia Institute of Technology requires the use of "green features" in all new campus construction. Emory University requires that all new buildings and major renovations be subjected to an energy audit in order to ensure compliance with the Georgia State Code for Energy Conservation in New Buildings.

Tennessee

Private Sector

Tennessee is home to a sizeable concentration of sustainable construction professionals, projects, and policies. One of its most famous residents is environmental advocate Al Gore whose recent renovations to his Nashville-area home earned it a LEED Gold rating, making it the only Tennessee house to have a LEED rating as of October 2007.⁹ While of a lower profile than the Gore home, the number and variety of LEED projects (see Appendix 1) in Tennessee indicate a broad societal interest in and support for sustainable construction. In addition to realized projects, citizen support is also made clear in the strong membership of groups like the Tennessee Environmental Council.

Private industry involvement in sustainable construction appears to be on a positive trend in Tennessee. The Knoxville-based general contractor Denark Construction Inc. joined the USGBC, citing market demand for environmentally-sensitive construction.¹⁰

The Tennessee Environmental Council website hosts an article, *Busting the Myth That Green Costs More*, by James D. Qualk who that writes that, “since ninety percent of building owners’ life-time costs is consumed by maintenance and operations which can be significantly reduced through sustainable design, the initial costs of sustainable construction should not be decisive for design decisions.”¹¹ Mr. Qualk is an employee of SSRCx Facilities Commissioning, a company that maintains an office in Nashville and is a member of the USGB Council. The company is currently working to complete two LEED Silver projects in Tennessee: Vanderbilt University’s Commons (\$20 million, Fall 2008) in Nashville and BlueCross BlueShield of Tennessee’s Cameron Hill (\$226 million, April 2009) in Chattanooga.¹² Mr. Qualk states that these projects were not supported by density bonuses for LEED projects, expedited permitting, or any other incentive or rebate that might elsewhere have rewarded his company’s employment of high sustainability standards.¹³

Government

Despite current shortcomings such as those noted by Mr. Qualk, a recent series of policy initiatives that variously mandate or incentivize sustainable construction forecasts a growing role for sustainable construction initiatives in Tennessee. Like Georgia, the local governments are leading the way in developing policies and programs.

In February 2007, the Nashville Planning Commission established density-bonus incentives for certain LEED-certified construction projects. In particular, new buildings in the Central Business District could receive an increase in the Floor Area Ratio (FAR) cap from 15 to 17 for Silver certification and a FAR of 19 for Gold certification, while new construction in the SoBro

⁹ [Burns, 2008](#)

¹⁰ [Denark Construction, 2007](#)

¹¹ [Qualk and McCown, 2008](#)

¹² [SSRCx’s Sustainable Solutions Group, “LEED Facilitation.”](#)

¹³ Personal Communication, April 02, 2008

Neighborhood was made eligible for a FAR increase from 5 to 7 for Silver certification and a FAR of 9 for Gold certification.

Under Nashville Mayor Bill Purcell, an ordinance passed in June, 2007 that required LEED certification (either Silver or the most appropriate level) for all new, public or publically-funded buildings as well as renovations affecting more than 5,000 square feet or costing more than \$2 million. An exemption was extended to largely un-occupied buildings and to those serving a specialized function. In addition, a LEED scorecard was required for all city-funded projects.

Most recently, Nashville's City Council passed an ordinance in June 2008 establishing the "Green Permit" incentive. Essentially, the city provides a "green certificate of occupancy" to new commercial buildings that achieve a LEED certification that includes the designation WEc3.1 (for 20 percent reduction of water use) and to new residential buildings that achieve LEED or Earthcraft certification.

The Mayor and Board of Alderman of Germantown passed an ordinance in August 2007 requiring LEED certification for all new municipal construction with occupied space constituting greater than 60 percent of total square feet and extending a density bonus of one additional floor to LEED-certified private-sector construction located in any of three Smart Growth zones.

Formal policies can be expected from Knoxville in the near future. The City of Knoxville's Energy and Sustainability Task Force Buildings Work Group recently produced a document called *USGBC Reference – LEED in Southeast Cities* which includes a review of Nashville's policies.¹⁴ Knoxville also announced in December 2007 that it will seek LEED-silver certification for its new Transit Center.¹⁵

Partnerships

One of the most successful areas of government involvement in Tennessee has been in the creation and utilization of inter-agency partnerships. In Knoxville, a groundbreaking was held in March 2008 for the first of seven energy-efficient, LEED-certified homes "that will be built by the Knox Housing Partnership using Empowerment Zone Blighted Property Redevelopment Program and HOME funds."¹⁶ In July 2008, the city celebrated the completion of the first of an annual series of home constructions that are certified under the Energy-Star program. The partnership supporting this project includes the Energy-Star program coordinators (the EPA and the U.S. Department of Energy [DOE]), the City of Knoxville (in the role of the program's partner), and the Owner-Occupied Housing Rehabilitation Program.¹⁷ The City's efforts to advance energy efficiency have earned it a DOE 2008 Solar America Cities grant; the city plan to apply the grant to projects that will be administered by a 'project team' that includes the "TVA [Tennessee Valley Authority], KUB [Knoxville Utilities Board], the Southern Alliance for Clean Energy, the TN Department of Economic and Community Development, the Public Building Authority, Knoxville Area Transit and Ijams Nature Center."¹⁸

¹⁴ [City of Knoxville's Energy & Sustainability Task Force, Building's Work Group, "USGBC Ref."](#)

¹⁵ [Mayor's Office, 2007](#)

¹⁶ [Mayor's Office, 2008, "Groundbreaking for "Green" House"](#)

¹⁷ [Mayor's Office, 2008, "City of Knoxville celebrates first Energy Star-certified home projects"](#)

¹⁸ [Mayor's Office, 2008, "City Receives Grant for Solar Technology"](#)

