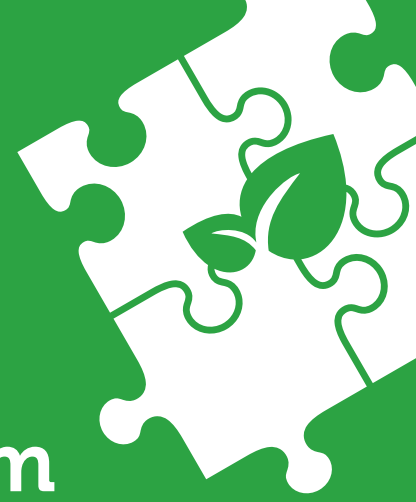


CHAPTER FIVE

Developing a Comprehensive LBE Program



This chapter describes key design options, implementation issues, and best practices that states can consider as they develop a comprehensive LBE program.

The following five recommendations are critical to program success, and are discussed in this chapter:

- Energy savings can be increased by *integrating clean energy activities within the LBE program*. This can be accomplished at the program outset or over time, as resources permit. (See Section 5.1.)
- *Consider all available funding options* and identify those best suited for implementing a comprehensive and cost-effective program. States can explore legislative, policy, and/or other changes to address financial obstacles. (See Section 5.2.)
- *Communications and outreach* are key to demonstrating the benefits of clean energy and building and maintaining support for the LBE program. (See Section 5.3.)
- *Work with, and provide assistance to, local governments* as they develop their own LBE programs. Encouraging local governments to implement clean energy programs is an effective way for states to achieve their own LBE goals. (See Section 5.4.)
- Enhance LBE program effectiveness through *networking and information-sharing with federal, state, local, and other organizations*. (See Section 5.5.)

DOCUMENT MAP

- CHAPTER ONE
Introduction
- CHAPTER TWO
Potential LBE Activities and Measures
- CHAPTER THREE
Establish the LBE Program Framework
- CHAPTER FOUR
Screen LBE Activities and Measures
- CHAPTER FIVE
Develop LBE Program
- CHAPTER SIX
Track, Evaluate, and Report on Progress

CHAPTER FIVE CONTENTS

- 5.1. Integrate individual clean energy activities into a program
- 5.2. Finance the LBE program
 - Financial vehicles
 - Funding sources
 - Summary of barriers and solutions
- 5.3. Conduct communications and outreach: build and maintain support for an LBE program
 - State agency personnel support
 - Community support
- 5.4. Provide technical and financial assistance to local governments
- 5.5. Information sharing: federal, state, and local LBE resources

Related appendices:

Appendix B, State and Local Clean Energy LBE Programs: State and Local Examples, Tools, and Information Resources: presents examples of state and local LBE activities and provides resources for each activity.

Appendix C, Resources for Implementing LBE Programs: contains examples and resources on implementing LBE programs, including several state-developed agency guidance materials.

CHAPTER FIVE CONTENTS (cont.)

Appendix D, Resources for Funding LBE Programs: provides examples of how states have used funding vehicles and sources to finance their LBE programs, and provides other resources about funding options.

Appendix E, Resources for Conducting Communications and Outreach for LBE Programs: provides examples of state approaches for conducting communications and outreach for LBE programs and other resources.

Appendix F, Resources on Technical and Financial Assistance to Local Governments: presents examples of states that provide technical and financial assistance to municipalities.

Appendix G, State LBE Programs and Contacts: Provides information about each state's LBE initiatives, including relevant state agencies, name and email address of state contacts, and Web site URLs.

5.1 INTEGRATE INDIVIDUAL CLEAN ENERGY ACTIVITIES INTO A PROGRAM

Developing an integrated and comprehensive LBE program that consists of multiple clean energy activities can achieve the following benefits:

- *Increase the overall benefits.* An integrated LBE program includes multiple clean energy activities – energy efficiency, green power purchases, clean energy generation – rather than focusing on just one approach. Having a diversified energy strategy increases program benefits, such as reducing the risk of supply disruption, and achieves broader positive spill-over effects, such as

CALIFORNIA SOLAR SCHOOLS PROGRAM

This program illustrates one way to integrate energy efficiency with renewable energy measures. Between 2004 and 2006, 31 California schools were awarded \$4.5 million from the Solar Schools Program to purchase and install 675 kW of solar PV power. Grant eligibility was tied to meeting energy efficiency and energy education goals. The schools were required to have already installed high efficiency fluorescent lighting or other energy efficiency measures with equal or greater energy savings in at least 80% of classrooms, and to have established a curriculum plan to educate students about the benefits of energy conservation and solar energy.

Funding was provided by the CEC's Emerging Renewables Program with a matching amount from the California Attorney General's Alternative Energy Retrofit Account (AGAERA).

Source: CEC, 2006c.

increased employment in clean energy technology and service sectors.

- *Enhance the cost-effectiveness of LBE activities by leveraging interactions.* Integrating multiple LBE activities can result in interactions that produce greater economic benefits than an approach centered around a single strategy. For example, commitments to purchase specified quantities of electricity from green power sources (or to purchase onsite renewable energy systems) can be increased using savings generated by building energy efficiency activities. Once the upfront costs of the energy efficiency activities are repaid, the recurring energy cost savings can be used to offset the cost premium associated with green power purchases or renewable energy systems (for example, see the text box at right on California's Solar Schools Program). Similarly, the benefits of energy-efficient product procurement can be increased when products are purchased using a systematic approach to improving energy efficiency in buildings. Because efficiency reduces the energy load, states can then upgrade their heating and cooling systems using smaller, "right-sized" equipment. Sequencing product purchases and energy efficiency measures using this staged approach can lead to greater overall energy cost savings.
- *Achieve political support.* A comprehensive program can win broad support by appealing to a variety of constituencies with different interests, including legislators and agency personnel. An integrated program can help lessen any reservations about clean energy and can provide the impetus for stakeholders to mobilize resources for LBE activities.
- *Increase the visibility of LBE activities.* States that develop a comprehensive clean energy LBE program can establish a single contact (or office) that provides consistent and comprehensive information. This increases visibility and provides a single point of reference for agency customers and the public. Examples include New York's "Green and Clean" State Buildings and Vehicles program (New York, 2004) and Massachusetts' State Sustainability Program (Massachusetts, 2004).

In practice, it is not always possible to start with an integrated program. Many states begin with a more targeted, activity-specific approach that builds towards a comprehensive program over time. This can ensure that LBE needs match available resources and increase opportunities for achieving a few quick LBE successes

to demonstrate success and provide a basis for further funding and sustained momentum (CALeep, 2006).

5.2 FINANCING THE LBE PROGRAM

This section describes options for financing the LBE program (which includes selecting vehicles for financing the program and choosing sources of funding) and presents a summary of the key strategies for overcoming financial barriers to implementation. The text box below provides a brief overview of the topics covered. Additional funding information is available in Appendix D, *Resources for Funding LBE Programs*.

5.2.1 FINANCIAL VEHICLES

Financing refers to the use of loans, bonds, energy performance contracts, lease-purchase agreements, grants, and other mechanisms to pay for clean energy activities. Table 5.2.1 summarizes seven financial vehicles in terms of nine key metrics. A more detailed description of each vehicle is provided below.

FINANCING LBE PROGRAMS

Financial Vehicles (Section 5.2.1)

- Capital budgets and procurement budgets (“cash”)
- Loans
- Public bonds
- Energy performance contracts
- Tax-exempt lease-purchase agreements
- Grants and rebates
- Other short-term financing alternatives

Funding Sources (Section 5.2.2)

- Public benefits funds
- Revolving loan funds
- Aggregated purchasing contracts for green power, equipment procurement, and service contracting
- Pension funds
- Private foundations (e.g., grants)
- Other procurement and accounting methods

Summary of Strategies for Overcoming Financial Obstacles (Section 5.2.3)

- Consider multiple financing options.
- Modify state purchasing rules and develop standard agreements for sharing or retaining energy savings.
- Address “split incentives” issues

TABLE 5.2.1 SUMMARY OF FINANCIAL VEHICLES FOR ENERGY EFFICIENCY ACTIVITIES

Key Aspect	Cash ^a	Loans	Bonds	Energy Performance Contracts	Lease-Purchase Agreements	Grants and Rebates	Other (RANs, BANs, TANs ^b)
Interest Rates	N/A	Often done at taxable rates.	Lowest tax-exempt rate.	Can be taxable or tax-exempt.	Low tax-exempt rate.	N/A	Low, short-term tax-exempt rates.
Financing Term	N/A	Repayment terms over 12 months may need voter approval.	May be 20 years or more.	Typically up to 10 years but may extend to 20 years.	Up to 12 years is common, and up to 20 years is possible for large projects. Term limited to useful life of equipment.	N/A	Less than one year.
Other Costs	N/A	Minor closing costs, if any.	Underwriting, legal opinion, insurance.	May have to pay engineering costs if contract is not executed.	None.	Some may have matching grant requirements.	Issuing costs from lender.

TABLE 5.2.1 SUMMARY OF FINANCIAL VEHICLES FOR ENERGY EFFICIENCY ACTIVITIES (cont.)

