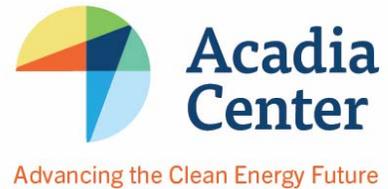


Status of Connecticut’s “Lead by Example” Energy Efficiency Program for State Buildings



Policy Progress Report

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I. Overview: The Energy Efficiency Opportunity in State Buildings

State buildings present an enormous opportunity to reduce wasteful energy use, lower energy costs for state agencies, and help trim the state’s budget deficits. Connecticut state government owns or leases nearly 4,000 structures.¹ Most are small, but at least 1,100 state buildings are sizeable and use significant amounts of energy for lighting, heating, and cooling needs.² One estimate for total annual energy consumption in state buildings placed it at 4.1 trillion BTUs – roughly the total annual energy use of residential housing in Hartford and Waterbury combined.³ The total energy cost is also significant, estimated to be as high as \$200 million annually, making it one of the state’s largest operating expenses.⁴

The magnitude of the energy efficiency opportunity in Connecticut’s state buildings is unclear – an assessment of the potential for energy savings in state buildings has not been performed – but it would likely be cost-effective to reduce energy use in this sector by at least 20-30% overall.⁵ Energy savings of that size could result in approximately \$40-60 million in annual savings on energy costs for state agencies.⁶

II. The General Assembly Establishes “Lead by Example” Program in 2011

In an attempt to capture this significant savings opportunity, the General Assembly enacted a comprehensive package of reforms in 2011 intended to give state agencies, and particularly the newly-formed Department of Energy and Environmental Protection (“DEEP”), the authority and tools needed to maximize energy efficiency in state buildings.⁷ The statutory provisions establishing this new state program – more commonly known as “Lead

¹ Connecticut’s Office of Policy and Management produces an annual inventory of real property owned or leased by the state. The 2016 inventory is available online: http://www.ct.gov/opm/cwp/view.asp?a=2993&Q=383334&opmNav_GID=1795.

² See Commission on Enhancing Agency Outcomes, *Final Report to the Governor, President Pro Tempore of the Senate, and the Speaker of the House State of Connecticut*, December 30, 2010, p. 88 (pdf copy available upon request).

³ See Connecticut Department of Energy & Environmental Protection and Connecticut Department of Administrative Services, *Lead by Example: Energy Efficiency in State and Municipal Buildings*, Legislative Report, July 2, 2012, p. 1. Equivalency estimate calculated by Acadia Center using assumption that half of consumption is electricity and half is natural gas and then comparing to annual consumption of typical Connecticut residence and latest U.S. Census data on residential housing by city.

⁴ See Commission on Enhancing Agency Outcomes, *Final Report*, p. 88 (cost estimate from Fiscal Year 2010 and includes state’s higher education facilities).

⁵ See *ibid.*, p. 92. The Commission indicated that a 30% reduction in energy use would be an achievable long-term goal.

⁶ See *ibid.*, p. 92 (based on Commission’s cost estimate, Acadia Center’s estimate assumes linear relationship from 10% annual reduction to 30% percent annual reduction using \$20 million increments in cost savings for each 10% decrease in energy use; all cost estimates depend on fluctuating energy prices).

⁷ See Conn. Gen. Stat. § 16a-37u (attached in full as an appendix to this report); see also Public Act 11-80, *An Act Concerning the Establishment of the Department of Energy and Environmental Protection and Planning for Connecticut’s Energy Future*, §§ 118 and 123. Our report does not address any “Lead by Example” program work targeting municipal buildings.

by Example” for state buildings (“LBE”) – are found in Connecticut General Statutes Section 16a-37u, which is attached as an appendix to this report.

As set out by this law, LBE has several key aspects. First, it places DEEP’s Commissioner in charge of the program. It establishes that “[t]he Commissioner of Energy and Environmental Protection shall be responsible for planning and managing energy use in state-owned and leased buildings and shall establish a program to *maximize* the efficiency with which energy is utilized in such buildings.”⁸ Second, it requires the Commissioner of DEEP to develop a plan for the LBE program that achieves minimum energy savings targets by certain dates – specifically, at least a 10% reduction from baseline energy use by January 1, 2013 and another 10% reduction by January 1, 2018.⁹ Third, it also requires the Commissioner to submit annual reports on the plan’s implementation status to the Energy & Technology Committee of the General Assembly.¹⁰ The first LBE status report was due January 1, 2013.¹¹