Successful and innovative partnerships are not a new phenomenon in Tennessee. In 2002, the DOE's Oak Ridge National Laboratories (ORNL), in partnership with the TVA and Habitat for Humanity, constructed the first of a series of five near-zero-energy affordable housing units in Tennessee. The partnership was created and the first house built in Lenoir City, TN in just three months. The director of the project, Jeff Christian of ORNL, explains how he secured funding:

I went on my annual pilgrimage to TVA in Chattanooga and proposed that they fund five near-zero-energy test houses. They very quickly pointed out that TVA is in business to sell energy and that "zero" did not sound like a good proposition on the surface. Then they realized the potential benefit of peak load reduction, which could be a strong motive for electric utility interest in the project. Before you know it, TVA committed to funding, with the Department of Energy, five zero-energy houses.¹⁹

Christian predicts that policy changes, including increased price for the generated solar power purchased from homeowners and decreased cost of solar panels, will occur as homes are increasingly built to zero-energy specifications. The TVA, through its Green Power Switch (GPS) program, ensures that a portion of its available "energy pool" is derived from renewable sources. Its GPS Generation Partners program guarantees the purchase by TVA of all the "green power output" of residential or small business users at a rate of 15 cents per kilowatt-hour for a period of 10 years and offers some residential users a one-time incentive of \$500 against start-up costs.²⁰ The TVA's website also provides information on solar tax credits of 30 percent (with a \$2,000 cap per system) for solar water heating or photovoltaic systems.²¹ The programs initiated by TVA have an effect on the policies developed and implemented by the cities in its service area. For example, the minutes of the first meeting of the City of Knoxville's Energy and Sustainability Task Force Buildings Work Group note that the TVA is "about to roll-out demand side management program – time-of-use rates. TVA had 12 peak usage periods this summer. If rates do not rise, there is no incentive to reduce consumption in TVA service area."²²

The Memphis Light, Gas and Water Division (MLGW), a public utility serving Shelby County, established the EcoBUILD program to promote demand-driven "green construction." This voluntary program requires application, in advance of commencing construction, for MLGW certification of energy efficient construction. The criteria used for certification was developed by MLGW to serve as an alternative to Shelby County's 1992 Model Energy Code and is designed to achieve at least a 30 percent gain in energy efficiency. The program is not extended to existing structures, meaning that the MLGW does not reward commissioning or renovation that promotes energy efficiency, or to any construction that occurs outside of its service area. MLGW claims that all builders can adapt the EcoBUILD design to any home design, and provides links to construction firms that have experience with building to its code. MLGW notes that most of the EcoBUILD construction to date has been concentrated in the "redevelopment zone" known as

¹⁹ [Christian, 2007](#)

²⁰ [Tennessee Valley Authority, "Generation Partners"](#)

²¹ [Tennessee Valley Authority, "Green Power Switch"](#)

²² [City of Knoxville's Energy & Sustainability Task Force, Building's Work Group, 2007](#)

Uptown which is expected to eventually claim more than 400 EcoBUILD-certified single-family homes.²³

Educational Institutions

Uptown is also home to the TERRA (Technologically and Environmentally Responsive Residential Architecture) demonstration house. Students of the University of Memphis, under the guidance of the university's Center for Sustainable Design and various professionals and faculty, were responsible for creating the project's design and construction. The house is designed to conform to the USGBC's LEED standard for homes as well as the MLGW's EcoBUILD energy code.²⁴

Higher education institutions throughout Tennessee have shown dynamic leadership in the effort to advance and standardize the sustainable construction process. Vanderbilt was the first university in the state to obtain LEED certification.²⁵ Chancellor Loren Crabtree of the University of Tennessee at Knoxville has formally committed the institution to a number of agreements for environmentally sound management of the campus environment and the university has instituted a mandatory LEED certification requirement for campus construction or renovation costing more than \$5 million. In 2007, the University of Tennessee received a \$295,970 grant from the EPA to "evaluate preferred materials to build environmentally sound modular and prefabricated housing and build a demonstration home."²⁶ However, Joel Makower asserts that funding obligations for campus sustainability efforts, including new construction, generally fall to students in the form of tuition and fees increases. Makower cites the example of the decision by the Tennessee Board of Regents to subsidize renewable energy at Middle Tennessee State University and Tennessee Technological University through a semester fee increase of \$8. Interestingly, Makower notes that a vast majority of these institutions' students had previously voted in favor of the increase, so that students should not be assumed to be unwilling to shoulder some portion of the financial burden associated with campus sustainability efforts.²⁷

²³ [Memphis Light, Gas and Water Division, 2009](#)

²⁴ [Uptown Partnership, 2003](#)

²⁵ [Lewis, 2007](#)

²⁶ [Marraccini, 2007](#)

²⁷ [Makower, 2006](#)

North Carolina

Private Sector

Private-sector activity related to sustainable construction takes a rather unique form in North Carolina. The preponderance of these businesses are not construction firms per se but rather are located within closely-related industries that support and service the construction industry. GreenFiber, for example, is involved with the manufacture of insulation materials with high percentages of recycled content.²⁸ As of September 2008, the state's Sustainable Energy Association counts nearly 500 companies working in North Carolina in the areas of efficiency, renewable energy and sustainability; John Murawski notes that such jobs are increasingly related to manufacturing, construction and building design.²⁹

In addition to product manufacturers, there is a notable number of engineering and architectural firms in North Carolina that are dedicated to sustainable construction processes. Innovative Design, an architectural firm based in Raleigh, is one of the most high-profile actors in the private sector sustainable construction business in North Carolina. The firm was the 2005 winner of the Sustainable Buildings Industry Council's "Exemplary Sustainable Building" award, a national-level and juried event. The firm's winning project was the Heritage Middle School, constructed in Wake Forest, which was judged to be optimally designed for efficiency in its consumption of energy and water.³⁰ The firm also earned the EPA's "Excellence in Energy Efficiency" in 2006.³¹ This award was based on the firm's record of energy-efficient design: four school designs earning the Energy Star stamp; design of more than 700 buildings incorporating renewable energy solutions; design of or major design consulting for 39 day-lit schools and renovation of 38 schools; a total estimated savings of "3 trillion Btus in energy, an amount equal to \$76.5 million" as a result of the efficiency-centered design of its 4,700 buildings.