Key Aspect	Cash ^a	Loans	Bonds	Energy Performance Contracts	Lease-Purchase Agreements	Grants and Rebates	Other (RANs, BANs, TANs ^b)
Approval Process	Internal.	Depends on financing term. Subject to potential legislative and charter limitations.	Usually requires voter approval/ public referendum; bond counsel opinion letter required.	RFP usually required; internal approvals needed.	Internal approvals needed; simple attorney letter required.	Application made to manager of PBF, utility, or foundation.	Internal approvals needed; attorney's letter required.
Approval Time	Current budget period.	Fast, if short term.	Can be lengthy—process may take years.	Legislative authority may facilitate approval,	Fast; generally within a week of receiving all requested documentation.	Depends on availability of funds and funding cycle.	Fast; similar to tax-exempt lease.
Funding Flexibility	N/A	Relatively flexible.	Very difficult to go above the dollar ceiling.	Relatively flexible; an underlying municipal lease is often used.	Flexible. Can set up master lease, which allows drawing down of funds, as needed. Can finance entire project cost.	Prescriptive for public funds, competitive for foundation funding.	Based on expected source of repayment (bond, revenue, or tax).
Budget Used	Operating or capital.	Operating or capital, depending on terms.	Capital.	Operating or capital, depending on terms and conditions.	Operating.	N/A	Operating or capital.
Greatest Benefit	Direct access if included in budget.	Fast, if voter approval is not necessary.	Low interest rate because it is backed by the full faith and credit (taxing powers) of the public entity.	Provides performance guarantees, which help in approval process.	Allows capital equipment purchase using operating dollars.	Reduces activity cost as funding usually does not have to be repaid.	Low-cost access to short-term funds that allow the immediate installation of energy efficiency equipment to save money sooner.
Greatest Hurdle	Insufficient funding available for activities.	Often higher taxable interest rates; statutory limitations regarding term and amounts.	Very time consuming.	Identifying the activity to be financed; selecting the energy service provider.	Identifying the activity to be financed.	Availability of funds; may be very competitive.	Repayment must be made within the current operating period.

a While cash is typically considered to be a source of funds rather than a financing vehicle, it is included in this table for comparison purposes.

b RANs = Revenue Anticipation Notes, BANs = Bond Anticipation Notes, TANs = Tax Anticipation Notes.

Sources: Zabler and Hatcher, 2003; U.S. EPA, 2004a; Thumann and Woodroof, 2008.

Capital Budgets and Procurement Budgets

States can finance clean energy by “paying cash” from existing capital and procurement budgets. The benefits of tapping these budgets include their ready availability and lack of associated interest payments. At the same time, the capital budgeting process can be complex (compared to using procurement budgets) and may introduce numerous financial, practical, and political constraints, including:

- Capital budget dollars are often scarce, already committed, and subject to a funding ceiling. Jurisdictions under serious fiscal pressure sometimes impose freezes on capital spending.
- The process for requesting new capital dollars can be time- and resource-consuming.
- Political considerations can be important, since authorization for requesting new capital dollars can require legislative and/or taxpayer approval (e.g., a voter referendum).

In addition, both existing capital budgeting and procurement policies can impede cost-effective energy efficiency investments. For example:

- Government capital budgeting and procurement practices often prescribe first cost accounting, with lowest bid requirements, that fail to consider life-cycle costs.¹
- Capital budgeting often does not allow borrowing from operating budget savings even when they offset a capital cost premium.

To address these barriers, states have introduced a number of innovative strategies and techniques, including:

- *Institute life-cycle cost accounting and procurement procedures*, which take into consideration both the lower net capital and future operating costs of clean energy investments. For example, states can require clean energy investment and procurement decisions to be based on the lowest life-cycle cost (rather than the lowest first costs) and can modify life-cycle procurement procedures to require vendors to provide both equipment investment costs and estimated lifetime energy costs. Life-cycle cost accounting can go beyond calculating direct lifetime cost savings to include the energy,

¹ First costs are the upfront costs that are incurred before an investment generates any savings.

environmental, and other social costs or benefits that accrue to society at large. However, these social costs and benefits can be more difficult to measure.² For additional information on life-cycle costing, see Section 5.2.3, *Strategies for Overcoming Financial Obstacles*.

- *Directly specify minimum energy efficiency requirements for products*. For example, some states require products to be ENERGY STAR-qualified, obviating the need to justify higher upfront costs.
- *Require capital activities to meet energy performance targets*. States have required new state construction and renovations to be compliant with ENERGY STAR building requirements.
- *Reform budgeting procedures to allow agencies to borrow from operating budgets* to supplement capital budgets, thus expanding the pool of available funds.

Loans

A loan is a debt instrument between a lender (e.g., a bank, commercial lender, or a state revolving loan fund) and a borrower (e.g., a state agency) in which the lender agrees to provide a stated amount of money to be repaid over a period of time, along with interest. Loans can be structured to be repaid monthly, quarterly, semi-annually or annually. The payments can be “level” (i.e., the same every period) or may require a balloon payment at the end. Interest rates can be fixed or variable, taxable, or tax-exempt. Short-term loans (i.e., usually less than 12 months) can be repaid from the operating budget – which provides an advantage

² EPA is preparing *A Guidebook for Assessing the Multiple Benefits of Clean Energy* to provide information on understanding and quantifying the multiple benefits of clean energy activities [U.S. EPA, *Forthcoming(a)*].

VERMONT'S STATE ENERGY PLAN: LIFE-CYCLE ACCOUNTING REQUIREMENTS

Vermont's State Agency Energy Plan requires that, where applicable, life-cycle cost analyses must be used when purchasing equipment or products. The state plan also requires building investments to be undertaken on a lowest life-cycle cost basis. The plan defines life cycle cost as the “amortized annual cost of a product, including capital costs, installation costs, operating costs, maintenance costs and disposal costs discounted over the lifetime of the product plus the energy and environmental externalities costs or benefits.” The objective of using life cycle analysis in Vermont is to show positive cash flow within a specified period of time after implementing the measure.

Source: Vermont, 2005.

over using the capital budget since there are fewer restrictions (e.g., voter approval is typically not required when using the operating budget). Long-term loans (e.g., longer than 12 months) are subject to any long-term debt restrictions the state may have.³

Banks will make loans for energy-efficient equipment purchases; however, they typically require a down payment that can be 20% or more, or is secured by compensating balances. The borrower's ability to negotiate favorable terms on the down payment, interest rate, and payment structure depends primarily on the lender's perception of the risk involved (U.S. EPA, 2008). However, some state agencies offer loan programs for public and non-profit agencies that offer below-market terms and can be used for clean energy activities. For example, revolving loan funds provide a key source of debt for state and local government LBE clean energy projects. These funds are designed to be self-supporting, in that states establish a pool of capital (funded, for example, by the state's PBF policy) and provide low-interest loans to borrowers that then "revolves" over a multi-year period as payments are returned to the fund and lent anew to other borrowers (U.S. EPA, 2006b). (See Section 5.2.2., *Funding Sources*, for additional information on revolving loan funds and how state agencies have used these as finance sources for energy efficiency improvements in their facilities.)

Public Bonds

Bonds are debt instruments sold by public- and private-sector organizations that enable borrowing from the capital market (U.S. EPA, 2008). They allow amortization of capital costs over a multi-year repayment term and are therefore well suited to LBE investments that accrue annual energy cost savings. Public bonds can also be offered as investment vehicles – with no federal and, in many states, state income tax liabilities to the investors – that can result in lower interest rates than commercial lending or equipment leasing arrangements. On the other hand, bonds can involve a lengthy approval time, since they may require public referenda and/or legislative approval.

These vehicles take many forms, including⁴:

³ Because most energy efficiency activities have a simple payback of more than one year, short-term financing typically works best as bridge financing, as long as long-term financing is also available.

⁴ Industrial development and revenue bonds are also common and used to acquire assets that are, in turn, leased to private sector organizations. Therefore, they are usually inappropriate for LBE clean energy investments.

- *Revenue bonds*, which are supported directly from the revenues of the activity being financed.
- *General obligation bonds*, which are backed by the federal, state, or local issuing entity, and typically require voter approval. They generally provide the most favorable interest rates since they are subject to the least risk.
- *Clean Renewable Energy Bonds* (CREBs), which were established in May 2005 by federal legislation that provides for \$1 billion of tax-credit bonds to be issued between 2006 and 2008 to finance renewable energy projects for public utility companies. These bonds, which can be issued by states, provide the equivalent of an interest-free loan for qualified energy projects. (Bond Buyer Online, 2005; ELPC, 2006).

Some states have worked with educational, health, and environmental bond issuance authorities to fund LBE activities or have added LBE features to planned facility bonds. For example, New Jersey's Economic Development Authority, in partnership with New Jersey's Board of Public Utilities, offers a variety of renewable energy and energy efficiency incentives (New Jersey, 2007).

It is important to consider the ancillary costs associated with issuing a bond. Bond issues can:

- Involve a time-consuming, costly, and complex process that requires an extensive legal opinion, setting up a trustee, and retaining accounting services to ensure compliance.
- Require taxpayer approval or be subject to other restrictions on new debt. Meeting these requirements can be time consuming and result in political vulnerability.
- Incur costs to rate the bond, obtain insurance, set aside a cash reserve for the first year, and pay for printing or marketing fees – additional costs that can exceed \$50,000. (EPA, 2004c.)

Adding these bond issuance costs to the cost of energy efficiency activities can change the economics of the activity, depending on its size. Therefore, although a public bond may provide the lowest stated interest rate, it may or may not have the lowest net total cost. In addition, as with capital budget requests, bond requests are often assessed using accounting protocols that do not recognize their reduced operating costs even though they may more than offset the debt service obligations (EPA, 2004c).

Energy Performance Contracts and Tax-Exempt Lease-Purchase Agreements

States often look for financing options that allow them to pay for capital investments by drawing on operating budgets. Energy performance contracts and tax-exempt lease-purchase agreements are both well-matched to LBE activities that generate a stream of energy cost savings. As long as future energy costs are budgeted at current levels with rate escalators, an ongoing revenue stream will be generated that can pay for the investment. Both of these financial vehicles are described below.

Energy Performance Contracts

An energy performance contract is an arrangement with an energy service company (ESCO) or energy service provider (ESP) to implement and manage energy savings projects over their lifetime. The ESCO or ESP acts as the general contractor responsible for all aspects of the project and assumes the associated technical and performance risks. Energy performance contracts bundle energy-saving investments (e.g., energy audits, design and specification of new equipment, ongoing maintenance, measurement and verification of product performance, indoor air quality management, and personnel training) and financing into a package that can be attractive to public agencies. The contract allows a state to finance energy-saving capital improvements – usually over a 7–20 year term – with no initial capital investment by using money saved through reduced utility expenditures. As shown in Figure 5.2.1, about 82% of all performance contracts involve public entities [i.e., municipal facilities, universities, schools and hospitals (referred to as “MUSH”) plus federal and public housing].

