State Energy Program's Strategic Plan for the 21st Century

Implementation Plan

Office of Building Technology, State and Community Programs
Energy Efficiency and Renewable Energy
U.S. Department of Energy

State Energy Program Implementation Plan
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Implementation Plan

Introduction

In February 2000, the State Energy Program's (SEP) Strategic Plan for the 21st Century was completed and distributed to the SEP network. The Strategic Plan was developed by a committee comprised of current and former State Energy Office directors, along with U.S. Department of Energy (DOE) SEP managers. The Strategic Plan established three Key Goals that provide a clear focus and conceptual framework for SEP program activities over the next ten years. These goals are:

Key Goal 1: Maximize energy, environmental, and economic (EEE) benefits through increased collaboration at the federal, State, and community level

Key Goal 2: Increase market acceptance of energy efficiency and renewable energy technologies, practices, and products

Key Goal 3: Use innovative approaches to reach market segments and meet policy goals not typically addressed by market-based solutions

Representing the next stage in the strategic planning process, this Implementation Plan describes the way these Key Goals will be addressed. The implementation effort will involve both DOE and the States working together over the next several years. This Plan outlines DOE's support activities, a set of implementation activities that are recommended for the States, and a projected timeline for implementation.

U.S. Department of Energy's Role

During Fiscal Year (FY) 2001 - 2002, SEP program activity at DOE Headquarters and in the Regional Offices will focus on the implementation of the Strategic Plan for the 21st Century. DOE's role is to assist the States in effectively addressing and meeting the three Key Goals. The following activities are designed to support the States in meeting the Key Goal challenges while also strengthening the State Energy Office network. In FY 2001 - 2002, DOE will:

1. Facilitate collaborative opportunities at all levels.

DOE will encourage and support collaborative efforts at the local, State, and national levels. Linkages between States and local communities are particularly important for increasing energy efficiency and renewable energy use. Communities exercise critical influence on how energy is used; however, the issues that drive communities are more likely to be environmental or economic. States can help communities to attain a healthy environment and sustainable economic development through effective use of energy efficiency and renewable energy. DOE's community outreach efforts continue to evolve, and DOE programs, like Rebuild America, recognize the value of strategic national partnerships to support and influence successful State and community collaboration. Linking States to relevant national organizations, and providing information and technical resources, can better equip them to identify collaborative opportunities, develop partnerships, and leverage resources.

DOE is moving toward an integrated, or "gateway," approach to program delivery, where communities will have a single point of contact to access all program products and services. Pilot programs underway in several Regional Offices offer communities a menu of decision-supporting tools and resources available from DOE, other federal agencies, the States, and private non-profit organizations. This represents a shift from a focus on delivering single government programs to a broader focus on a community's environment, economy, and quality of life. DOE will expand this model to all Regions.

DOE has included a new project category in the SEP Program Notice regarding the FY 2001 Special Project grants, covering Energy and Environment Integration. This section of the Notice requests projects from States which: 1) encourage statewide energy efficiency pilot projects that demonstrate specific environmental benefits; and 2) provide a vehicle for increased collaboration among federal, State, and local government (and non-governmental) energy and environmental organizations. The purpose of this request is to spotlight, through a handful of pilot/demonstration projects, the significant potential to increase program impacts through collaboration.

DOE will also use its federal, national, and regional networks to foster collaboration among States and other federal agencies, national non-profits, and relevant associations. For instance, as a member of the interagency White House Livable Communities Task Force, DOE will identify and promote cross-cutting national policies and federal regulations that will allow States to work in a more integrated manner with other federal agencies. DOE will also look for more opportunities to coordinate with the U.S. Environmental Protection Agency and other agencies to increase the impact of SEP programs.