Partnerships

Durant Road Middle School was another Innovative Design project that earned recognition from the DOE for its use of daylighting and low-e glazing to achieve a total energy load reduction of 50-60 percent over that of a typical comparable school.³² The school is located in Wake County, a geography containing 12 municipalities; located within this is Raleigh, the county seat, state capital, and base for Innovative Design.

Given the amount of completed energy-efficiency construction and the extent to which private-public sector partnerships have participated in this trend, it is interesting to note that Wake County itself does not incentivize or mandate sustainable building standards. It does follow a 1995 "Guidelines for Design and Construction of Energy Efficient County Facilities" when designing new and retrofitted county buildings; however it seems that this document is primarily intended for internal use, and no incentives are attached to compliance with the guidelines. Wake County is, however, a member of a collaborative governance effort known as the Triangle J

²⁸ [GreenFiber, 2007](#)

²⁹ [Murawski, 2008](#)

³⁰ [GreenBiz, 2005](#)

³¹ [American Institute of Architects, 2009](#)

³² [Office of Energy Efficiency and Renewable Energy, 2006](#)

Council of Governments. This group serves a population of more than one million in a region of 3,300 square miles within the counties of Chatham, Durham, Johnston, Lee, Orange, and Wake. In 2001, it took a leadership position in working to develop a “regionally appropriate version” of LEED, a set of sustainable construction standards and certification guidelines dubbed “High Performance Design Guidelines.” These guidelines were later adopted as the State’s evaluatory framework for a number of public sector agencies and were the guiding principles for a state construction pilot program, jointly administered by the Triangle J Council of Governments and the Wake County Public School System (WCPSS) that was known as Wake County Schools.³³ The result is that, although not one North Carolina school building appears on the lists of buildings certified under a LEED-like national standards program, the WCPSS currently counts 19 schools and 3 prototypes as “green schools” that meet some level of certification under the High Performance Design Guidelines.³⁴

A separate multi-government collaboration is on-going between counties of Brunswick, Pender and New Hanover. These governments have collectively established the Lower Cape Fear Stewardship Development Award Program, a voluntary program that promises public recognition for environmentally-friendly construction; sustainable construction (a category that includes materials and construction selection and processes, preservation of natural features during construction, and water and energy conservation rates) is one of the evaluatory criteria.³⁵

Finally, a rather unique, private-public partnership underpins the NC HealthyBuilt Homes Program. The collaborating participants in this program are the North Carolina Solar Center (of the North Carolina State University), the State Energy Office, NC Department of Administration, and local organizations of building professionals. The program offers support services such as technical and marketing assistance to “small to medium size home builders who may not have the resources to compete with larger builders in the rapidly emerging field of green building.”³⁶ The program is structured in two tiers, as described on its website³⁷:

- is a statewide umbrella organization that administers the overall program, sets statewide guidelines, provides technical support, and coordinates training, marketing and certification;
- has local partnerships with organizations such as homebuilder associations that administer and promote the program in their community, tailoring it to local conditions and regulation requirements.

NC HealthyBuilt Homes provides certification to builders whose projects comply with its green home guidelines; compliance requirements are flexible in that builders can self-select a combination of approaches from a range of options that includes energy, water, and conservation measures, incorporation of renewable energy use, and affordability and health standards of the home. The program guidelines are clearly committed to promoting a holistic approach to construction, emphasizing the importance of material and process selection for reducing

³³ [Innovative Design, 2007](#)

³⁴ [Wake County Public School System, 2008](#)

³⁵ [Stewardship Development of the LCF, 2008](#)

³⁶ [NC HealthyBuilt Homes, 2005, “About”](#)

³⁷ [NC HealthyBuilt Homes, 2005, “FAQs”](#)

“pollution and the waste of natural resources during the manufacturing and construction phases and throughout the life of the home.”³⁸

In addition to its own services, the program gives credit for and recognition to projects that have been vetted for sustainability through the ENERGY STAR, the Environments for Living and System Visions programs. In early 2008, the USGBC named one of the NC HealthyBuilt Homes partners, the North Carolina Solar Center (NCSC), as a new Homes Provider by the USGBC. It would therefore seem that LEED is making in-roads in North Carolina; whether it will replace or supplement existing statewide programs remains to be seen. The effects of this move might be far-reaching: the NCSC is operated by the College of Engineering at North Carolina State University, and its sponsors include the North Carolina Department of Administration's State Energy Office, the DOE, and the North Carolina Solar Center Foundation with operating direction from

Government

Despite the number and strength of these partnerships, most of which reserve a significant or even dominant role for government, the general lack of policies supporting sustainable construction is clear not only at the municipal level but also at the state level. Senate Bill 581, passed in April, 2007, establishes the legality of and support for municipal incentive programs that reward certified projects with reduced permitting fees or partial rebates. Mecklenberg County adopted an ordinance to scale these incentives to the level of certification achieved, but did not make LEED certification mandatory. Asheville and Chapel Hill established that LEED compliance is mandatory for new construction of public buildings, with specific requirements varying in accordance to the size of the project; the municipalities did not offer the allowable incentives for these projects or extend them to private-sector building that voluntarily meet sustainability standards. In addition, a 1997 ordinance amendment to Chapel Hill's building codes sets minimum energy efficiency rates for all new, publicly-funded construction.

Educational Institutions

Interestingly, the state's higher education institutions have also largely avoided the formal adoption of sustainable construction policies. The University of North Carolina at Chapel Hill has committed to using LEED guidelines to develop such a policy – a good first step. Although the North Carolina State University does not announce any formal internal policy, it is obvious from the foregoing review of the state's policies and, that the school's Solar Center (the NCSC) is a prominent partner of both government and private sector sustainable construction efforts. The NCSC is focused exclusively on renewable energy and aims to be a clearinghouse for energy-related information.