An ESCO typically provides a guarantee that energy cost savings will meet or exceed annual payments covering all activity costs. Such guaranteed savings agreements are the most common type of performance contract for public sector clients.⁵ If the savings do not occur, the ESCO pays the difference. Some performance contracts include a reserve fund to cover potential shortfalls, while others provide security enhancements in the form of performance bonds or letters of credit. In some instances, performance insurance or “shared savings” may be available. When surplus energy savings result from the project, these savings are shared

⁵ Another type of agreement is an “own-operate” agreement, in which the ESCO maintains ownership of the facility, and sells back its “output” to the state entity.

between the state and the ESCO or ESP, as negotiated in the energy performance contract (U.S. EPA, 2008).

Financing may be offered as part of the performance contract. However, because ESCOs are private sector firms that borrow at taxable, commercial rates, it is often possible for a state to secure better financing arrangements by taking advantage of lower, tax-exempt interest rates available to government entities.

Several states have created enabling legislation and developed model ESCO programs. For example, the Kansas Facility Conservation Improvement Program enables public agencies to enter agreements with pre-

PERFORMANCE CONTRACTING RESOURCES

Rebuild Colorado’s Energy Performance Contracting Web site

Colorado launched Rebuild Colorado in 1997 to help building owners identify and implement energy saving opportunities. The Web site provides guidance materials, case studies, and information on the benefits of performance contracting and steps for success (Rebuild Colorado, 2006b). Web site: <http://www.state.co.us/oemc/rebuildco/epc.htm>

California Energy Commission Resources

CEC has compiled a variety of handbooks on financing energy efficiency projects, including:

How to Hire an Energy Service Company provides guidance on selecting and working with ESCOs (CEC, 2000). Web site: http://www.energy.ca.gov/reports/efficiency_handbooks/400-001E.PDF

Summary of Energy Service Companies: Summary of Responses, a directory of California ESCOs, many of which provide services in other states (CEC, 2005). Web site: <http://energy.ca.gov/2005publications/CEC-400-2005-001/CEC-400-2005-001.PDF>

- For other resources on ESCOs, see Appendix E, Resources for Funding LBE Programs.

CITY OF AMHERST, NEW YORK: USING ESCOS

Amherst, New York, which has an electricity budget of \$2.7 million and a total operating budget of \$100 million, used an energy performance contract to implement energy efficiency upgrades in a number of its facilities.

The town entered into a guaranteed savings agreement with an ESCO that maximized the amount of new equipment that could be purchased from the energy savings. The result was a \$5.2 million project that included the city’s ice skating rinks, police station, three community and recreational centers, four libraries, a museum, and the local wastewater treatment facility. The ESCO guaranteed \$5 million in savings on these projects. The actual savings exceeded projected savings by 16%.

Source: U.S. EPA, 2004c.

approved ESCOs. Through this program, agencies can continuously rely on the expertise of ESCO staff and use the program's low-cost financing to fund activities (Kansas Corporation Commission, 2003b).

Tax-Exempt Lease-Purchase Agreements

A tax-exempt lease-purchase agreement, also known as a municipal lease, is a low-interest financing vehicle exclusively available to the public sector.⁶ These mechanisms are frequently used as the financing instrument underlying energy performance contracts because they allow governments to avoid using capital budgets to pay for energy efficiency upgrades. Because tax-exempt lease-purchase agreements often include non-appropriation language (that effectively limits an agreement's pay-

⁶ Lenders do not have to pay federal income tax on the interest earned on qualifying transactions and pass the benefit through to the borrower (lessee).

FINANCING NEW HEATING SYSTEMS IN THE SHENENDEHOWA CENTRAL SCHOOL DISTRICT, CLINTON PARK, NEW YORK

In the face of escalating energy and maintenance costs, the Shenendehowa Central school district installed new energy-efficient equipment that could be paid for from future energy cost savings. With assistance from NYSERDA, they hired an ESP that guaranteed energy savings.

Instead of bundling the financing under the performance contract, the district chose to obtain the funds directly from a commercial lender using a tax-exempt lease-purchase agreement for a 10-year term. The lease-purchase agreement contained non-appropriation language, which limited payments to the operating budget savings. This financing option allowed school officials to successfully install energy-efficient equipment without raising taxes.

Source: U.S. EPA, 2004c.

WASHINGTON ENERGY PERFORMANCE CONTRACTING PROGRAM

In 2001, Washington passed legislation requiring state agencies to perform energy audits in their facilities. The legislation requires agencies to use energy performance contracts to conduct upgrades in facilities where audits reveal energy saving opportunities. The Washington Department of General Administration has designed a program to assist state agencies, local governments, and other public institutions in entering into energy performance contracts. The Department has formed an Energy Team to administer the program and provide program participants with a pre-qualified list of approved ESCOs, an experienced energy engineer to provide technical assistance, and assistance obtaining low-interest state treasurer financing.

Source: Washington, 2007.

ment obligation to the current operating budget period), these agreements do not constitute debt in most states and therefore typically do not require voter approval.

Lease-purchase agreements, unlike commercial rental agreements, enable the lessee to own the equipment at the end of the lease term. This is a standard arrangement for many agencies, which already lease a portion of their equipment. It is often possible to add a clean energy activity to an existing leasing agreement, especially if a master lease is in place with a lending institution (Hatcher and Dietsche, 2001; Zobler and Hatcher, 2008; NAESC, Undated, U.S. EPA, 2008).⁷

Grants and Rebates

Governments and private foundations offer grants for specific activities with definable social benefits. Grants do not have to be repaid, which reduces the financing needed to complete a project and effectively reduces the associated payback period.

Most energy-related rebates are funded by Public Benefits Funds (PBFs), which are administered by state energy offices, local utilities, or other program administrators (see Section 5.2.2, *Funding Sources - Public Benefits Funds and System Benefits Charges* for more information).

Other Short-Term Financing Alternatives

Because most clean energy programs and activities cannot be paid off within a single fiscal year, states often must decide whether to enter long-term financing agreements or to delay the activity. For a budgeted activity (i.e., for which funds will become available in a known time frame), an alternative is for a state to start the activity immediately by issuing notes (i.e., a promise to pay). Common notes that government entities can issue include Tax Anticipation Notes (TANs), Bond Anticipation Notes (BANs), and Revenue Anticipation Notes (RANs). These short-term (e.g., less than 12 months) debt securities can be issued in anticipation of collecting future tax, bond, or revenues needed to pay for the activity, but they must be paid off in full at the end of their term. While this payment schedule may make short-term notes inappropriate for financing most energy efficiency projects, in some cases it can be a good business decision to mix financial vehicles (e.g.

⁷ A master lease is similar to a "lease line of credit" in that it allows a variety of equipment with different useful lives and delivered at different times to be financed under one agreement, thereby reducing the paperwork required for approval.

via a short-term note and a long-term agreement) to minimize the costs of delaying activities.

5.2.2 FUNDING SOURCES

This section describes how and when to use different funding sources, which are distinguished from financial vehicles. Sources of funding for LBE activities – including PBFs, revolving loans, pension funds, and private foundations – are accessed through the financial vehicles described above to provide the capital for clean energy activities. For example, a funding source such as a revolving loan fund or a state-run PBF can provide funding to a state agency via a financial vehicle such as a loan or a grant.

Energy Efficiency Program Administrators

States can work with their energy efficiency program administrators, such as utilities (e.g., PG&E) or third-party entities (e.g., the Mass Technology Trust or Efficiency Vermont) to obtain funding for their LBE programs. These organizations deliver efficiency measures and services with monies collected via public benefits funds, utility cost recovery mechanisms, or other funding sources. .

In the case of a PBF (also called a system benefits charge), state fund dedicated to supporting energy efficiency and/or renewable energy, paid for by a “per kWh” surcharge on electricity sales (typically 2 to 5 mills per kWh).⁸ As of 2006, 19 states had implemented PBF programs for energy efficiency, collecting and reinvesting more than \$1 billion per year, and 16 states were collecting more than \$300 million per year for clean energy supply (U.S. EPA, 2006b). While PBFs are typically used to support clean energy programs aimed at homeowners and the private sector, several states use them to pay for LBE activities.

EXAMPLE: *the Mass Technology Collaborative (MTC) – an entity that oversees the allocation of funding from the Massachusetts Renewable Trust, a fund generated from system benefits charges – provided funding in the form of a grant to the Massachusetts Division of Fisheries and Wildlife to evaluate the potential for integrating renewable energy and energy efficiency technologies into the design of a new state facility (EOEEA, 2007).*

Revolving Loan Funds

Revolving loan funds are capital funds that make loans, collect payments, and then re-lend the loan payments to finance new activities. The original capitalization can come from sources such as PBFs, oil overcharge refunds, legal settlements, bond issues, or billing corrections. Revolving loan funds typically offer below-market rate long-term loans for energy efficiency or renewable energy activities.

Revolving loan funds can vary from state to state, according to type of qualifying project, financing terms, maximum loan amounts, interest rates, fees, and application and approval processes. Some revolving loan funds cover all capital expenditures while others are on a cost-shared basis. To contribute to state energy goals and be self-sustaining, revolving funds must be well-capitalized (e.g., large enough to meet a significant portion of the market need) and/or long-term (e.g., to allow funds to fully recycle and be re-loaned to a sizable number of borrowers). To maintain a large pool of capital, it is important for states to consider tradeoffs such as the balance between private and public sector loans and between short-term and long-term loans. Additionally, if a fund holds only a few loans made to similar types of borrowers, it can be exposed to default; a fund with many diverse loans spreads the risks.

NEW HAMPSHIRE BUILDING ENERGY CONSERVATION (BECI) INITIATIVE

The New Hampshire BECI prompted an evaluation of options for improving energy efficiency in state-owned buildings. The state’s Treasury Department was concerned about increasing the state’s debt, which could adversely affect its credit rating. State officials determined that by setting up a tax-exempt master lease program (MLP) to underwrite its performance contracts, the state could obtain lower cost financing. Because the non-appropriation language of the MLP would allow the lease to be repaid from operating funds, there would be minimal impact on the state’s credit rating. The state arranged two rounds of MLP funding for its facilities, totaling approximately \$25 million.