2. Make Technical Assistance more readily available.

Two things are important in technical assistance: applicability and timeliness. States need to have individualized, focused technical assistance readily available. DOE's access to national laboratory support provides a tremendous resource for technical assistance. SEP can benefit greatly by having access to laboratory experts who can provide guidance and assist States in problem-solving. DOE (Headquarters and Regional Offices) will collaborate with the States to determine the most needed areas of technical assistance. DOE will consult with the appropriate staff at each laboratory to determine the most effective venue of support, and make that support readily available to the States. DOE will work to make laboratory staff available as needed for "real time" technical assistance.

The second area of technical assistance DOE will support is peer exchange and mentoring. Peer exchange has long been an effective element of SEP operations. Through peer exchange, States benefit from the successes and lessons learned in other States and they improve their programs based on those experiences. DOE will also support a more intensive level of peer exchange in the form of mentoring agreements, where States with more experience in certain areas could work with other States over time, including site visits, training, etc. DOE will ensure that annual operating plans consistently allow for increased peer exchange and mentoring opportunities.

3. Develop a web-based information clearinghouse designed specifically for SEP managers.

The State Energy Program does not have a central reference source for SEP-specific information. Information relevant to SEP is mixed with other program information and/or located in many different places. This requires an inordinate amount of time to sift and sort through the various resources. To address this need, DOE will sponsor the development of a web-based clearinghouse dedicated to the State Energy Program.

This clearinghouse will enable States to easily access the latest information relevant to SEP in a broad range of subject areas (policy, program implementation, technical information, funding sources, etc.). It will serve as a fundamental resource where States can direct individuals interested in SEP and related activities. DOE will begin the process by working with State program managers and the National Association of State Energy Officials (NASEO) to determine the information and subject areas needed for the clearinghouse.

4. Coordinate a uniform program message for State and national implementation.

As cited in the Strategic Plan, the benefits created through SEP are not widely recognized. SEP has long lacked a clear national identity. NASEO has identified this as a key area of concern for the States. DOE will work with NASEO to develop a campaign that promotes a clear, uniform program message.

By coordinating a campaign, DOE will be able to help States to reach a broader audience and expand their energy efficiency activities. States can spend more time addressing customers' specific needs rather than simply describing their programs. Additionally, DOE will provide basic communications materials to support the program message, such as publications used by State customers, copies of "camera ready" articles and artwork, etc. This will assist the

State when cultivating new partners and resources for projects.

5. Conduct regional training workshops.

DOE will sponsor a series of regional or bi-regional training workshops in the summer of 2001 on a range of topics that will expand the States' opportunities for success. DOE will confer with the States in each region to identify the types of training that would be most valuable to them as they begin to implement the Strategic Plan, and then design each workshop accordingly. The following paragraphs describe several topic areas that may be addressed in these workshops.

In many States, the SEP formula grant funding is a relatively small portion of the total funding potentially available from multiple sources, ranging from local utilities to other federal agency programs. Leveraging dollars is a key component of SEP. Together with the States, DOE will explore the possibilities for a highly flexible approach to using SEP funds to increase States' leveraging capabilities. This might include, for example, ensuring expertise and representation "at the table" in air quality compliance proceedings or utility restructuring debates.

As States address the three Key Goals and undertake new implementation activities, fine-tuned leveraging skills will be pivotal to attract new partners and resources. To assist the States in this challenge, DOE will provide leveraging training on a regional level. Additionally, DOE is prepared to make experts available to the States, particularly in the area of utility restructuring, to enable the State Energy Offices to utilize public benefits funds for energy efficiency and renewable energy programs.

DOE recognizes that State SEP staff (often only one or two individuals) have absorbed activities previously undertaken by numerous staff members. In many instances, training related to strategic planning, goal setting, evaluation techniques, and metrics has not always been available to staff now expected to carry out these functions. To assist the States, DOE will provide training in these areas as part of the planned regional workshops.

6. Complete, as expeditiously as possible, the effort to develop metrics for the State Energy Program.

DOE, NASEO, and Oak Ridge National Laboratory are working together to develop a series of program metrics for SEP to quantify the impacts of State program measures across the nation. The first set of these metrics is now being tested and is expected to be ready for distribution in Spring 2001. DOE will make the metrics effort a high priority, and it will be completed as expeditiously as possible.