³⁸ [NC HealthyBuilt Homes, 2005, “About”](#)

Florida

Government

Florida has an impressive amount of legislation requiring or supporting sustainable construction and design of buildings. Because of its vulnerability to extreme weather, it also has strict rules limiting the autonomy of sub-state governments in setting building and construction policies. The AIA reports that inter-governmental policy coordination policy is the norm since Florida's cities are prohibited from amending the state building code.³⁹

At the state level, Governor Crist issued an executive order in July 2007 that made it mandatory for new construction by or for the state to achieve LEED-NB certification, preferably at the platinum level, and required achievement of LEED-EB for existing buildings under the ownership or operation of the Department of Management. With the June 2008 passage of HB 7135, the scope of application broadened even as the stringency of the requirements lessened significantly. HB 7135 requires that all construction and renovation of buildings owned by the state, counties, municipalities, school districts, water management districts, state universities, community colleges, and state courts follow the standards of an established green building program (such as LEED); and that all newly leased space intended for use by the state comply with ENERGY STAR standards where possible.

Existing county-level policies predated the passage of HB 7135. The AIA notes that the earliest formal adoption of a green building policy occurred in Sarasota County in 2002.⁴⁰ Perhaps because of the practice of coordinating inter-governmental policies, the trend spread quickly with at least five more adopting formal green building policies in the four years following.⁴¹ Given the importance of the state-level policy position on building standards, it is likely that Governor Crist's leadership in 2007 will embolden sub-state governments to continue and build on the early examples of Sarasota, Pinellas, Hillsborough, Miami-Dade, and Orange counties.

The most recently established was passed in 2007 in Hillsborough County; these are strictly incentives that offer expedited review or permitting to projects or builders who have completed a scorecard from an established green building program such as LEED.

Tampa, a city located in Hillsborough County, has adopted policies that are, like those of its surrounding county, decidedly oriented towards incentives rather than mandates. The only existing mandates, established in June 2008 by ordinance, require that new municipal buildings of greater than 5,000 square feet of air-conditioned space earn LEED-Silver certification and that municipal building renovations follow LEED guidelines. The 2008 ordinance also established a schedule for rebates on permitting fees for developers of multi-family homes achieving LEED certification and for developers of single-family homes meeting Florida's Green Building Coalition Green Home designation standards. Tampa's Strategic Action Plan for the Channel District Community Development Area, established in 2006, provides a density bonus (1.5 FAR

³⁹ [Rainwater and Cooper, "Local Leaders in Sustainability"](#) (p. 34)

⁴⁰ [Ibid](#)

⁴¹ [Ibid](#)

at maximum) to developers in the Channel District whose projects achieve LEED certification on the basis of their community enhancement elements.

The earliest of Miami-Dade County's policies were, like those in Hillsborough, primarily soft, incentive-based, and trained at the private sector: the Targeted Jobs Incentive Fund Program of 2000 offered up to \$1,000 in payment for any company relocating to the county and operating from a LEED certified space, and a 2006 ordinance offered expedited permit review to private residential or commercial projects pursuing LEED certification and required only the incorporation of LEED guidelines in the construction of new projects with municipal or public funding. The county's most recent ordinance, however, targeted projects owned or financed by the county, requiring LEED-Silver certification for all new construction and major (greater than 50 percent of the replacement cost) renovations and the most appropriate certification level (given the building type) for all minor (less than 50 percent of the replacement cost) renovations.⁴²

The Town of Miami Lakes adopted a Green Building Program by ordinance in 2007. The Program requirements are similar in stringency to those most recently established by the surrounding county of Miami-Dade. LEED certification is obligatory for all municipal construction larger than 5,000 square feet, municipal renovations costing more than \$200,000, and projects receiving more than 50 percent of total funding from the town. The Program also offers private sector incentives: residential building owners and homeowners who achieve building-appropriate LEED compliance are eligible for grants while commercial projects, including schools, complying with the appropriate LEED certification standard receive a reduction of permitting fees.

A spate of legislation in 2005 established green construction policies for several counties. Sarasota County's 2005 resolution did establish a LEED certification requirement for all new county government buildings; however, the county relies heavily on incentives to influence private sector activity, offering fast-track permitting and 50 percent reduction of permitting fees to private developers using LEED and fast-tracking to projects pursuing LEED for Neighborhoods or Florida Green Building Council Green Development Standards. Pinellas County has also required LEED certification for all municipal construction since 2005.^{43 44} Orange County has used the Florida Green Building Coalition (FGBC) standards to evaluate its construction projects since 2005 and, since March 2008, has offered expedited review incentives to developers through its Orange to Green Development Program.⁴⁵

Gainesville City is the county seat of Alachua County. Its Green Building Program, established by ordinance in 2002, requires certification from LEED or Florida's Green Building Program for all construction and civic projects owned by the city, except where the city commission determines that the costs outweigh the benefits.⁴⁶ The ordinance also provides fast-track permitting and reduced permitting fees for private residential or commercial construction seeking

⁴² [Miami-Dade County, 2009](#)

⁴³ [Pinellas County, 2009](#)

⁴⁴ [Rainwater and Cooper, "Green Counties"](#) (pp. 35-6)

⁴⁵ [Orange County Government, 2009](#)

⁴⁶ [U.S. Green Building Council, "Gainesville"](#)

certification and cash incentives and rebates for private residential renovation or retrofitting (including purchase of a solar water heater) seeking certification.

Educational Institutions

Florida school districts are subject to HB 7135, meaning that all new construction and renovation of school district property is required to observe the standards of an established green building program. In addition, the Manatee County School Board passed a 2007 resolution mandating that all new construction of schools for grades K-12 achieve, at minimum, LEED for Schools certification.