This low-cost financing enabled state officials to install a broader range of energy-efficient equipment than if they had used the financing bundled into an ESP’s performance contract. As a result, more projects met the legislated payback requirements. Ten buildings have been renovated through the BECI program. Avoided energy costs for these facilities exceed \$200,000 annually. When fully implemented, it is anticipated that the BECI will be responsible for upgrades in more than 500 state-owned buildings, with energy savings of up to \$4 million a year. These energy efficiency improvements will reduce CO₂ emissions by approximately 35,000 tons per year.

Sources: U.S. EPA, 2004c; New Hampshire, 2006; U.S. EPA, 2006b.

⁸ 1 mill = one-tenth of a cent.

IOWA ENERGY BANK

The Iowa Energy Bank combines private and public funds to finance energy efficiency improvements in state facilities by using saved energy costs to pay for the projects. The Energy Bank conducts an energy audit and engineering analysis, and negotiates financing terms with private lenders. The bank has facilitated more than \$130 million in energy efficiency measures since its inception in 1989. Common energy efficiency improvements include fluorescent lamp and ballast replacement, motor replacement, exit sign replacement, pipe insulation, lighting controls, low volume toilets, biomass fuels, envelope insulation, and wind energy purchases.

Source: Iowa, 2006.

OREGON: STATE BUSINESS TAX CREDIT FOR EFFICIENCY AND RENEWABLES

Oregon's Business Energy Tax Credit (BETC), which any business and public entity can qualify for, has stimulated business investment in energy conservation, renewable energy resources, recycling, and less-polluting transportation fuels since 1980.

The tax credit is 35% of the eligible project costs (i.e., the incremental cost of the system or equipment that is beyond standard practice). The credit is taken over five years: 10% in the first and second years and 5% each year thereafter. The unused credit can be carried forward up to eight years. Recipients with eligible project costs of \$20,000 or less can take the tax credit in one year. Through 2003, more than 7,400 Oregon energy tax credits had been awarded. Altogether, these investments saved or generated energy worth about \$215 million a year.

A key feature of the program is its innovative "pass-through option," in which a project owner can transfer a tax credit to a pass-through partner in return for a lump-sum cash payment (the net present value of the tax credit) upon project completion. The pass-through option allows public entities and businesses with and without tax liability to use the energy tax credit by transferring their tax credit for an eligible project to a partner with a tax liability.

Source: Oregon, 2006a.

LOANSTAR REVOLVING LOAN PROGRAM

The Texas LoanSTAR (Saving Taxes and Resources) Program is a self-sustaining program of the State Energy Conservation Office (SECO), which provides low-interest loans to finance energy conservation in public facilities. Loans are repaid using cost savings from verified energy reductions. Legislatively mandated to be funded at a minimum of \$95 million at all times, the LoanSTAR Program had funded projects in 191 facilities as of April 2006, with energy savings averaging 15%, an average payback period of 5.6 years, and 3% annual interest rates. The program has achieved cumulative energy savings of more than \$210 million and has prevented 7,073 tons of NO_x, 2.1 million tons of CO₂, and 4,788 tons of SO₂.

Sources: SECO, 2006b and ACEEE, 2007

A number of states have revolving loan funds that are successfully providing capital for clean energy activities, including LBE activities. These funds can be coordinated with tax incentives [e.g., the Oregon Business Energy Tax Credit (BETC)], have varying degrees of private commercial lender involvement (e.g., the New York Energy Smart Loan Program), or can be run as a direct lender (e.g., Texas LoanSTAR Program).

EXAMPLE: *The Maryland Energy Administration provides loans to state agencies for cost-effective energy efficiency improvements in state facilities through its State Agency Loan Program (SALP), which awards about \$1 million in new loans each fiscal year. State agencies pay zero interest with a 1% administration fee. Their repayments are made from the agency's fuel and utility budget, based on the avoided energy costs of the activity. This self-sustaining fund is capitalized with national oil overcharge funds (MEA, 2005).*

Pension Funds

Some states use pension funds to invest in clean energy activities. Pension fund managers seek a mix of investments that ensure stable returns for their contributors after they retire, and energy cost savings can generate a solid return to the pension fund.

EXAMPLES: *Washington Real Estate Holdings, a real estate manager for the Washington State Investment Board, which manages the state's pensions, completed a \$3.5 million SMART ENERGY and energy efficiency upgrade of Union Square that lowered building energy costs by 40% and created 30 jobs for a year (Feldman, 2005).*

CalPERS (California Public Employees Retirement System) and CalSTRS (California State Teachers Retirement System), which are among the country's largest pension funds for state and local government employees, hosted a conference in 2005 on environmental investing in San Jose, California, stating that "there is a growing demand in our global economy for cleaner, more efficient energy and technological solutions." (CalPERS, 2005.)

Private Foundations

A number of private foundations (e.g., nonprofit organizations or charitable trusts) help fund scientific, educational, or other charitable activities. The most common types of financing provided by these foundations include grants and program-related investments (which are usually set up with a repayment schedule). While foundations are sometimes reluctant to finance government

activities, clean energy activities that meet a foundation's specific objectives (e.g., improved indoor air quality in public buildings) may qualify for assistance.

5.2.3 STRATEGIES FOR OVERCOMING FINANCIAL OBSTACLES

The previous two sections describe financial vehicles and funding sources that states can use to finance their clean energy LBE programs. This section summarizes strategies and best practices states can use to mitigate financial barriers to their LBE programs.

- *Consider Multiple Financing Options.* LBE activities compete with many other programs for limited financial resources. In addition, capital is often difficult to access and financial requirements may be difficult to meet. Strategies for addressing financial issues include:
 - Use alternative financing options, including municipal lease-purchase agreements, performance contracting, and revolving loan funds.
 - Reform budgeting procedures to allow agencies to borrow from operating budgets to supplement capital budgets.
 - Communicate the fact that in the long run, cost-effective clean energy LBE activities help extend limited financial resources.

STATES ARE DEVELOPING WAYS TO SHARE OR RETAIN THEIR ENERGY SAVINGS

Iowa Executive Order 41 requires agencies to retain energy savings and reinvest them in facility infrastructure.

South Carolina legislation states that an agency's budget must not be reduced by the full amount of money saved through energy conservation measures. Instead, energy savings must be divided among the agency, the general fund, and debt retirement of capital expenditures on energy efficiency. In addition, the legislation requires the use of financial incentives to encourage agencies to reinvest their energy cost savings into energy conservation areas, where practical.

Recent Connecticut legislation requires development of a strategic plan to improve the management of energy use in state facilities. The resulting financial benefits to states and the overall electric system will be measured and distributed as follows:

- 75% retained by electric ratepayers
- 12.5% reinvested in EE programs in state buildings
- 12.5% invested in EE programs and technologies for energy assistance programs administered by the Department of Social Services.

Sources: Iowa, 2005; South Carolina, no date given; Connecticut, 2007.

- *Modify State Procurement and Accounting Rules.* State policies sometimes present barriers to implementation. Some states have modified their public procurement and accounting methods to encourage energy efficiency investments and renewable energy procurements. Barriers and potential solutions include:

- Modify purchasing requirements that require using least first-cost and lowest bid approaches. This is critical because performance contracts and other energy-saving investments can increase upfront capital costs while resulting in lower life-cycle costs over the long term. In some cases, legislative authority or policy changes may be needed to modify procurement regulations to require life-cycle costing. For example, the Vermont State Agency Energy Plan for State Government requires life cycle cost analyses to be conducted on state purchases, where applicable (Vermont, 2005). (Also see Section 5.2.1, *Financial Vehicles, Capital Budgets and Procurement Budgets.*)
- Permit long-term contracting, which is often needed to implement performance contracts.
- Revise financing and leasing regulations so that public entities can pass through tax benefits (i.e., tax credits) to private entities. This is necessary for attracting private investors.
- Modify budgeting and accounting practices so that agencies or facilities are allowed to keep a portion of the energy cost savings. Otherwise, energy cost savings could simply result in reduced budgets in subsequent years, discouraging facility managers from developing energy efficiency activities.
- Change state budget "scoring" rules, so that the benefits of performance contracting, bond issues, or other debt obligations are considered along with their costs.

UTAH POLICY TO ADVANCE ENERGY EFFICIENCY IN THE STATE – FINANCING OPTIONS

The governor's policy for improving energy efficiency in state facilities recognizes the need for agencies to explore a variety of methods for funding energy-saving programs in buildings, including:

- Funding from the state legislature
- Utility energy-efficiency contracts
- Performance contracts
- Petroleum violation escrow fund
- Federal grants

Source: Utah, 2006.

- Develop standard agreements for sharing or retaining energy savings. State budget policies sometimes require savings from LBE activities to be deducted from an agency's or department's budget and transferred to the state general fund, rather than benefiting the agency or department. States are addressing this problem by revamping purchasing rules, developing standard agreements and protocols, issuing executive orders, and passing legislation for sharing or retaining energy savings.
- *Aggregate Purchasing Contracts for Green Power, Equipment Procurement, and Service Contracting.* Purchasing authority is often dispersed across agencies. Some states have lowered their costs by aggregating purchasing contracts across state agencies. For example, combining the electricity requirements of several agencies into a single contract enables states to negotiate lower prices for green power.

EXAMPLES: *The California Local Energy Efficiency Program coordinates municipal LBE programs that are, in many cases, very small jurisdictions with limited energy use. By coordinating their green power purchases, these municipalities can obtain better rates for their green power purchases.*

In 2004, the New York Municipal Wind Buyers Group was able to negotiate a 5% price reduction from the initial 2¢/kWh premium on a renewable energy purchase that aggregated the energy demands of 27 communities (Bird and Swezey, 2004).

In Colorado, a 2007 executive order directs the state Department of Personnel and Administration to pursue opportunities to aggregate purchases of hybrid and alternative fuel vehicles with neighboring states (Colorado, 2007).

