American Council for an Energy-Efficient Economy
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How State Governments Can Lead by Example

Introduction

State governments can advance energy-efficient technologies and practices in the marketplace by promoting energy efficiency in their own everyday operations, a practice commonly known as "Leading by Example" (LBE). Taking actions to improve the energy efficiency of government-owned and -leased facilities and fleets can accrue multiple benefits for both the government and the people it serves. State governments spend more than $11 billion annually on energy, which can account for as much as 10% of a typical government's annual operating budget. As states attempt to act with heightened levels of austerity, implementing cost-effective energy efficiency processes and technologies is a proven solution to reduce wasteful spending.

The following toolkit borrows content from EPA (2009), a comprehensive resource for state and local governments seeking to start or improve upon a Lead by Example program.

LBE program benefits:

- Demonstrate leadership
- Reduce energy consumption and costs
- Reduce greenhouse gas emissions and air pollutants
- Foster markets for energy-efficient products and encourage economic development in local and regional communities
- Offer greater energy price certainty
- Promote sustainable alternatives to conventional practices
- Provide health and productivity benefits
- Increase asset value in energy-efficient buildings
- Reduce maintenance costs in energy-efficient buildings

The following are energy efficiency measures governments should consider when deciding how to lead by example:

- Improving energy efficiency in existing and new government-owned and -leased facilities
- Purchasing energy-efficient products
- Improving vehicle fleet efficiency

Once a state determines what actions it wants to take, it must establish an LBE program framework. The program framework must concentrate on principal actors for implementation and a government-wide policy to underpin the LBE actions. Once a program framework is set, a state can then develop a comprehensive program by integrating multiple LBE activities, financing the LBE program, conducting communications and outreach, and providing technical and financial assistance to governmental agencies. Finally, the program must include plans to track, evaluate, and report on LBE program performance.

Foundational Policy Support

State governments can adopt foundational policies to reduce energy use throughout state-operated facilities. Policies may target existing building stocks by requiring all state executive agencies to reduce their energy use by a set percentage over a certain amount of time. Many states also target new construction by requiring new buildings or new construction (i.e., renovations) to meet energy performance requirements, such as those set forth by the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) criteria.

State governments may also target the equipment and electronics within their facilities by requiring the purchase of energy-efficient products. Product procurement policies often require Departments of Administrative or General Services to procure ENERGY STAR-labeled products.

Governments seeking to improve the fuel efficiency of their vehicle fleets may enact procurement policies that call for a fleet-wide reduction in fuel consumption, or an increase in average miles per gallon (mpg).

For more information, the ACEEE State Policy Database tracks LBE policies in all 50 states.

Examples

Buildings

Iowa

On February 21, 2008, Iowa's Governor signed Executive Order Six, which establishes a "green government" initiative in the state. The order established the Energy Excellent Buildings Task Force and tasked it with reducing electricity, natural gas, fuel oil, and water use in all state office buildings by at least 15% by 2013.

Oregon

Oregon's State Energy Efficiency Design program (SEED) was originally established in 1991 as a result of Oregon State law ORS 276.900-915. This law directs state agencies to work with the Oregon Department of Energy to ensure cost-effective energy conservation measures (ECMs) are included in new and renovated public buildings. It was revised in 2001 to require that all state facilities constructed on or after June 30, 2001 exceed the energy conservation provisions of the Oregon State building code by 20 percent or more.

Product Procurement

Pennsylvania

Executive Order 2004-12 (December 2004) requires the Department of General Services, in its capacity as the centralized coordinator of the state's energy management and conservation measures in Commonwealth facilities for the Executive Agencies, to procure ENERGY STAR and other energy-efficient products where economical and consistent with life-cycle cost analysis.

Missouri

SB 376 calls for any appliance purchased with state funds to be ENERGY STAR certified.

Vehicle Fleets

Utah

HB 110 (March 2007) requires agencies that use state fleet vehicles to design programs that will reduce fleet costs by increasing energy efficiency through decreasing the volume of fuel used, increasing fleet mpg, and implementing improved maintenance of vehicles, among other approaches.

Colorado

Executive Order 2005-4 (July 14, 2005) requires every state agency to implement a Clean Fleets program, requiring that all new passenger and light-duty vehicles achieve a highway fuel economy rating of at least 27.5 mpg, and that all new light-duty trucks achieve a highway fuel economy rating of at least

20 mpg, excluding emergency and law enforcement vehicles. State agencies and departments must also implement anti-idling policies.

Program Design and Implementation

Identifying Principal Actors

- Leadership Team
  - The assignment of a lead LBE agency and team is a critical first step in the process of designing a LBE program.
  - The lead agency can be informal or officially designated by the governor or legislature. The LBE program may be led by a new or existing agency with staff dedicated to program development and implementation, and tracking and measuring progress.
  - The personnel assigned to the LBE team have responsibility that relates to energy usage or sustainability in the state government. Facility managers, finance personnel, and any personnel engaged with energy or strategic decision-making should make up the core of the LBE team.
  - The LBE team is responsible for both gaining high-level support from the governor and legislature by selling the business case for LBE, as well as partnering with key agencies to shape and implement the LBE program.

- Supporting Agencies
  - The LBE team must collaborate across agencies in order to inform, educate, and guide the implementation process along.
  - While the core LBE team functions as the primary lead for LBE programs, participation from supporting agencies in the planning and implementation processes strengthens the buy-in for the program across the state government operations.
  - Supporting agencies may include the executive branch, state energy office, state legislature, state department of general services or administration, state housing and economic development offices, local governments, school districts, colleges, and universities.
  - As the LBE program gets underway, the engagement of supporting agencies allows the LBE team to develop a system of training and technical assistance that gradually devolves responsibility for implementation to the agencies themselves, with minimal oversight from the LBE team.