The University of Florida has required building-appropriate LEED certification for all new construction and renovation since 2006 and LEED Campus Standards for its entire campus since 2007.⁴⁷ The University of Central Florida has, since 2006, required a minimum of LEED-Silver certification for all new construction. Other higher education institutions boast projects, such as the residential hall of Eckerd College and the Florida Atlantic University College of Nursing's LEED-Gold multi-purpose center, that are certifiably sustainable; although these are not the result of extant formal policy on construction practices, the advocacy work of the consortium (known as the Educational Alliance for Sustainable Florida) and its individual institutional members, is promising for the development of formal statements on construction is likely in the near future.^{48 49}

Private Sector

The large number of private firms offering sustainable construction is likely due to some combination of recent supportive legislation and the special construction demands created by the weather conditions affecting the state.

Green Guides (Sustainability for Architecture) is a subsidiary of TLC, an engineering company headquartered in Orlando and represented in field offices throughout the state. Green Guides is solely dedicated to sustainable construction services including LEED project certification and accredited training, building commissioning, and construction consultation.⁵⁰ In addition to more than 100 projects with completed LEED registration, its list of 17 LEED-Certified buildings includes “the first building, first health care facility, first public school (K12), and first elementary school in Florida to be LEED certified; the first building in Florida to be LEED certified for Commercial Interiors, and the first building in Jacksonville to achieve LEED Silver certification.” In addition to its active projects role, Green Guides was a founding member of USGBC chapters in five regions of Florida, an indication of its interest in influencing the standardization and adoption of sustainable construction policies and practices. The firm also tracks and makes available interesting market data, such as the breakdown of its clientele by general industry in *Table 1*.⁵¹

⁴⁷ [University of Florida, 2007](#)

⁴⁸ [Eckerd College, “Sustainability”](#)

⁴⁹ [Sustainable Florida, Collins Center, “About Us”](#)

⁵⁰ [TLC, 2005](#)

⁵¹ [TLC, 2005](#)

Table 1: Green Guides' Percentage of Clientele by Industry

General Industry	Percentage of Clients
Healthcare	30.4%
Hotel/Hospitality/Residential	17.0%
K-12 Education	11.4%
Transportation	9.4%
Higher Education	8.6%
Entertainment/Restaurant/Retail	8.4%
Office	6.8%
Industrial/Wastewater	3.2%
Other	4.8%

Source: TLC, 2005

The property insurance industry is an of extreme weather conditions in influencing the emergence and nature of formal sustainable construction policy. The FGBC website links to three separate insurance agencies offering incentives for weather- appropriate and damage-mitigating building design.⁵²

Partnerships

The FGBC describes itself as a nonprofit corporation whose mission is to provide standards definition and certification services that are uniform throughout the state.⁵³ The makeup of the Board of Directors would seem to indicate that the public and private sectors receive an equal voice in the leadership of the FGBC: rotating teams of directors are made up of a consistent balance of representatives from the government, private industry, and educational institutions of a large number of Florida localities.⁵⁴ The FGBC acts as a certifying agency for projects meeting any one of its five standards, collects and disseminates technical and policy information to its membership, and acts as an informal referral agency for professionals and products related to sustainable construction. In effect, the FGBC seems to serve as a state-level version of the USGBC. The incorporation of its standards and certification services into building policies on all levels of government in Florida clearly indicates that potential problems of redundancy stemming from the duplication of USGBC services have not been a barrier to the augmentation of policy options and that the FGBC provides well-received and useful services.

The destruction wrought by Hurricane Andrew in 1992 created a need for affordable housing for displaced persons. In a demonstration of visionary leadership, local political figures and non-profit groups seized on the rebuilding effort as an opportunity for sustainable building practices at the community level. The result, a model community known as Jordan Commons, was built through the cooperative efforts of the Metro Dade Department of Environmental Resources Management (DERM) and the Homestead Habitat for Humanity. Jordan Commons, located in Metro-Dade County, consists of 200 homes that are serviced with recycling, composting, and landscaping and technology that are efficient in terms of energy and water usage. The benefits of this forward-thinking approach will be broadly distributed: the development boosts markets for

⁵² [Florida Green Building Coalition, "Incentives"](#)

⁵³ [Florida Green Building Coalition, "Welcome"](#)

⁵⁴ [Florida Green Building Coalition, "FGBC Leadership"](#)

sustainable construction services and products, reduced net emissions (with 6,600 lbs/year of avoided NOX emissions, 15,300 lbs/year of avoided SOX emissions, and 1.8 million lbs/year of avoided CO2 emissions) resulting from the energy-efficient design, and low-income residents enjoy quality housing and reduced operating costs.⁵⁵ The Smart Communities Network points out the value of this project as a demonstration and pilot project and underscores the importance of a collaborative framework for its realization:

Thanks to its developers' high-profile partnership, Jordan Commons has attracted the attention of many individuals; local, state, and federal organizations; and several industry partners. Most of these entities view the project as an opportunity to showcase their programs and products. The National Association of Home Builders (NAHB) and the U.S. Environmental Protection Agency (EPA) Office of Solid Waste are using Jordan Commons to demonstrate construction-debris recycling and the non-profit organization American Forests has selected the project as a demonstration site for its participation in the Cool Communities program. Cool Communities, administered by the U.S. Department of Energy (DOE) and EPA to fulfill President Bill Clinton's Climate Change Action Plan, encourages communities to use strategic landscaping and light building surface colors, to create shade, reflect sunlight, and reduce energy demand. Both DOE and EPA have shown keen interest in the project seeing in it a demonstration site for the most comprehensive use of cooling techniques. The Urban Consortium Energy Task Force (UCETF) of Public Technology, Inc. (PTI) provides grants through a DOE cooperative agreement to support Dade County staff's role in this major sustainable initiative.⁵⁶

The complete list of stakeholders is impressively broad including, among others, local stormwater agencies, nonprofit and disaster relief organizations, Florida Solar Energy Center, Florida International University, and legal firms offering pro-bono services. The educational component of the effort is dedicated to collecting project data for purposes that include informing similar endeavors in the future and encouraging the formulation of supportive policy.

In addition to severe weather, the intense sun and humidity typical of the Sunshine State's weather have influenced construction practices and priorities. Energy efficiency, and particularly in meeting cooling demand, has long been on the policy agenda of Florida's public officials. Interestingly, this movement towards design innovation has anchored the introduction and exploration of a number of related design and construction issues.