KING COUNTY, WASHINGTON – WIN WIN PROGRAM

More than 130 government agencies throughout King County, Washington take advantage of the county Fleet Administration Division's Win-Win Program. The program uses savings from aggregated purchases to provide services to regional government agency fleets. These services include acquisition, maintenance, replacement, and disposal of more than 3,000 vehicles and equipment, worth over \$2 billion. Agencies can save up to \$4,000 per vendor when purchasing fleet-related products through the county. The county provides these services at cost—government agencies can obtain services through the program at the same cost of purchasing on their own, while benefiting from the county's expert advice.

Source: King County, 2006.

- *Address "Split Incentives" Issues.* Split incentives involve situations where the economic benefits of reducing energy consumption do not accrue to the entity that takes the action. Two types of split incentives can occur when implementing LBE programs:

- State building occupants may not have an incentive to pay the upfront costs of energy efficiency since they do not see the savings from their investments. Increased communications and outreach (e.g., workshops and employee recognition programs) that raise the profile of clean energy LBE activities and their benefits can help overcome this barrier.
- When states lease facilities from private owners, the owners may pass energy costs on to the building occupants and therefore have no incentive to purchase energy-efficient equipment or implement other clean energy measures. Similarly, designers and contractors for new buildings do not pay life-cycle operating costs, which instead fall on the tenants. Requiring life-cycle cost accounting and taking advantage of financial vehicles – such as performance contracting and municipal lease-purchase agreements – can help address these concerns. Other strategies include making the business case for energy efficiency to building owners and managers, and establishing an award system that gives the owner a share of the benefits.

EXAMPLE: *In Wisconsin, state officials are working to incorporate ENERGY STAR criteria into lease agreements when they are renegotiated for renewal (Mapp et al., 2006).*

5.3 CONDUCT COMMUNICATIONS AND OUTREACH: BUILDING AND MAINTAINING SUPPORT FOR AN LBE PROGRAM

Once an LBE program or activity has been initiated, it is important to continue to build and maintain support to ensure effective program implementation. This

ENERGY EFFICIENCY IN GOVERNMENT-LEASED BUILDINGS

States can lead by example by using their spending power to encourage private sector building owners to adopt energy-efficient building standards. California, Hawaii, and Virginia have used executive orders or legislation to direct state agencies to give preference to ENERGY STAR and LEED-certified spaces when pursuing building spaces for lease or purchase.

Sources: California, 2007; Hawaii, 2006; Virginia, 2007.

section outlines communication and outreach strategies for obtaining ongoing LBE program or activity support from state agency personnel, the public, and other community stakeholders. Additional resources are provided in Appendix E, *Resources for Conducting Communications and Outreach for LBE Programs*.

5.3.1 GAIN STATE AGENCY PERSONNEL SUPPORT

Despite its many benefits, clean energy is often assigned a lower priority than other issues. In addition, the relevant agency, facility, or managers may find it difficult and time-consuming to implement new LBE activities, or may not have the specific knowledge or staff support needed to do so. States can employ a variety of methods to mitigate these barriers while gaining the support of state staff. These strategies include:

- *Develop Contacts With State Employees.* It is important to identify state employees who might represent roadblocks to LBE efforts, as well as those who can be champions for the state LBE program, and to share information about the merits of LBE activities with these individuals. For example:
 - Develop contacts with high-level personnel, especially facility and finance managers, who might present potential roadblocks to LBE efforts.
 - Identify the champions in each state agency who are working to implement clean energy activities and give them the implementation support.
 - Identify staff who may be uncertain about the merits of LBE activities and include them in program planning and implementation.
 - Supplement limited staff availability by hiring interns (Massachusetts, 2006a) and obtaining governor support for hiring additional staff (Utah, 2006).
- *Provide Incentives to Key State Agencies and Personnel.* Giving verbal and/or written credit to state agencies and employees who are instrumental in helping to plan, implement, and participate in LBE activities communicates the importance of these activities, thereby encouraging others to offer support and instill clean energy awareness into the institutional culture.

EXAMPLE: *Colorado recognizes state employees who have promoted the goals and objectives of its Greening the Government program (Colorado, 2005).*

- *Require participation in LBE program design.* States can require key personnel to participate in LBE program/ activity development and ensure participation through a regular reporting and meeting process.

EXAMPLE: *When the New York “Green and Clean” State Buildings and Vehicles Executive Order was enacted, the governor obtained support by convening agency heads in a state panel to implement the order and follow up with regular reports to the governor’s office (NYSERDA, 2006).*

- *Improve coordination among state agencies.* The expertise required for an effective LBE program is often dispersed across different state agencies. Consequently, coordinating among agencies that have varied technical and programmatic focus (e.g., energy efficiency, finance, facilities construction and management,

MASSACHUSETTS APPROACH TO OBTAINING LBE SUPPORT FROM KEY STATE AGENCIES

A key reason for the success of the Massachusetts State Sustainability Program has been the ability of the lead LBE agency, the Executive Office of Environmental Affairs (EOEA), to successfully develop contacts with key state agency personnel. This process involved engaging high-level EOEA officials to contact each of the agency commissioners and ask them to appoint sustainability coordinators. EOEA also develops contacts with building facility directors and key finance staff. To date, EOEA has been able to obtain the support of key personnel in 50 of the largest state agencies, with the largest potential clean energy impacts. One effective approach for gaining support from these key personnel involved highlighting the non-environmental benefits (e.g., cost savings, personnel savings) in addition to the environmental and energy benefits of the program.

Source: Massachusetts, 2006a.

STATE EMPLOYEE INCENTIVES IN COLORADO

Through its Employee Sustainability and Pollution Prevention Incentive Awards Program, Colorado offers recognition to state employees who excel in promoting the goals and objectives of Executive Order D005 05, Greening of State Government. Selection criteria include:

- Degree of innovation
- Longevity of outcome (i.e., length of impact)
- Potential for environmental results and improvements
- Level of impact
- Application to Executive Order goals
- Effect on public awareness of opportunities for incorporating sustainable practices

Source: Colorado, 2006b.

environmental issues) can be instrumental in implementing clean energy programs.

5.3.2 CONDUCT COMMUNICATIONS AND OUTREACH WITH STATE AGENCY PERSONNEL

Conducting communications and outreach with state agency personnel is integral to gaining and maintaining support for the implementation of clean energy programs. The following strategies can help states ensure that staff at all levels are well informed so that they can effectively implement state LBE program and activities.

- *Develop a communications and outreach plan.* States can develop and implement a communications and outreach plan that outlines their approach for informing staff about the LBE program, its benefits, and how to support these efforts. A successful plan includes identification of the communications goal, target audience, key messages, strategies, specific activities to implement the strategies, and an approach for evaluating the plan's effectiveness. EPA has developed guidelines and support materials for developing a communication plan for ENERGY STAR activities, which can be applied to many clean energy LBE communication activities (U.S. EPA, 2006h). In addition, EPA is developing a guide to help states determine how to design, implement, and evaluate a program to educate and inform stakeholders about climate change and the benefits of clean energy [U.S. EPA, Forthcoming(b)].
- *Emphasize the broad range of clean energy benefits.* The benefits of clean energy LBE programs are sometimes not obvious to state officials, state agency staff, and other participants in the LBE process. Using outreach materials, education and training sessions, and guidance documents to report the dollars and kWh saved, GHG emissions avoided, and other environmental, economic, and energy reliability benefits can be an effective way to promote clean energy (also see Section

VERMONT: EMPHASIZING THE BENEFITS OF CLEAN ENERGY

This 2005 state plan includes a chapter describing ways to obtain buy-in from state agency staff through education, promotion, and communication, including to:

Explain why the state LBE program is critical to reducing global warming; what state policies, laws, and agreements have been instituted; and how to implement LBE plans and strategies.

Provide statistics on past and present electrical and heating fuel usage as compared to targeted energy usage goals.

Source: Vermont, 2005.

5.3.3, Communicate the Benefits of Clean Energy to Stakeholders).

- *Develop outreach materials.* States can develop outreach materials to educate state employees about LBE plans and engage their active participation in implementing the plans. Communication materials, from very simple reminders to more detailed materials and fact sheets, can describe the state's LBE activities, agency staff responsibilities, and information about the benefits of LBE programs.

EXAMPLES: *Minnesota Executive Order 04-08 requires state departments to biannually email fact sheets to state employees about steps they can take at work and at home to reduce air pollution (Minnesota, 2005).*

California has developed fact sheets describing state LBE measures (e.g., green building initiatives and solar power in state facilities), which include statistics on accomplishments (Green California, 2006b).

- *Provide Training Sessions, Workshops, and Conferences.* LBE training sessions, workshops, and written guidance can help show agencies how to develop their own LBE plans quickly and at low cost.
- EXAMPLE:** *In Colorado, Rebuild Colorado offers energy management training workshops for state agency staff. Colorado held a Greening of State Government Conference to inform state employees, including purchasing officials, energy managers, facilities staff, custodial managers, and fleet managers, of the benefits of the state's LBE program and to share information on successful strategies, lessons learned, and available resources (Colorado, 2006a).*
- *Educate new employees.* It is important to ensure that new employees are informed about the LBE program, the specific measures that are being implemented, and related benefits.
 - *Develop LBE guidance documents.* Knowing how an LBE activity applies to a particular office and its employees can increase the level of participation by state personnel and improve the effectiveness of an LBE program. Colorado, Massachusetts, Minnesota, and Vermont, for example, have developed guidance documents for state agencies that provide an approach to implementing their LBE program, including strategies for promoting the program and communicating its benefits to state employees.

5.3.3 COMMUNICATE THE BENEFITS OF CLEAN ENERGY TO STAKEHOLDERS

Creating a sustainable, effective LBE program involves persuading stakeholders about the initiative's merit. Thus, it is important to describe the benefits of the LBE program to the public, the private sector, and other community stakeholders, and to explain why these benefits are in their interest. States can communicate these benefits to stakeholders in a variety of ways:

- *Develop a clean energy LBE Web site.* Web sites provide an important source of information for the public.