Recommended State Activities

As part of this 10-year strategic planning effort, States are encouraged to take a fresh look at their own planning processes and consider ways to refocus State Plans over time to address the three Key Goals. The significant increase in the FY 2001 federal appropriation for SEP formula grants will increase State grants by approximately 13%. This offers an excellent opportunity for States to explore new program measures and address some areas that may not have been possible earlier.

The Key Goals described in the SEP Strategic Plan are broad and conceptual, and many different program activities can contribute to achieving them. Included in this package is an initial set of recommended activities that can contribute to SEP's three Key Goals. This set of activities is not all-inclusive; in fact, it is the first in an ongoing series of recommended activities that will be distributed periodically. Adoption of these activities is not mandatory. The States' ability to creatively develop and implement program measures that meet their own individual needs is a cornerstone of SEP, and these recommended activities do not take away from that flexibility. They are a combination of new ideas and proven program measures that were selected by representatives of State Energy Offices serving on the Implementation Planning Committee. These "top nine" activities, selected from a long list of possible program measures, were considered to have the broadest applicability and greatest potential impact toward achieving SEP's three Key Goals.

The activities are presented in the form of planning guides, called "How To Guides," which go step by step through the process of planning and implementing the particular activity. They are intended to clearly and succinctly provide all the basic information needed: program design, potential partners and how to attract them, resources, possible barriers and the solutions to those barriers, key factors leading to success, and several other elements. Where available, current State examples are included.

The nine implementation activities described in the enclosed "How To Guides" are as follows:

Key Goal 1: Maximize energy, environmental, and economic (EEE) benefits through increased collaboration at the federal, State, and community level

SEP has long recognized the value of forming diverse partnerships to successfully implement programs. States have become skilled in bringing together people and organizations with diverse interests to work together to their mutual benefit. Increased collaboration among energy, environmental, and economic interests can significantly magnify program results, because the three areas are so closely related. Partnerships between the State agencies responsible for these areas can increase operational efficiency, improve customer service, expand the audience reached, as well as increase energy efficiency, environmental, and economic development impacts. States can also work with communities to form similar partnerships to carry out local projects.

The four recommended activities listed below were chosen because they offer natural opportunities for collaboration among energy efficiency, environmental, and economic development interests in major sectors of State and community operations, and because their potential for energy savings and increased alternative energy use is so great.

- Maximize energy savings in school buildings
- Deploy clean transportation technologies
- Quantify the impacts of the energy/environmental businesses in the State
- "Greening" of State buildings

Key Goal 2: Increase market acceptance of energy efficiency and renewable energy technologies, practices, and products

Market transformation is one of the main activities that SEP has emphasized over the years. The States have engaged in market transformation through a rich variety of activities. States are in a key position to affect market transformation at the community level. Almost everything States do as part of SEP contains some element of market transformation. Thus, effective market transformation remains one of the program's Key Goals for the next decade. The two recommended implementation activities related to this goal were chosen because of the tremendous potential they have to affect the marketplace.

- Maximize energy savings through building standards
- Develop a targeted consumer education campaign using innovative, interactive technologies

Key Goal 3: Use innovative approaches to reach market segments and meet policy goals not typically addressed by market-based solutions

In a deregulated energy marketplace, we cannot depend on market forces to reach all segments of the population. Yet, a stable supply of energy is an absolute necessity. It is projected that market forces will effectively address large industrial and commercial customers. However, smaller consumers such as small businesses, homeowners, small agricultural firms, and low-income consumers are not attractive customer groups. The recommended implementation activities in this section present three different strategies for ensuring the availability of energy services and energy-efficient technologies to these audiences.