An example of this rippling effect can be seen in the establishment and evolution of the Florida Design Initiative (FDI). Created in 1992 under Governor Lawton Chiles' Executive Order 91-253 and the Department of Community Affairs' Agency Strategic Plan, the FDI was conceived of as a forum for "two groups: 1) the elected state presidential officers of all design professional associations; and 2) the senior state agency heads responsible for all state building procurement, design, and delivery services."⁵⁷ Although its policy origin was exclusively focused on energy efficiency and its co-sponsors are the Florida Energy Office and the Florida Department of Community Affairs, the scope of the FDI agenda is decidedly more holistic:

⁵⁵ [Smart Communities Network, "Success Stories"](#)

⁵⁶ [Ibid](#)

⁵⁷ [Florida A&M University, "Florida Design Initiative"](#)

The INITIATIVE is focused on changing the way buildings are procured, designed, built, and operated. Its goal is to encourage businesses and agencies who are negotiating for design services to demand best practices with regard to comfort, energy efficiency, indoor air quality, heating and cooling, lighting, and siting—and to empower architects, landscape architects, engineers and interior designers to provide these services.⁵⁸

This piggybacking of energy and other issues suggests a flexibility on the part of public officials that has also been noted by other reviewers of Florida’s green building policy landscape. For example, the AIA noted that St. Petersburg, a large city in Sarasota County, “is very active in promoting Development review green building. The city program is very informal but there is a very good relationship between developers, planners, and normal citizens.”⁵⁹ The concrete outcomes of such relationships, based on informal partnership and operating in the absence of formal policy, will be a matter of great interest for a variety of observers.

⁵⁸ [Ibid](#)

⁵⁹ [Rainwater and Cooper, “Local Leaders in Sustainability”](#) (p. 53)

Kentucky

Private Sector

As of March 2008, Kentucky claimed only seven LEED certified buildings in the state. In the words of Jeff Money Penny, a Louisville architect and co-chair of the Kentucky USGBC chapter, Kentucky is decidedly “behind the curve” in realizing sustainable construction projects and policies.⁶⁰ There is, however, momentum on both fronts, with 33 projects submitted for LEED appraisal by mid-2008 and new initiatives by local and state governments.⁶¹

Kentucky’s first LEED-certified building was designed and completed by Lexington’s EOP Architects.⁶² The \$5.5 million dollar reconstruction of the collapsed interior of the 116-year-old Lincoln Hall administration building on the campus of Berea College was completed in 2004.⁶³ Ideal Homebuilders is another Lexington-based operation that builds exclusively to ENERGY STAR Standards. In a September 2007 Lexington Herald article about the company, the EPA’s Zachary Shadid noted that, while only 2.4 percent of all houses built in Kentucky in 2005 met ENERGY STAR Standards, that figure double to 5.2 percent in 2006.⁶⁴ Ideal Homebuilders attributes its success in an otherwise sluggish housing market to its design and construction standards.

Sustainable construction and design in Louisville, Kentucky’s largest city, has benefited from the relocation of new residents Gil and Augusta Holland. The pair has realized the goal of creating “the first, hard-core green, self-sustaining, run-the-electrical-meter-backwards building in Louisville,” achieving LEED-Platinum certification for the renovation of a century-old building in the downtown business district. The transformation, under the guidance of the Southern California firm FER Studio, features a green roof, a living wall, solar paneling, and buried geothermal coils. Holland acknowledges that the construction process was made more difficult and expensive by, for example, reclaiming and milling original wood beams during the demolition phase, but claims that the investment is worthwhile: “solar panels generally pay back their original investment after nine years. So that’s almost like putting your money in a certificate of deposit — about 5 percent, a pretty good return on investment.”⁶⁵ The renovated space is mixed-use: housing office space, a gallery, and a movie screening area. In addition to maintaining a presence on the internet, including a YouTube video of the wood reclamation effort, the Hollands have courted the local public to good effect.⁶⁶ Through private partnerships, the Hollands are moving to expand their efforts to neighboring blocks of downtown Louisville.⁶⁷

In late 2007, the Bernheim Arboretum and Research Forest Visitor’s Center was the only LEED-Platinum building “in Kentucky or the surrounding region - Indiana, Ohio, Virginia, West Virginia and Tennessee.”⁶⁸ The design work was completed by William McDonough + Partners

⁶⁰ [Green, 2006](#)

⁶¹ [Ibid](#)

⁶² [Ibid](#)

⁶³ [BereaCollegeMagazine, 2004](#) (p. 9)

⁶⁴ [Jordan, 2007](#)

⁶⁵ [The Green Building, 2007, “Lunch”](#)

⁶⁶ [The Green Building, “Home”](#)

⁶⁷ [Boyd, 2008](#)

⁶⁸ [Bernheim Arboretum and Research Forest, 2009](#)

of Virginia and Barnette Bagley Architects of Lexington, Ky.⁶⁹ In addition to its rating level, the Bernheim project is unique among LEED certified projects for its rural location (in Clermont, KY) and for the privately-owned and non-profit status of the Bernheim organization.⁷⁰

Unfortunately, while private-sector sustainable construction projects are becoming more common in Kentucky, this trend continues to be reliant on imported professionals, materials, and knowledge. There is a clear need to stimulate local markets and support the emergence of local providers. Of the handful of extant local services that help sustainable construction service providers connect with one another and with potential clients, two standouts deserve mention here. Kentucky Sun Pages is a directory of Kentucky professionals and businesses that offer sustainable construction services. While its website emphasizes renewable and efficient energy solutions, the search function does link to categories that include water and energy conservation, community and building design, indoor air quality systems, and green building certification and training services.⁷¹ The Kentucky Industrial Materials Exchange (KIME), a website hosted by the Kentucky Pollution Prevention Center (KPPC), allows users to post ads about any unwanted materials fit for exchange or donation.⁷² In addition to removing exchanged items from the local waste stream, this is a creative solution to salvagers' problems of materials storage needs.