EXAMPLES: *The Energy Resources Council of Maine has developed a Web site for energy consumers, called MaineEnergyInfo.com. One section of the site describes state LBE accomplishments and activities (Maine, 2006).*

The California Green Action Team, maintains a Web-based online media center that includes links to photos and videos highlighting LBE accomplishments (Green California, 2006a).

- *Issue press releases.* States can issue press releases to announce new LBE policies, explain the benefits of clean energy, and highlight LBE successes.

EXAMPLE: *An August 2006 press release announced the Pennsylvania governor's decision to double the state's green power purchase (e.g., wind and hydroelectric energy) from 10% to 20% of the state government's electricity consumption. The press release states that by leading the way on renewable energy resources, the state will create jobs, enhance homeland security, and provide significant environmental improvements (Pennsylvania 2006d).*

- *Publish newsletters, brochures, and fact sheets.* States can develop outreach materials to explain the benefits of clean energy and illustrate the state's role in taking the lead in clean energy activities.

EXAMPLES: *Massachusetts publishes quarterly newsletters that highlight LBE activities and provide information on innovative and cost-effective sustainability activities at state agencies, authorities, and colleges (Massachusetts, 2006b).*

California has recently initiated an on-line newsletter to share information on the state's actions to meet its energy efficiency and resource conservation goals (Green California, 2006b).

For states targeting municipal LBE programs, it can be helpful to work within "community outreach channels" to help build program support. A community outreach channel is an organization or process that deals with core issues of concern in the community, such as managing public buildings, reducing pollution, creating jobs, serving disadvantaged populations, and/or creating economic development opportunities.

EXAMPLE: *CALeep, for example, used the existing outreach channel of the San Joaquin Valley Regional Jobs Initiative (originally established to increase employment) to promote energy efficiency in municipalities (CALeep, 2006).*

Clean energy LBE activities frequently involve new technologies or practices that might be perceived as unproven, and can present barriers to implementation. Strategies for addressing these perceptions include:

REBUILD COLORADO TRAINING SESSIONS

The Colorado Governor's Office of Energy Management and Conservation's Rebuild Colorado offers a variety of technical services to state agencies and institutions, cities, counties, schools, and other local governments. Services include Energy Management Training Workshops for State Agencies, which are monthly, 90-minute, teleconferences for facilities and maintenance staff of state agencies and higher education institutions. Sessions are held on a variety of topics in energy management, including, for example, retro-commissioning.

Source: Rebuild Colorado, 2006a.

MASSACHUSETTS AGENCY SUSTAINABILITY PLANNING AND IMPLEMENTATION GUIDE

The Massachusetts State Sustainability Program developed a planning and implementation guide for state agencies that articulates the program's goals and offers specific strategies for agencies and employees to increase sustainability in state government. The guide is organized according to five LBE program areas: climate change/energy efficiency, waste reduction and recycling, sustainable design, water conservation, and environmentally preferable purchasing.

It includes a five-step sustainability plan template and a sample action plan worksheet to help agencies identify sustainability activities and the key staff necessary to ensure program success.

The guide serves as a foundation from which agencies can develop sustainability plans. It also encourages agencies to incorporate their own ideas into the program, with the aim of producing greater interest in the program's effective implementation.

Source: Massachusetts, 2004.

- *Conduct communication and outreach.* States can use workshops, presentations, and fact sheets to illustrate successful LBE programs launched by other states, and/or to provide tangible program benefits.
- *Provide incentives.* When developing green buildings, some facilities managers, architects, and designers must commit sufficient effort to make the integrated design process fully effective. States can communicate the importance of these actions by offering designers and architects energy performance bonuses if the building meets an agreed-upon energy efficiency target.

EXAMPLE: *Rebuild Colorado provides grants to state agencies, school districts, and universities as an incentive for public facilities managers to participate in its high-performance building design program (U.S. DOE, 2007).*

- *Offer technical expertise.* In some cases, the perceived concern involves a real operational or financial risk (e.g., new clean energy technologies may involve O&M risks, and some regions might have limited access to ESPs with well-established track records). States can help relieve these risks by obtaining technical expertise and screening or preauthorizing vendors or contractors.

5.4 PROVIDE TECHNICAL AND FINANCIAL ASSISTANCE TO LOCAL GOVERNMENTS

While some local governments are already leading by example through clean energy programs⁹, other city and county governments lack sufficient staff and resources to initiate LBE programs. Consequently, it can be important for states to provide technical support and financial assistance to local government agencies – public hospitals; public schools, colleges, and universities; and other city- and county-level government facilities. Assisting local governments with their LBE activities can enable states to meet statewide clean energy and GHG goals.

EXAMPLE: *In July 2007, the Maryland governor launched the emPOWER Maryland initiative, with the goal of reducing statewide per capita energy consumption by 15% by 2015. One of the seven steps intended to help the state government reach this goal is to expand*

⁹ See, for example, Section 3.5.5, *Local Governments or Other State/Public Organizations Adopt Programs that Support State Goals and/or Influence State Adoption of LBE Programs* and Chapter 2, *Potential Lead by Example Activities and Measures*.

the Community Energy Loan Program (CELP), which provides in low-interest revolving loans to local governments and nonprofit organizations to install energy efficient improvements (Maryland, 2007).

Working with local governments can also lead to enhanced information-sharing networks that can both increase awareness of the benefits of clean energy at the local level and provide opportunities for local governments to share their LBE successes with states. (Additional resources are provided in Appendix F, *Resources on Technical and Financial Assistance to Local Governments*.)

BENEFITS OF STATE TECHNICAL AND FINANCIAL ASSISTANCE PROGRAMS

- Facilitate development and implementation of local clean energy programs
- Encourage information sharing among state and local agencies
- Help states meet their statewide clean energy targets
- Help ensure the development of consistent and successful clean energy practices

5.4.1 TECHNICAL ASSISTANCE PROGRAMS

A number of states have developed technical assistance programs for local governments and other public entities. Examples of successful state LBE technical assistance programs are presented below.

California: Technical Assistance in Existing and New Buildings

The CEC's Energy Partnership Program offers technical assistance to cities, counties, and hospitals by helping these local groups identify opportunities to improve energy efficiency in buildings. The program provides such technical services as conducting energy audits, preparing feasibility studies, developing equipment performance specifications, reviewing existing proposals and designs, reviewing equipment bid specifications, and assisting with contractor selection and commissioning. The CEC also helps identify state loans and other financing sources for project installation (CEC, 2006b).

Web site: <http://www.energy.ca.gov/efficiency/partnership/index.html>

New York: Energy-Efficient Product Procurement Assistance

As part of its Energy \$mart initiative, NYSERDA administers the New York State Local Government Energy-Efficient Product Procurement Program (GEEP-NY) to provide local governments with tools, education, and guidance to assist them in purchasing or leasing ENERGY STAR equipment. Resources include fact sheets, case study briefs, demonstration projects, an electronic resource center, a model for estimating savings potential, a “how-to” guide, and PowerPoint briefings (NYSERDA, 2004a).

Web site: <http://www.nyserda.org/programs/geep-ny/index.asp>

Oregon: Energy Audits and Design Reviews for Public Schools and Local Governments

The Oregon Department of Energy provides technical assistance to public schools and local governments by conducting energy audits, assessments, and design reviews. Through its Building Commissioning Program, the department helps train building operators to improve building documentation, detect potential energy deficiencies, and tune up building control systems. Resources include commissioning handbooks and a

toolkit that guides public school and local government building managers through the commissioning process (Oregon, 2006b, 2006b).

Web sites: <http://www.oregon.gov/ENERGY/CONS/GOV/govhme.shtml> (Energy Information for Governments)

<http://www.oregon.gov/ENERGY/CONS/BUS/comm/bldgcx.shtml> (Building Commissioning)

Pennsylvania: Energy Management Plan Assistance

The Pennsylvania Department of Environmental Protection has developed communication materials (including a Web site and a PowerPoint presentation) to provide energy conservation assistance to local governments, and assists local governments in developing energy management plans based on initial evaluations of energy efficiency improvement opportunities. The Web site contains a list of information and resources on conservation and energy efficiency measures, alternative energy approaches, and financial incentives (Pennsylvania, 2006a).

Web site: <http://www.depweb.state.pa.us/energy/cwp/view.asp?a=1379&q=485061>

Texas: Schools and Local Government Program

Administered by the Texas SECO, this program provides services to help public school districts, colleges, universities, and nonprofit hospitals establish and maintain energy efficiency programs through school partnerships, energy management training workshops, and direct energy-related services. The school partnerships component of the program includes activities such as helping schools establish student-involved energy projects and developing energy-related educational materials. The energy management training workshops cover both the administrative aspects of clean energy LBE programs (e.g., energy accounting and retrofit financing) and the technical aspects (e.g., energy management technologies and building design). Direct technical support is provided through facility-related services that address energy accounting, energy-efficient facility O&M, indoor air quality, water conservation, and comprehensive energy planning. SECO also offers a Preliminary Energy Assessment Service to assist energy managers in reducing costs, increasing available capital, spurring economic growth, and improving working and living environments. The assessment service offers recommendations for energy efficiency upgrades at no cost (SECO, 2006a).

Web site: <http://www.seco.cpa.state.tx.us/sch-gov.htm>

TYPES OF TECHNICAL ASSISTANCE

- Training seminars and workshops
 - Guidance documents and resources, including clean energy LBE Web sites for local governments
 - Outreach programs
 - School partnerships and energy education programs
 - Direct assistance, such as conducting energy audits, preparing feasibility studies, and assisting with contractor selection and building commissioning
 - Energy management and planning support
- Technical Assistance Topics
- Energy efficiency measures
 - Energy management technologies
 - Green building design
 - Building codes
 - Energy accounting
 - Retrofit financing
 - Building commissioning
 - ENERGY STAR resources
 - Energy-efficient procurement practices

West Virginia: Building Professionals Energy Training Program

This program, administered by the West Virginia Development Office, disseminates information concerning current energy codes and building technologies to local government officials and county and school facilities managers. With the assistance of DOE, program staff organize training seminars covering topics such as “Overview of the 2000 International Building Codes,” “High Performance Schools,” and “ENERGY STAR Portfolio Manager” (West Virginia, 2006).