These three statutory provisions form much of the core of the LBE program. They define its leadership (DEEP’s Commissioner), its energy savings goals (10% decrease by 2013, a 20% overall decrease by 2018), and a key accountability mechanism for tracking, measuring, and evaluating progress – annual public reports to the General Assembly. The statute notably also provides the LBE program with several important tools for achieving its mandatory energy savings targets, including: empowering the DEEP Commissioner to monitor energy use in state buildings, authorizing the DEEP Commissioner to put energy efficiency performance standards in place for leased building space, allowing state agencies to enter into energy-savings performance contracts to finance efficiency improvements, and specifying that LBE projects can be financed through different means, including bonding.¹²

III. The Implementation Status of “Lead by Example” for State Buildings

Any review of the LBE program by the public is currently severely hampered by the limited information on program performance that is publicly available. Since the General Assembly enacted the LBE program in 2011, only one report pertaining to the program has apparently been filed with the legislature, a document authored by DEEP and the Department of Administrative Services dated July 1, 2012 that is styled as a legislative report but that also appears to be intended as the LBE implementation plan required by Section 16a-37u(b).¹³ The annual LBE status reports for later years – 2013, 2014, and 2015 – do not appear to have been submitted; research with the Clerk for the Energy & Technology Committee, the Legislative Library, and the State Library could not locate those reports.¹⁴

⁸ See Conn. Gen. Stat. § 16a-37u(a) (emphasis added).

⁹ See Conn. Gen. Stat. § 16a-37u(b).

¹⁰ See Conn. Gen. Stat. § 16a-37u(d) (by explicitly referring to Conn. Gen. Stat. § 11-4a, this statutory provision on LBE disclosure requires the DEEP Commissioner to file copies of the annual legislative report for the LBE program with the State Library).

¹¹ See *ibid.*

¹² See Conn. Gen. Stat. § 16a-37u.

¹³ See Connecticut Department of Energy & Environmental Protection and Connecticut Department of Administrative Services, *Lead by Example: Energy Efficiency in State and Municipal Buildings*, Legislative Report, July 2, 2012. Acadia Center located this report with the assistance of the Legislative Library.

¹⁴ Acadia Center also could not locate these reports on DEEP’s website. See the following link to DEEP’s LBE homepage: http://www.ct.gov/deep/cwp/view.asp?a=4405&q=489980&deepNav_GID=2121. In the days following the public release of Acadia Center’s Policy Progress Report on October 4, 2016, three documents were posted on DEEP’s LBE homepage that were described as “legislative reports” for 2012, 2013, and 2014/2015. The 2012 document – referenced in footnote 13 – was the only legislative report that could be located in legislative records, confirming that it had been filed with the legislature, as required by statute.

By combining limited information from different public sources, it is possible to make the following preliminary observations about the current implementation status of the LBE program:

- Project count, completion rate, and future “pipeline”: Based on the current list of bond-funded LBE projects for state buildings displayed on DEEP’s website, it appears that at least 67 projects have been approved for funding.¹⁵ Most of these energy efficiency projects in state buildings appear to have received their funding from the original \$15 million in bond funding sought at the beginning of the LBE program and noted in the 2012 report. According to DEEP’s list, 53 of the 67 bond-funded projects have been completed.¹⁶ It is not clear how many LBE projects in state buildings have been financed and completed through energy-savings performance contracts or other means.¹⁷ Due to the apparent absence of annual status reporting, which would have provided a unified inventory of all LBE projects and their status, it is not possible to derive an accurate project count, the project completion rate by year, or whether there are sufficient new projects in a development “pipeline” awaiting approval and funding for future LBE work beyond those already identified.
- Progress towards mandatory energy savings targets: The 2013 and 2018 energy savings targets are the most important component of the LBE statute. They are the fundamental reason for establishing the program. From the limited information that is publicly available, however, it is extremely difficult to determine whether the LBE program met the 2013 target or is on track to meet the 2018 target. No baseline for energy consumption appears to have been set, making any progress towards the targets difficult to gauge. In addition, the energy cost savings reported to date from the completed bond-funded projects are estimates only and do not describe how they were calculated or whether they have been evaluated and verified.¹⁸ A large number of the completed projects also appear to be limited in scope – single efficiency measure projects, in other words – and thus do not maximize the efficiency treatment for the entire building.¹⁹ From its outset, in fact, the LBE program did not appear to be sufficiently sized to meet the statutory targets. The estimated energy savings claimed by the 2012

¹⁵ For LBE projects approved for bond funding as of August 9, 2016, see the following document:

http://www.ct.gov/deep/lib/deep/energy/lbe/LBE_Project_Status.pdf. Thirty-three of these projects were previously identified by the 2012 legislative report; thus it appears that only 34 additional projects have been selected for funding over the last four years.