Government

Private industry and individual citizens, the primary drivers of the movement towards sustainable construction in Kentucky, have not benefited from supportive policy or policymakers. Fortunately, this trend appears to be changing.

Local governments have initiated a number of 'demonstration' projects. In 2007, the Louisville Metro government took steps towards realizing a 14,000 square foot green roof on the Metro Development Center in the downtown business district that will be built by local firm Luckett & Farley.⁷³

The state recently launched a number of voluntary programs and projects that appear to be aimed at establishing a state-wide standard for sustainable construction and generating supportive shifts in public perception and market structure. High-level public officials have been active in supplying highly visible and strategically symbolic leadership; for example, Governor Steve Beshear presided over the Earth Day (April 21, 2008) kickoff of the Green Build Kentucky program.⁷⁴ The state-wide program offers certification of projects that voluntarily comply with the stipulations of the National Association of HomeBuilder's (NAHB) Green Building Guidelines and the ENERGY STAR Program.⁷⁵ ⁷⁶ The Governor and First Lady have made a Green Mansion pledge to reduce the energy usage in the Governor's Mansion by 15 percent by

⁶⁹ [William McDonough + Partners, 2008](#)

⁷⁰ [Bernheim Arboretum and Research Forest, 2009](#)

⁷¹ [Kentucky Solar Partnership, 2009](#)

⁷² [University of Louisville, 2009, "KIME"](#)

⁷³ [Bruggers, 2007](#)

⁷⁴ [Commonwealth of Kentucky, Department for Energy Development and Independence, 2009, "Conferences"](#)

⁷⁵ [Homebuilder's Association of Kentucky, 2008](#)

⁷⁶ [National Association of Home Builders, 2009](#)

2010 and 30 percent by 2014.⁷⁷ The Beshears, through the Kentucky Green Team, also host an Online Film Festival that spotlights sustainable environmental practices. Kentuckians can submit their films for judging in one of three categories; the first round of review will be by popular vote (using a YouTube channel link) and the second by a panel of celebrity judges each, and the winner in each category will receive a \$1,000 prize.

In addition to the flurry of voluntary programs that promote a culture shift among both professionals and the general public, the state legislature was notably active in working to develop policy governing sustainable construction, and particularly building energy efficiency, in early 2008. The House has been the origin for the majority of the proposed legislation, most of which ultimately died in committee. HB2 (Increase energy efficiency of state buildings) passed both the House and Senate votes unanimously, returning to the House for final passage on April 15, 2008.

HB2 mandates that “all construction or renovation of public buildings for which 50 percent or more of the total capital cost is paid by the Commonwealth be designed and constructed or renovated to meet certain energy efficiency standards.”⁷⁸ In other words, HB2 (through amendment of KRS 56.775) requires compliance with “high-performance” building standards for all construction or renovation of public buildings funded by the state at 50 percent or greater of total capital cost and for all buildings under lease by the Commonwealth or any of its agencies. It also mandates that these projects “incorporation of ENERGY STAR-qualified products to the extent feasible.” HB2 also (through an addition to KRS 56.770 to 56.784) creates a High-performance Buildings Advisory Committee that will advise the Finance and Administration Cabinet, which is the agency responsible for promulgating administrative regulations and developing standards and criteria.⁷⁹

While much of this formal policymaking is in its infancy, the activity represents a significant departure from the previous approach to the sustainability of the built environment in Kentucky. Prior to the spate of legislative activity in early 2008, guidelines and resources that could be applied to sustainable construction projects were enveloped in policies and programs that were largely targeted to specific environmental media and not specifically intended to support sustainability. For example, the Kentucky Infrastructure Authority (KIA) and the Kentucky Division of Water (KDW) administers several funding programs aimed at management of water resources. The KIA offers four loan programs for local public works construction projects; drinking water, infrastructure, and wastewater treatment projects that comply with the Clean Water Act are eligible for this funding.⁸⁰ Through its Water Resource Information System, KIA also makes available to the public a wealth of information related to water resource management, including GIS mapping and relevant regulations.⁸¹

⁷⁷ [Commonwealth of Kentucky, GreenTeam, 2009](#)

⁷⁸ [KentuckyVotes.org, 2009](#)

⁷⁹ [Kentucky Legislative Research Commission, 2007](#)

⁸⁰ [Commonwealth of Kentucky, Kentucky Infrastructure Authority, 2009, KIA Loan Programs](#)

⁸¹ [Commonwealth of Kentucky, Kentucky Infrastructure Authority, 2009, “Water Resource Information System”](#)

Educational Institutions

The Kentucky Green and Healthy Schools (KGHS) program recognizes schools that voluntarily conduct sustainability inventories, undertake improvement projects, and incorporate lessons learned in the process into classroom lessons.⁸² While the program encourages an inclusive and comprehensive commitment, it offers five designated levels along the path to whole-school involvement and adopts a working definition ‘green’ that includes the built environment as only one facet of school sustainability. The program is directed by the Kentucky Environmental Education Council with the support and collaboration of the Kentucky Department of Education and the Green and Healthy Schools Task Force. In May 2008, the USGBC named the KGHS as one of 12 recipients of its inaugural Excellence in Green Building Curriculum Recognition Awards and Incentive Grants, a recognition that is augmented with a \$20,000 grant for the development and extension of a curriculum that incorporates principles of sustainability.⁸³

Kentucky School Designs is a collaborative project of the Kentucky Chapter of the AIA, the Kentucky School Boards Association, the Kentucky Association of School Superintendents, and the Kentucky Association of School Administrators.⁸⁴ The online resource was made public in February 2008 for the purpose of providing information about school renovation and construction. The site includes a detailed listing of Kentucky schools’ construction and design profiles as well as data-rich literature on the benefits of sustainable construction and design.⁸⁵