Web site: <http://www.wvdo.org/community/code.html>

NEW JERSEY CLEAN ENERGY PROGRAM: PROVIDING FINANCING FOR SCHOOLS AND LOCAL GOVERNMENTS

New Jersey’s Clean Energy Program administers the Clean Energy Financing for Schools and Local Governments program, which offers financial incentives and low-interest financing to schools and governments to develop energy efficiency and renewable energy generation projects. The program combines a rebate program with incentives and financing, giving schools and local governments the flexibility to implement cost-effective projects immediately.

The following sample analysis for a comprehensive energy efficiency building upgrade, developed by the New Jersey Clean Energy Program, illustrates potential costs and savings:

Sample Cost Savings Analysis

PROJECT COSTS

Comprehensive energy efficiency upgrade (includes lighting and HVAC)	\$500,000
Installation of a 200 kW solar energy system	\$1,200,000
Total project costs	\$1,700,000

FINANCING

New Jersey Clean Energy Program Grant	\$890,000
Total financing—15-year term at 4.8%	\$810,000
Total finance payment	\$6,321 per month

SAVINGS

Energy savings (from efficiency upgrades and solar system installation)	\$8,917 per month
Monthly cost savings (Years 1–15)	\$2,596 per month
Annual cost savings (Years 16–25)	\$35,000 per year
Total savings (over and above the cost of the equipment and financing charges)	\$817,280

Source: New Jersey, 2005.

5.4.2 FINANCIAL ASSISTANCE PROGRAMS

State agencies responsible for clean energy LBE programs can provide direct financial assistance to local governments and/or provide resources about financial opportunities available through other sources.

A number of state programs offer loans to local governments that can be paid by using savings from the energy efficiency upgrades funded by the loan. Other states help local governments with their energy savings performance contracting and/or provide guidance on financing opportunities for local agencies. Examples of state financial assistance programs for local governments are provided below.

California: Energy Efficiency Financing Program

This CEC program provides low-interest loans to schools, hospitals, and local governments to fund energy audits, feasibility studies, and energy efficiency measures. The interest rate is 4.5%, and the maximum loan per application is \$3 million. Recipients who complete their projects within 12 months of the loan and meet all requirements specified in the loan application receive a reduced interest rate of 4.1%. The repayment schedule is negotiable up to 15 years and is based on the annual projected energy cost savings from the aggregated projects (CEC, 2006a).

Web site: <http://www.energy.ca.gov/efficiency/financing/index.html>

Kansas: Facility Conservation Improvement Program

This program enables local governments to use an energy service performance contract to access financing for planning and implementing LBE activities. The state program has a master agreement with four pre-approved ESCOs that provide services ranging from activity identification and assessment to design management. Leases for energy savings activities through the program are tax-exempt to benefit the public agencies, and the interest paid by the lessee is exempt from federal and Kansas income tax (Kansas Corporation Commission, 2003a).

Web site: <http://www.kcc.state.ks.us/energy/fcip/financing.htm>

Oregon: State Energy Loan Program (SELP)

This program provides low-interest loans for public, residential, and commercial energy efficiency activities (including projects in schools, cities, counties, Indian

tribal communities, and state and federal agencies). Eligible activities include energy production from renewable resources, using recycled materials to create products, using alternative fuels, and installing energy saving technologies such as energy-efficient lighting and weatherization. Limited funds are also available for energy evaluations for schools and public buildings. As of December 2007, 765 loans exceeding \$420 million had been made through SELP. Of these, more than 200 loans were made to municipal organizations. Loan terms vary from five to 15 years. The program is self-supported (using no tax dollars) and most loans are designed so the energy savings from the project equal the loan payment (Oregon, 2006d).

Web site: <http://www.oregon.gov/ENERGY/LOANS/selphm.shtml>

Pennsylvania: Local Government Handbook

Pennsylvania's Department of Environmental Protection (DEP) developed a handbook for local governments, developers, and businesses that describes the DEP's financial and technical assistance programs across a range of environmental and energy topics (Pennsylvania, 2008).

Web site: <http://www.depweb.state.pa.us/ocr/ocr/lib/ocr/ocr/localgovernmenthandbook2008.pdf>.

5.5 INFORMATION SHARING: FEDERAL, STATE, AND LOCAL LBE RESOURCES

Clean energy programs and activities are being implemented and funded across the country on federal, state, and local levels. LBE managers and administrators can increase the effectiveness of their programs by coordinating with other agencies, programs, and organizations, sharing information about their experiences, and sharing LBE-related resources and tools.

5.5.1 OPPORTUNITIES FOR NETWORKING AND INFORMATION SHARING

Successful implementation of an LBE program or activity can require considerable information and technical expertise, and involve skills ranging from designing programs to conducting financial analyses. Networking, one-on-one discussions, and sharing information with officials from other states and municipalities can provide insights about methods, best practices, useful tools, and strategies for alleviating barriers

(see Appendix G, *State LBE Programs and Contacts*, for a list of LBE initiatives by state, including contact information). In addition, organizations that include representatives from multiple states (e.g., the National Association of State Energy Officials) can serve as clearinghouses for information on clean energy and LBE programs. These organizations provide a forum for discussion and can facilitate information-sharing sessions among governments.

Exchanging information about LBE goals, plans, programs, and issues can be especially helpful when states share similar situations. For example, information sharing can be particularly beneficial among states with extensive college systems that include many large universities with their own physical plant, purchasing officers, and administrators. States, including California and New York, have assembled extensive information on how to implement LBE activities and have shared this information via Web sites, published guidance

LEVERAGING TECHNICAL EXPERTISE AND CREDIBILITY

The Consortium for Energy Efficiency (CEE), which works with private and public sector partners to advance energy efficiency, has assisted municipalities in implementing energy-efficient traffic signals. CEE helps municipalities adopt the ENERGY STAR traffic signal specification, which is based on the Institute of Transportation Engineers standard. This provides cost savings to municipalities that may not have had the resources to develop a specification of their own. But more importantly, having a technically sound and well-established specification helps pave the way for more rapid adoption of energy-efficient traffic signals. Having a credible specification provides an assurance to traffic departments of the safety and reliability of the signals.

Source: CEE, 2006.

MARYLAND'S JANE E. LAWTON CONSERVATION LOAN PROGRAM (JELLP)

Maryland operates the Jane E. Lawton Conservation Loan Program (JELLP) – which recently replaced the Community Energy Loan Program (CELP) – to provide local governments, nonprofits, and businesses with financial assistance to reduce operating costs associated with energy efficiency upgrades (e.g., technical assessments, plans and specifications, and construction costs). Eligible projects include those that save energy and have a simple payback of seven years or less. Energy savings generated by efficiency upgrades can be the major source of loan repayment. Currently, the program funds nearly \$1.5 million in new projects each fiscal year; a total of 58 loans have been made providing more than \$15 million for energy efficiency improvements, with cumulative energy savings of more than \$20 million.

Sources: Maryland, 2006; Maryland, 2008.

documents, presentations, and training sessions (CEC, 2007a and NYSERDA, 2004c).

5.5.2 FEDERAL, STATE, AND LOCAL INFORMATION RESOURCES

Numerous federal, state, and local resources are available to LBE managers and administrators as they establish their programs. An extensive list of resources is provided in the appendices to the *LBE Guide*. This section highlights some of the key federal and state information sources.

Federal Government Information Resources

The federal government sponsors a variety of programs and provides technical assistance to states implementing LBE programs. Table 5.5.1, Federal Government Information Resources, presents a summary of the major federal programs that address clean energy issues and provide guidance documents and other resources relating to LBE programs.

State Information Resources

Several states have developed Web sites with substantial LBE support documents, including language for executive orders, legislation, and regulations; LBE implementation guides; and resources for particular LBE activities. Examples are presented in Table 5.5.2.

Local Information Resources

Local governments are also developing clean energy LBE programs. Table 5.5.2 summarizes some of the LBE guidelines, best practices, and other resources that municipalities have developed.

