



Ohio Legislative Service Commission

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Fiscal Note & Local Impact Statement

Bill: Sub. H.B. 7 of the 128th G.A.

Date: January 8, 2010

Status: As Passed by the House

Sponsor: Reps. Harris and Pillich

Local Impact Statement Procedure Required: Yes

Contents: Requires new construction built using state funds to achieve specified environmental building certification standards

State Fiscal Highlights

STATE FUND

FY 2010–FUTURE YEARS

General Revenue Fund and Other State Funds

Revenues

- 0 -

Expenditures

Increased expenditures in the millions of dollars annually for all new construction to receive environmental building certification

Potential reduction in utility costs achieved over several years

Note: The state fiscal year is July 1 through June 30. For example, FY 2010 is July 1, 2009 – June 30, 2010.

- The bill would require all new, state-funded construction, with certain exceptions, to meet or exceed specified environmental building standards. Corresponding certification requirements and approved building techniques would likely result in increased capital expenditures in the millions of dollars annually. Total capital funding provided for new construction in H.B. 562, the capital bill for the FY 2009-FY 2010 biennium, was \$281.9 million.
- The bill could increase capital expenditures from the local funds of state-assisted institutions of higher education that share the cost of new construction with the state.
- Buildings that meet the environmental certifications specified in the bill would presumably incorporate systems that reduce energy consumption, potentially yielding utility savings over the long run.

Local Fiscal Highlights

LOCAL GOVERNMENT

FY 2010–FUTURE YEARS

Counties and Other Local Governments

Revenues

- 0 -

Expenditures

Increased costs for political subdivisions that receive money from the state for capital projects that involve new construction

Note: For most local governments, the fiscal year is the calendar year. The school district fiscal year is July 1 through June 30.

- The bill could increase construction costs for political subdivisions that receive money from the state for new construction. Among the capital projects in H.B. 562, the FY 2009-FY 2010 capital bill, the Ohio Cultural Facilities Commission oversaw approximately \$9.8 million in funding for 19 local government projects involving new construction.

Detailed Fiscal Analysis

Overview

The bill would require all new construction built using state capital funds to achieve or exceed one of the following environmental building certifications: a Leadership in Energy and Environmental Design (LEED) Silver certification; a Green Globes Environmental Assessment of two green globes; or an equivalent green building standard determined by the Department of Administrative Services (DAS). The bill would also require such new construction to either exceed by at least 30% the most current energy efficiency standards developed by the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) or to achieve an energy performance rating of at least 77% using the Energy Star system developed by the Environmental Protection Agency (EPA). The following construction projects would be exempt from these requirements:

- Buildings or structures that are less than 5,000 square feet;
- Buildings or structures that do not consume energy for heating, ventilating, or air conditioning; or
- Buildings or structures that are less than \$500,000.

The cost of this requirement will depend on the number, square footage, and complexity of state construction projects. Offsetting part of these costs in the long run would be savings in utility costs. To this end, the bill requires that reasonable efforts be made to ensure that the cost of complying with the standards of the bill be offset within 20 years. Buildings funded through the School Facilities Commission, which account for a substantial amount of the state's capital funding outlay, are already required to achieve a LEED Silver certification.

Cost analysis – LEED

The LEED Program was created by the U.S. Green Building Council (USGBC) as a third-party certification of environmental sustainability. LEED is a widely used benchmark for the design, construction, and operation of high performance environmentally sound buildings. Buildings are rated using a point system, with points being awarded for implementing specified energy saving measures, such as using sustainable sites, exhibiting water and energy efficiency, using ecologically friendly materials and resources, providing indoor environmental quality, and using innovation in the design process. Silver is the second level of the four-level (Certified, Silver, Gold, and Platinum) LEED rating system and requires 33 to 38 points for most new construction. Schools, health care facilities, and retail buildings have different point systems and requirements. A more detailed explanation of the certification process is provided in the cost analysis section below.

The costs of LEED Silver certification are divided into two categories: soft costs and hard costs. Soft costs are those associated with documentation, registration, and certification and can often be predetermined based on the size and scope of a construction project. Hard costs are the expenses related to construction and materials. Hard costs are typically estimated at the onset of a project to fit within a budget, but can change during the construction process. All construction projects have soft and hard costs; LEED certification requirements are expected to increase both types.

Soft costs

The additional soft costs associated with LEED certification are incurred in the registration and certification process. LEED's online registration is \$200 per building and all buildings intending to pursue LEED certification must be registered. Review of a new construction's design and construction must be performed by the U.S. Green Building Council, and increases soft costs by \$1,750 to \$22,500 per building, depending on size and whether the construction owner is a member of USGBC. Of the 43 new construction projects supported in H.B. 562, 41 would have met the \$500,000 threshold. The LEED registration and review costs for these projects would range from \$79,950 (41 projects \times (\$1,750 + \$200)) to \$930,700 (41 projects \times (\$22,500 + \$200)).