The Kentucky Department for Energy Development and Independence (EDI) website presents a list of more than a dozen ENERGY STAR-certified K-12 schools.⁸⁶ Programs funded by EDI include: the Kentucky Energy Efficiency Program for Schools (KEEPS); KPPC, a research center based at the University of Louisville that is also partially funded by the Kentucky Department for Environmental Protection’s (KDEP) Hazardous Waste Management Fund; and the University of Louisville’s Speed School of Engineering which administers the program and provides technical and policy support that is informed by the ENERGY STAR Seven Steps Guidelines for Energy Management.^{87:88}

During its initial phase, the KEEPS program was voluntary and intended for data generation through demonstration; with the passage of HB2 (Section 16), however, sets a mandatory enrollment deadline of January 1, 2010 for all Kentucky public school districts.⁸⁹ In order to monitor the KEEPS impact on schools’ energy use and expenditures, the bill also mandates that such data is collected and shared with the KPPC, the EDI and the Legislative Research Commission.⁹⁰

⁸² [Kentucky Green and Healthy Schools, “Home”](#)

⁸³ [Building Online Inc, 2008](#)

⁸⁴ [Kyschooldesigns.org, “High Performance Sustainable Schools”](#)

⁸⁵ [Kyschooldesigns.org, “Home”](#)

⁸⁶ [Commonwealth of Kentucky, Department for Energy Development and Independence, 2009, “ENERGY STAR Certified School Buildings in KY”](#)

⁸⁷ [University of Louisville, 2009, “About KPPC”](#)

⁸⁸ [University of Louisville, 2009, “KEEPS”](#)

⁸⁹ [Kentucky Legislative Research Commission, 2007](#)

⁹⁰ [University of Louisville, 2009, “KEEPS”](#)

A number of higher education institutions in Kentucky are developing sustainable construction policies; in some cases, they are setting the national bar for sustainable campus practices as well as for service to their broader communities. The University of Louisville helped to launch the Partnership for a Green City, an umbrella organization that coordinates the sustainability efforts of the area's three largest public employers and harnesses their influence to promote adoption of sustainable practices and policies by the metro government. In addition to working with the larger community, the university is making changes to its campus operations. Once its ongoing environmental impact inventory work is completed, the University of Louisville plans to retrofit energy systems and re-commission older building in order to achieve maximum energy efficiency. Additionally, new buildings are being built to LEED standards.

The 2008 College Sustainability Report Card by the Sustainable Endowments Institute gave the University of Louisville (UofL) a grade of "C" for its buildings policy. The Report states that "Louisville has a green building policy requiring all new construction and major renovations to target LEED Silver standards; this currently includes two construction and three renovation projects. All university demolition projects start with deconstruction and materials reclamation to reduce waste."⁹¹ However, it is not clear what is meant by this commentary since this author could not verify that Louisville has a green building policy whatsoever.

As mentioned previously, the 2003 completion of Berea College's Lincoln Hall earned a LEED-Silver certification. Interestingly, Berea does not require LEED standards for its construction projects, relying instead on a self-generated set of ecological design principles that are appropriate for new construction and renovations projects.⁹² Performance standards for the school's Ecovillage require a "75 percent reduction in energy- and water-use, and a 50 percent waste diversion rate. The village has a photovoltaic array, passive solar heating, and an "ecological machine," which treats wastewater via a system of bacteria, snails, plants, and fish."⁹³

Centre College does not require certification but does promote the observance of relevant standards for new construction. In 2008, Centre's student residence earned LEED-Silver certification.⁹⁴ The University of Kentucky has not established a sustainable construction policy and has yet to complete any LEED-certified buildings, although it intends to seek LEED certification for three future construction projects.⁹⁵

Partnerships

As noted, the trend towards mainstreaming sustainable construction in Kentucky is hampered by a lack of local professionals, products, and markets. The Bluegrass GreenExpo is an annual tradeshow in Lexington that is intended to address this challenge by introducing new industry trends to local construction service providers and the public. The 2008 event enjoyed sponsorship from private industry, local universities, local government and school districts, the

⁹¹ [Sustainable Endowments Institute, 2008, "University of Louisville"](#)

⁹² [Association for the Advancement of Sustainability in Higher Education, 2008](#)

⁹³ [Sustainable Endowments Institute, 2008, "Berea"](#)

⁹⁴ [Sustainable Endowments, 2008, "Centre College"](#)

⁹⁵ [Sustainable Endowments Institute, 2008, University of Kentucky](#)

KY Department for Energy Development and Independence, and the state's USGBC chapter.⁹⁶ The listing of exhibitors was similarly diverse.

A second example of a creative partnership designed to stimulate markets and service provision in Kentucky centered on the HOPE VI revitalization of the Clarksdale public housing complex in Louisville. The project was selected in a competitive process that invited project bids from the participants in a seminar on whole-building design; the winning project received a high performance design charrette and follow-up technical support. The list of contributors to this ambitious scheme is notably inclusive. Grant funding from local government and state and federal agencies for the costs of the charrette was considered an investment with returns from media coverage, expanded public interest in high performance design, and demand-side market stimulation. The charrette was directed by a group of staff members from Atlanta's Southface Energy Institute, and charrette participants included

three architects and two landscape architects from Sherman, Carter, Barnhart (SCB), five architecture and engineering consultants subcontracted by SCB, five staff members from LMHA [Louisville Metro Housing Authority], five staff members of Metro development and environmental agencies, and seven outside experts. The latter group included a professor of ecological design from Berea College (Berea, Kentucky), an expert in sustainable landscaping from Bernheim Forest and Research Arboretum (Clermont, Kentucky), the program manager of a local non-profit housing corporation, the director and a research fellow from the Urban Design Studio, and two staff members from Kentucky Division of Energy (the state energy office).⁹⁷

Despite budgeting and time constraints imposed by HOPE VI, completion of Phase I of the project was set for 2008.⁹⁸ The larger impact of the project on local markets and expertise remains to be seen.

⁹⁶ [Bluegrass Green Expo, 2008](#)

⁹⁷ [Zalph, "High Profile at Low Cost"](#) (p. 6)

⁹⁸ [U.S. Department of housing and Urban Development, "Success Story Archive"](#)

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