¹⁶ DEEP’s LBE bond-funded project list does not provide completion dates for the projects so it is not possible to ascertain the timing of LBE work on state buildings over the last four years.

¹⁷ DEEP’s LBE webpages do not provide an inventory of completed LBE projects financed through energy-savings performance contracts or other means, such as through financing support from the Connecticut Green Bank. The Bank began assisting DEEP with the LBE program for state buildings about two years ago. Based on the Bank’s records from 2015 and 2016, it does not appear that any LBE projects in state buildings have yet received Green Bank financing support or are likely to in the next two years. For information regarding the Bank’s LBE activities in 2016, and projected activities in FY 2017 and 2018, see the following: http://www.ctgreenbank.com/wp-content/uploads/2016/02/board-of-directors-of-the-connecticut-green-bank-Online-Meeting-Materials_072216.pdf; <http://www.ctgreenbank.com/wp-content/uploads/2016/07/CTGreenBank-Comprehensive-Plan-Fiscal-Years-2017-2018.pdf>. For information regarding the Bank’s LBE activities in 2015, see the following memorandum: http://www.ctcleanenergy.com/Portals/o/board-materials/Institutional%20Sector_Program%20Performance%20Memo_FY%202015_071715.pdf.

¹⁸ See http://www.ct.gov/deep/lib/deep/energy/lbe/LBE_Project_Status.pdf.

¹⁹ See *ibid*.

legislative report from the 37 LBE projects anticipated at that time – 45 billion BTUs – would not have satisfied the 2013 energy savings target, which required at least a 10% reduction from the baseline.²⁰

Overall, there is insufficient information available to conclude that the LBE program is currently fulfilling its statutory charge. The scattered information that is available strongly suggests that the program is not making necessary progress.²¹

IV. Conclusion: The General Assembly Needs to Review “Lead by Example”

The “Lead by Example” energy efficiency program for state buildings is a crucial opportunity for the State of Connecticut to demonstrate model sustainability practices, reduce unnecessary energy consumption throughout a significant building sector, help meet the state’s own mandatory climate change goals, and lower state utility bills ultimately paid by taxpayers.

The General Assembly correctly identified this opportunity five years ago and enacted a comprehensive “Lead by Example” program for state buildings as the best solution. Yet it would appear that the LBE program has not been sufficiently implemented in the intervening years and may, in fact, be stalled. The exact reasons for this are difficult to establish without more information and full public disclosure of the program’s actual implementation activities over the last four years. The apparent failure to provide mandatory legislative reports since 2012 has worsened the situation, effectively preventing outside review and input and likely contributing to what appears to be inadequate results.

In light of these findings, the General Assembly should undertake a thorough and independent review of the state’s “Lead by Example” program to ascertain what has been achieved, what still needs to be done to achieve the 2018 energy savings target, and how the program can be given renewed direction and urgency.

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²⁰ See Connecticut Department of Energy & Environmental Protection and Connecticut Department of Administrative Services, *Lead by Example: Energy Efficiency in State and Municipal Buildings*, Legislative Report, July 2, 2012, p. 4. The estimated energy savings of 45 billion BTUs is much less than 10% of the estimated annual energy consumption in all state buildings – 4.1 trillion BTUs, the amount cited by the Commission on Enhancing Agency Outcomes (see footnote 3, above).

²¹ In its 2016 State Energy Efficiency Scorecard, the American Council for an Energy-Efficient Economy (“ACEEE”) commended Connecticut for its “Lead by Example” program for state buildings. It is important to note that ACEEE scores states for having enacted LBE energy savings targets, but does not score based on actual achievement of savings targets.

Appendix – Statute Establishing “Lead by Example” Program

Chapter 298 Energy Utilization and Conservation

Sec. 16a-37u. Planning and managing energy use in state-owned and leased buildings. Reduction in energy consumption. Connection of state-owned and leased buildings to district heating and cooling systems.