- Other Program Operators
  - Leveraging the resources of existing programs is critical to program design and cost-effectiveness.
  - Creating partnerships with federal, state, local, and utility program operators generates opportunities for program design tools and financial incentives.
  - ENERGY STAR for State Government offers a wealth of tested program models and tools.
  - Utilities offer numerous financial incentives for efficiency improvements in government facilities.

Hawaii's award-winning Lead by Example program is an excellent case study on how a LBE program leadership team can successfully coordinate across the state government, click here to read about. The program snapshot is excerpted from ACEEE's *States Stepping Forward* report, which highlights 17 other exemplary state-led energy efficiency programs.

Establishing a Benchmark

Establishing a baseline set of energy data is a key action for state and local governments planning to retrofit their facilities. Documenting the baseline energy use of government facilities and identifying

patterns of waste strengthens the business case for an LBE program by demonstrating the certainty of energy cost savings. Some states even require all of their facilities to undergo an energy audit before retrofit programs commence. Fifteen states, from Georgia and Arkansas to California and Hawaii, have required all their state buildings to report baseline energy consumption. By targeting facilities with the most room for improvement, benchmarking ensures the most cost-effective distribution of resources across governmental agencies. ENERGY STAR offers numerous resources on building benchmarking, including the ENERGY STAR Benchmarking Starter Kit and its widely used Portfolio Manager tool.

Massachusetts EEMS and MassEnergyInsight

The state's Enterprise Energy Management System (EEMS) project was awarded to EnerNOC in April 2010. When fully implemented this fall and winter, it will be the largest public sector undertaking to measure real-time energy use information at 17 million square feet of state- and municipally-owned buildings, tracking and comparing building energy consumption across a third of the state's building portfolio and enabling responses to energy anomalies on a real-time basis.

The state's Green Communities Division has also developed and implemented MassEnergyInsight, a free, Web-based tool, so that all 351 cities and towns can make informed, targeted decisions about energy efficiency investments. MassEnergyInsight provides communities with customized electricity, natural gas, and oil usage information to allow local officials to understand where their departments and buildings are wasting energy and act to reduce that waste.

Financing Projects

Energy Savings Performance Contracts

Pioneered by the federal government and now commonly used by states and municipalities, Energy Savings Performance Contracts (ESPCs) allow government facilities to enter into a performance-based agreement with an Energy Service Company (ESCO), which performs building retrofits that achieve significant energy and dollar savings. The contract permits the facility owner to pay the ESCO for its services with the money saved from installed energy efficiency measures. To achieve greater energy and economic benefits, states can foster a regulatory environment that encourages the use of ESPCs in state facilities by ensuring the right policies, people, and processes are in place.

Policy: Legislation that enables the use of ESPCs is present in most states, but the strongest policies require the use of ESPCs for state buildings.

People: Similar to the broader LBE program model, states should assign a lead agency, or leadership team, to implement an ESPC program. Technical field advisors can complement the lead program agencies by assisting state facility managers across the state.

Process: Standardization of instruments, contracts, and general process makes statewide ESPC programs function well. A list of pre-qualified ESCOs also provides quality assurance to facility managers.

For more information on ESPC best practices, resources, and tools, visit the Energy Services Coalition best practices page.

Other Financial Vehicles

States can use numerous other types of financial vehicles, including bonds, loans, lease-purchase agreements, grants, and procurement or capital budgets. EPA has more resources on how to fund LBE Programs.

Communication and Outreach

Lead by Example programs depend on the agency employees tasked with its implementation, so it is imperative to gain support from agency personnel by communicating the multiple benefits of these LBE efforts and recognizing program achievements to both employees and the state. Developing contacts and champions for LBE programs as well as communicating with potentially adversarial staff throughout agencies is an important first step. Throughout the implementation of the program, LBE programs should be matched with a well-planned communications and outreach campaign to agency personnel, which can be achieved through training seminars and the dispersal of educational materials. Communications and outreach should extend to stakeholders outside the government as well. By creating a Web site and other public material extolling the numerous benefits of LBE initiatives, the general public can see the smart investments first-hand and learn how to "follow the lead."

Colorado's all-encompassing energy Web site, Recharge Colorado, is an excellent model for states that want to effectively communicate the benefits of energy efficiency and renewable energy to a wide audience. The Web site includes information for consumers, businesses, and institutional customers seeking to learn how they can reap the rewards of energy efficiency.

Evaluation, Measurement, and Verification (EM&V)

Before a project begins, a plan should be in place that lays out the steps necessary to properly evaluate, measure, and verify progress. The plan should include goals and metrics to indicate levels of progress as well as the tracking, evaluation, and reporting mechanisms that will be used. As discussed above, establishing baseline energy data is a critical component of any LBE program. Once a tracking system is in place, it can be used throughout the project lifetime to evaluate progress. States can use three different types of evaluations to assess LBE programs: impact, process, and market effects evaluations.

More information on EM&V can be found in Chapter 6 of EPA (2009).

Lead by Example at the Local Level

Local governments can lead by example too. Aside from its governmental facilities and fleets, municipal governments oversee K-12 schools and water and wastewater facilities, which are major energy users. State governments can assist local LBE efforts by providing financial incentives and technical assistance. EPA offers an excellent resource for energy efficiency in municipal operations.

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