Following the design and construction review, LEED buildings must be commissioned by a certified evaluator. Commissioning is a systematic process used generally in the construction industry to assure that a building performs in accordance with the design intent. LEED commissioning is intended to certify sustainable qualities of a LEED-registered building. According to the U.S. Department of Energy Office of Energy Efficiency and Renewable Energy, the cost of commissioning ranges from \$0.5 per square foot for simple construction to \$3.0 per square foot for construction with complicated infrastructure systems, such as hospitals. The State Architect's Office (SAO) within the Department of Administrative Services indicates that few new construction projects administered by the state are currently commissioned, and that those projects which are commissioned typically involve complicated infrastructure systems. Overall, then, the cost per square foot for most state construction projects would likely fall at the lower end of the cost range.

Hard costs

The additional hard costs of LEED Silver certification are difficult to determine statewide because of variances among construction projects. To achieve LEED points, buildings may include materials, elements, and methods that otherwise might not be used. For example, solar panels, low water-flow appliances, and reclaimed lumber are common fixtures in LEED buildings, but are often avoided in non-LEED buildings because of cost. In addition, requirements for sustainable sites and processes can require more costly construction techniques.

Despite the need to include environmentally sustainable elements, additional hard costs attributable to LEED represent only a fraction of total construction costs. In

September 2007, the Ohio School Facilities Commission (SFC) began requiring LEED Silver certification for all new school buildings using SFC funding. While all new construction projects will be budgeted from the beginning with LEED certification included in the estimated project cost, some existing construction projects elected to adjust budgets and plans to include LEED standards. SFC has added 3% to the hard cost budget of all LEED-registered projects, including schools that chose to register for LEED after initial planning.

Likewise, a study of 20 LEED-certified buildings conducted by the Office of the Governor of Colorado found that for new construction projects with LEED planning from the project onset, the additional hard costs of building construction typically range from 1% to 5%. Statewide, the total capital appropriation for new construction that meet the \$500,000 threshold in H.B. 562, was \$281.4 million. Thus, assuming 1% to 5% in additional costs for LEED certification, the additional cost would be approximately \$2.8 million to \$14.1 million.

Cost analysis – Green Globes Environmental Assessment

Similar to LEED, the Green Globes Environmental Assessment (GGEA) is a system for certifying buildings constructed using certain environmental standards. The primary difference in the two systems being that GGEA is primarily Internet-based, potentially making it a less expensive certification system with regard to soft costs. The GGEA web site indicates that soft costs associated are roughly \$3,000 to \$5,000 per project. This would mean that for the projects supported in H.B. 562, the additional costs would be between \$123,000 and \$205,000. This does not include any costs associated with commissioning. As the GGEA system also requires the use of alternative building techniques and materials, hard costs associated with utilizing the system are likely to be similar to those under LEED.

Energy efficiency ratings – offsetting savings

The bill would also require new construction to either exceed by at least 30% the most current energy efficiency standards developed by the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) or to achieve an energy performance rating of at least 77% using the Energy Star system developed by the Environmental Protection Agency (EPA). All costs associated with meeting these energy efficiency standards are likely to be subsumed by those related to achieving environmental building standard certification. This is because ASHRAE standards are required for several LEED certifications. GGEA uses the EPA's Target Finder system, which is used to achieve an Energy Star rating.

State agencies would also be required to make reasonable efforts to recoup costs associated with the bill through reduced energy expenditures over a period of 20 years. An SFC study indicates that, by reducing the energy consumption of a typical school building, a LEED school would save over \$1.0 million over 15 years and over \$6.0 million over a 40-year building life cycle. The SFC study also notes other areas of

savings (e.g., water consumption) and cites reports that LEED requirements for natural light and indoor quality can improve the productivity and performance of building inhabitants.

Political subdivisions

The bill would likely increase costs for political subdivisions that receive money from the state for capital projects involving new construction. Though the bill refers specifically to state capital money, several state agencies, such as the Ohio Department of Transportation (ODOT) and the Ohio Cultural Facilities Commission (AFC), provide capital funds to local government entities dependent upon some type of matching program. Any local government participating in such a program could be required to comply with the provisions of the bill, increasing the cost of affected capital projects. With regard to AFC, the FY 2009-FY 2010 capital budget funded 19 local government capital projects involving new construction. This amount includes only state dollars and not any matching funds provided by the local governments. With regard to ODOT, the majority of capital funds distributed to political subdivisions is used to build roads and bridges, as opposed to buildings, and would not fall under the purview of the bill.

State-assisted institutions of higher education

The additional capital costs stemming from LEED certification would also have a fiscal effect on state-assisted institutions of higher education that share the cost of new construction with the State. Institutions of higher education have greater capital needs than most other state entities and are often able to obtain outside funding through private contributions. As a result, the costs of most new construction for state-assisted institutions of higher education are shared between the host institution and the state. It is unclear how much of the additional cost from LEED certification would be assumed by the state; however, it is likely that the institutions would incur some additional construction costs to meet the Silver LEED requirements.

DAS – administrative rules

DAS would be required to establish rules and procedures for providing waivers to state agencies for those buildings that list the exemption criteria listed in the overview above. All waiver applications would be reviewed and approved by the State Architect's Office. DAS would also be required to develop procedures and criteria for recognizing green building standards. These provisions could generate some additional costs which presumably would be paid from the State Architect's Fund (Fund 1310).