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TABLE 5.5.1 FEDERAL GOVERNMENT INFORMATION RESOURCES

Title	Description	URL/Source
EPA Clean Energy-Environment State and Local Program	<p>This program assists state and local governments in their clean energy efforts by providing technical assistance, analytical tools, and outreach support. It includes two programs:</p> <p><i>The Clean Energy-Environment State Partnership</i> is a voluntary partnership program that supports state efforts to develop and implement cost-effective clean energy strategies that achieve public health and economic benefits. Through this partnership program, EPA provides technical assistance tailored to states' needs.</p> <ul style="list-style-type: none"> ▪ <i>The Clean Energy-Environment Guide to Action</i> provides an overview of clean energy programs, including LBE opportunities and information resources available to states. <p><i>The Clean Energy-Environment Municipal Network</i> provides resources that supports local governments' efforts to use clean energy strategies to advance their community priorities.</p> <ul style="list-style-type: none"> ▪ EPA is currently developing <i>Municipal Clean Energy Best Practices</i> guidance that will provide best practices information and resources about energy efficiency, energy supply, transportation and air quality, urban planning and design, waste management strategies to reduce energy use, and cross-cutting programs and resources. <p>A key resource for both programs is the:</p> <ul style="list-style-type: none"> ▪ <i>Energy Efficiency Resources Database</i>, which provides planning, policy, technical, analytical, and information resources for state and municipal governments. 	<p>Program Web site: http://www.epa.gov/cleanenergy/energy-programs/state-and-local/index.html</p> <p>State Partnership Web site: http://www.epa.gov/cleanenergy/energy-programs/state-and-local/state-partnership.html</p> <p>Guide to Action: http://www.epa.gov/cleanenergy/energy-programs/state-and-local/state-best-practices.html</p> <p>Municipal Network Web site: http://www.epa.gov/cleanenergy/energy-programs/state-and-local/local.html</p> <p>Municipal Best Practices: http://www.epa.gov/cleanenergy/energy-programs/state-and-local/local-best-practices.html</p> <p>Energy Efficiency Resources Database: http://www.epa.gov/cleanenergy/energy-programs/napee/resources/database.html</p>
EPA Combined Heat and Power Partnership	<p>The voluntary CHP Partnership seeks to reduce the environmental impact of power generation by promoting the use of CHP. The Partnership works closely with energy users, the CHP industry, state and local governments, and other stakeholders to support the development of new projects.</p> <ul style="list-style-type: none"> ▪ <i>The Catalog of CHP Technologies</i> offers information for regulators, policymakers, and agency officials on CHP systems and applications. 	<p>Partnership Web site: http://www.epa.gov/chp</p> <p><i>Catalog of CHP Technologies</i>: http://www.epa.gov/CHP/project_resources/catalogue.htm</p>
EPA ENERGY STAR Program	<p>The ENERGY STAR program provides numerous resources to governments, schools, and businesses to help them achieve superior energy management and realize resulting cost savings and environmental benefits. A list of ENERGY STAR resources applicable to LBE activities is provided in Section 2.1, <i>Energy Efficiency Measures in Government Buildings</i>.</p>	http://www.energystar.gov
EPA Environmentally Preferable Purchasing	<p>This EPA program provides assistance in purchasing products and services that have a reduced impact on the environment. The Web site describes options for procuring environmentally preferable office equipment, information on green buildings, and opportunities for networking with representatives of other green programs. It also contains a list of Web-based tools to assist with environmentally preferable purchasing.</p>	http://www.epa.gov/opptintr/epp/pubs/about/about.htm
EPA Green Power Partnership	<p>The EPA Green Power Partnership is a voluntary program to boost the market for green power sources. State and local government partners receive EPA technical assistance and public recognition.</p> <p><i>The Guide to Purchasing Green Power</i> provides an overview of green power markets and describes opportunities and procedures for buying green power.</p>	<p>Partnership Web site: http://www.epa.gov/greenpower</p> <p><i>Guide to Purchasing Green Power</i>: http://www.epa.gov/greenpower/buygreenpower/guide.htm</p>

TABLE 5.5.1 FEDERAL GOVERNMENT INFORMATION RESOURCES (cont.)

Title	Description	URL/Source
National Action Plan for Energy Efficiency	The National Action Plan for Energy Efficiency presents policy recommendations for creating a sustainable, aggressive national commitment to energy efficiency through gas and electric utilities, utility regulators, and partner organizations. The National Action Plan Web site contains resources, technical support, and networking opportunities.	http://www.epa.gov/cleanrgy/actionplan/eeactionplan.htm
DOE Building Technologies Program	This program works in partnership with private and public sector organizations to improve building efficiency. The Web site provides assistance on energy efficiency in buildings; it contains guidelines, training information, information on financial resources, and a database of high performance buildings.	http://www.eere.energy.gov/buildings
DOE Federal Energy Management Program	FEMP works to reduce the operating costs and environmental impacts associated with federal facilities and to improve the energy efficiency of federally-procured products. Resources include an online database of federal high performance buildings, an annual training conference, and various workshops.	http://www1.eere.energy.gov/femp/
DOE Solar Energy Technologies Program	This program aims to develop strategies for implementing solar technologies around the country. Through such programs as the Million Solar Roofs initiative and the Solar America Initiative, the federal government partners with state and local governments to encourage the expansion of solar energy.	http://www1.eere.energy.gov/solar/
DOE State Energy Program	This program provides funding and technical assistance resources to state energy offices. Many states have used State Energy Program resources to support LBE programs.	http://www.eere.energy.gov/state_energy_program/
DOE Technical Assistance Project	TAP helps state and local officials in cross-cutting areas that are not currently covered by existing DOE programs. Assistance is available on: system benefit charges; renewable or energy efficiency portfolio standards; use of clean energy technologies; and use of renewable energy on public lands.	http://www.ornl.gov/adm/wfo/exthome.htm
DOE Wind and Hydropower Technologies Program	This program aims to improve wind energy technology, and develop cost-effective technologies that will enhance environmental performance and improve energy efficiency. The Web site presents opportunities for using wind and water for energy generation and provides resources on financing projects.	http://www1.eere.energy.gov/windandhydro/

TABLE 5.5.2 STATE INFORMATION RESOURCES

Title	Description	URL
California	The <i>Green California</i> program is the product of the governor's creation of a Green Action Team to implement sustainable policies statewide. The program provides information on how the state is leading by example by reducing energy and resource consumption. The Web site offers information on LBE opportunities, including a library of resources and fact sheets, and multiple guidance documents pertaining to sustainable building design/performance, onsite energy generation, and environmentally preferable purchasing.	http://energy.ca.gov/reports/efficiency_handbooks/index.html

TABLE 5.5.2 STATE INFORMATION RESOURCES (cont.)

Title	Description	URL
California	California's CALeep helps local governments leverage existing energy efficiency initiatives and resources to design and implement energy efficiency strategies for their communities. CALeep has produced the <i>Local Energy Efficiency Program Workbook</i> , which provides guidance for communities establishing energy programs. The CALeep Web site contains resources prepared by other state programs and federal sources. It also includes sources from cities, including the U.S. Council of Mayors <i>Selected Best Practices for Successful City Energy Initiatives</i> guide and examples from individual cities.	www.caleep.com/workbook/workbook.htm
Colorado	The <i>Greening Colorado Government</i> Web site serves as a clearinghouse for government agencies seeking information on LBE opportunities. The site provides resources for planning and tracking LBE programs, strategies for implementing energy-efficiency improvements, links to relevant executive orders and legislation, and information on opportunities for obtaining technical assistance.	http://www.colorado.gov/greeninggovernment/index.html
Massachusetts	The Massachusetts State Sustainability Program was developed to reduce the environmental impact of state agency operations and to promote sustainable practices statewide. The program includes initiatives for emission reductions, recycling, sustainable building design, and environmentally preferable purchasing. The Web site provides resources about LBE strategies and opportunities for financial assistance. A <i>Planning and Implementation Guide</i> provides information on the environmental impacts of day-to-day operations and how to implement specific LBE actions.	http://www.mass.gov/envir/Sustainable/Planning and Implementation Guide http://www.mass.gov/envir/Sustainable/pdf/ss_guide_web.pdf
New York	NYSERDA is responsible for implementing and guiding a number of state LBE programs, including a comprehensive program for green buildings and vehicle and equipment procurement. A guideline document—“ <i>Green and Clean</i> ” <i>State Buildings and Vehicles Guidelines</i> —provides information to assist state entities in developing detailed implementation plans and directing future projects.	http://www.nyserda.org/programs/State_Government/default.asp?i=13
Pennsylvania	The <i>Governor's Green Government Council</i> assists the state government in adopting sustainable practices. The Council Web site provides information on its LBE programs, including green building, energy conservation, and environmentally preferable purchasing, and provides guides for adopting green practices in offices and schools. The section on high performance green buildings program provides an extensive list of resources and tools for state officials.	http://www.gggc.state.pa.us/gggc/site/default.asp
Vermont	The <i>Vermont State Agency Energy Plan for State Government</i> provides a strategy and guidance to address energy resource consumption issues in three primary areas of state governmental operations including building infrastructure development and operations and maintenance, state purchasing and contract administration policies and practices, and transportation	http://www.bgs.state.vt.us/pdf/VTStateEnergyPlan.pdf
Database of State Incentives for Renewable Energy	This database is a comprehensive source of information on state, local, and selected federal incentives that promote renewable energy and energy efficiency.	http://www.dsireusa.org

TABLE 5.5.3 LOCAL GOVERNMENT INFORMATION RESOURCES

Table 5.5.3. Local Government Information Resources		
Title	Description	URL/Source
Alameda County, California	Alameda County has developed Implementation Guidelines for its model environmental procurement policy. The county's model policy has been adopted by several California local governments.	http://www.ciwmb.ca.gov/epp/LawPolicy/AlaPollmp.doc
Boulder, Colorado	Boulder, Colorado has developed a <i>Historic Building Energy Efficiency Guide</i> for implementing energy efficiency measures in historic government buildings. Energy efficiency measures can be implemented without compromising historic authenticity and architectural or aesthetic integrity.	http://www.bouldercolorado.gov/index.php?option=com_content&task=view&id=8217&Itemid=22
Hennepin County, Minnesota	The Board of Commissioners in Hennepin County has authorized the creation of a Lead by Example Incentive Fund that will award a combined \$100,000 to county departments that invest in environmentally preferable products. The Board has developed a set of <i>Lead by Example Initiative Guidelines</i> to assist department staff in meeting the program's requirements.	http://www.co.hennepin.mn.us/files/HCIInternet/EPandT/Environment/Green%20Government/LBE%202007%20guidelines%20and%20instructions.pdf
King County, Washington	The King County Environmental Purchasing Program has established a <i>Model Environmentally Preferable Products Policy</i> for local governments and other organizations.	http://www.metrokc.gov/procure/green/mdpolicy.htm
Madison, Wisconsin	The Madison Mayor's Energy Task Force has developed a <i>Blueprint for Madison's Sustainable Design and Energy Future</i> to recommend strategies for the city to lead by example in energy efficiency and renewable energy.	http://www.cityofmadison.com/mayor/pdfs/GreenCapitalReport_1.pdf
Philadelphia, Pennsylvania	The <i>Philadelphia High Performance Building Renovation Guidelines</i> provide guidance on major government renovation projects. Each guideline includes an overview of project materials, implementation strategies, and benefits.	http://www.phila.gov/pdfs/PhiladelphiaGreenGuidelines.pdf
San Antonio, Texas	San Antonio has developed an <i>Energy Efficiency Plan</i> that outlines measures the city plans on implementing to reduce energy consumption in local government facilities and operations.	http://www.sanantonio.gov/enviro/pdf/Cosa_Energy_Plan_Rev_10-03.doc
San Francisco, California	The <i>San Francisco Municipal Green Building Compliance Guide</i> provides guidance for the design and construction of new government buildings in San Francisco.	http://www.sfenvironment.com/aboutus/innovative/greenbldg/gb_compliance_guide.pdf

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