(a) The Commissioner of Energy and Environmental Protection shall be responsible for planning and managing energy use in state-owned and leased buildings and shall establish a program to maximize the efficiency with which energy is utilized in such buildings. The commissioner shall exercise this authority by (1) preparing and implementing annual and long-range plans, with timetables, establishing goals for reducing state energy consumption and, based on energy audits, specific objectives for state agencies to meet the performance standards adopted under section 16a-38; (2) coordinating federal and state energy conservation resources and activities, including but not limited to, those required to be performed by other state agencies under this chapter; and (3) monitoring energy use and costs by budgeted state agencies on a monthly basis.

(b) On or before July 1, 2012, the commissioner, in consultation with the Department of Administrative Services, shall develop a plan to reduce energy use in buildings owned or leased by the state by January 1, 2013, by at least ten per cent from its current consumption and by January 1, 2018, by an additional ten per cent. Such plan shall include, but not be limited to, (1) assessing current energy consumption for all fuels used in state-owned buildings, (2) identifying not less than one hundred such buildings with the highest aggregate energy costs in the fiscal year ending June 30, 2011, (3) establishing targets for conducting energy audits of such buildings, and (4) determining which energy efficiency measures are most cost-effective for such buildings. Such plan shall provide for the financing of such measures through the use of energy-savings performance contracting, pursuant to subsection (c) of this section, bonding or other means.

(c) Any state agency or municipality may enter into an energy-savings performance contract, as defined in section 16a-37x, with a qualified energy service provider, as defined in said section 16a-37x, to produce utility cost savings, as defined in said section 16a-37x, or operation and maintenance cost savings, as defined in said section 16a-37x. Any energy-savings measure, as defined in said section 16a-37x, implemented under such contracts shall comply with state building code and local building requirements. Any state agency or municipality may implement other capital improvements in conjunction with an energy-savings performance contract as long as the measures that are being implemented to achieve utility and operation and maintenance cost savings and other capital improvements are in the aggregate cost effective over the term of the contract.

(d) On or before January 1, 2013, and annually thereafter, the commissioner shall report, in accordance with the provisions of section 11-4a, on the status of its implementation of the plan and provide recommendations regarding energy use in state buildings to the joint standing committee of the General Assembly having cognizance of matters relating to energy. Any such report may be submitted electronically.

(e) Not later than January fifth, annually, the commissioner shall submit a report to the Governor and the joint standing committee of the General Assembly having cognizance of matters relating to energy planning and activities. The report shall (1) indicate the total number of energy audits and technical assistance audits of state-owned and leased buildings, (2) summarize the status of the energy conservation measures recommended by such audits, (3) summarize all energy conservation measures implemented during the preceding twelve months in state-owned and leased buildings which have not had such audits, (4) analyze the availability and allocation of funds to implement the measures recommended under subdivision (2) of this subsection, (5) list each budgeted agency, as

defined in section 4-69, which occupies a state-owned or leased building and has not cooperated with the Commissioner of Administrative Services and the Commissioner of Energy and Environmental Protection in conducting energy and technical assistance audits of such building and implementing operational and maintenance improvements recommended by such audits and any other energy conservation measures required for such building by the Commissioner of Energy and Environmental Protection, in consultation with the Secretary of the Office of Policy and Management, (6) summarize all life-cycle cost analyses prepared under section 16a-38 during the preceding twelve months, and summarize agency compliance with the life-cycle cost analyses, and (7) identify any state laws, regulations or procedures that impede innovative energy conservation and load management projects in state buildings. Any such report may be submitted electronically.

(f) The commissioner, in conjunction with the Department of Administrative Services, shall as soon as practicable and where cost-effective connect all state-owned buildings to a district heating and cooling system, where such heating and cooling system currently exists or where one is proposed. The commissioner, in conjunction with the Department of Administrative Services, shall prepare an annual report with the results of the progress in connecting state-owned buildings to such a heating and cooling system, the cost of such connection and any projected energy savings achieved through any such connection. The commissioner shall submit the report to the joint standing committee of the General Assembly having cognizance of matters relating to energy on or before January 1, 1993, and January first annually thereafter.

(g) The commissioner shall require each state agency to maximize its use of public service companies' energy conservation and load management programs and to provide sites in its facilities for demonstration projects of highly energy efficient equipment, provided no such demonstration project impairs the functioning of the facility.

(h) The commissioner, in consultation with the Department of Administrative Services, shall establish energy efficiency standards for building space leased by the state on or after January 1, 2013.