- Implement innovative appliance financing programs for low-income consumers
- Access Systems Benefits Charges to support energy programs managed through the State Energy Office
- Aggregate under-served markets into buying pools

Schedule for Implementation

Implementation of the SEP Strategic Plan is an ongoing, interactive, inclusive process with time built in at each major stage for gathering comments and reactions from the SEP network, potential partner organizations, and other stakeholders. The projected schedule through the end of 2002 is as follows:

November 2000
Distribute final Implementation Plan and "How To Guides" to the States.

January - March 2001
DOE provides States with specific information on implementation of DOE support activities, how to access individualized technical assistance, plans for information clearinghouse web site, etc.

Discuss Strategic Plan implementation at Regional Office SEP pre-award meetings.

Assist interested States to integrate Key Goals and How To Guide activities in their FY 2001 State Plans.

Spring 2001
First set of program metrics distributed to the States.

May 2001
FY 2001 Special Project grant awardees are announced.

July 2001
State Plans from interested States reflect Key Goals and recommended implementation activities.

Summer 2001
Regional/Bi-Regional training workshops are held across the country.

October 2001
If needed, reconvene Strategic Plan group to update SEP Strategic Plan.

December 2001
Track successes; identify additional implementation activities. Develop and disseminate additional How To Guides as appropriate (*additional Guides may be developed earlier as time permits).*

Conduct national teleconferences to encourage interaction on State implementation activities, including all groups necessary within each State.

Winter - Spring 2002
Continue discussing Strategic Plan implementation activities at FY 2002 Regional Office pre-award meetings; determine need for additional training/technical assistance.

Continue to work with States to customize and incorporate Strategic Plan implementation activities in their State Plans.

July 2002
FY 2002 State Plans from interested States reflect further integration of goals and recommended implementation activities.

October 2002
Document successes and aggregate for distribution.

Celebrate!!!

December 2002
Identify additional implementation activities; develop and distribute additional "How To Guides."

We would like to recognize the members of the Strategic Plan Implementation Planning Committee for committing the time and energy necessary to develop this Plan. The members are:

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Appendix I: How-To Guides for Recommended State Activities for Key Goal One

Key Goal 1: Maximize energy, environmental, and economic (EEE) benefits through increased collaboration at the federal, State, and community level

SEP has long recognized the value of forming diverse partnerships to implement projects and programs. States have become skilled in bringing together people and organizations with varied interests to work together to their mutual benefit. Increased collaboration among energy, environmental, and economic entities significantly multiplies the impact and benefits of SEP projects, because the three areas are so closely related. Partnerships between the State agencies or offices responsible for these areas offer new opportunities for greater operational efficiency, increased customer service, expanded audiences, as well as increased energy efficiency, environmental, and economic development impacts. States can also work with communities to form similar partnerships to carry out local projects.

How To Guide: Maximize energy savings in school buildings

This activity focuses on implementing cost-effective energy saving measures in school buildings and emphasizes the key role of collaboration at the State and local level. It also provides an opportunity to educate students, teachers, and community members on the economic, environmental, and health benefits of energy efficiency and renewable energy technologies. This guide presents the steps involved in working with a local school district to carry out a program at the community level.

School energy costs are estimated at approximately $110 per student per year, depending on region and climate conditions. Total utility costs, including fuel, water, waste water, and trash, averages $140 per student. Energy efficiency and renewable energy solutions can yield savings of up to $50 per student per year. School districts can save 30% to 40% on annual energy costs in new schools and 20% to 30% in renovated schools by integrating energy efficiency and renewable energy measures. Energy savings can be redirected to fund other school programs, textbooks, computers, salaries, and maintenance and repair facility projects.

Desired Outcome:

Reduced energy consumption and costs in new and existing school buildings. Improved teaching environment, learning rates, test scores, and productivity.

Program Design

Steps

1. Understand your market: determine need for retrofits/new construction/new equipment or energy-efficient technology; characterize your building stock; identify school district and community priorities, etc.
2. Understand the decision-making process. Primary players are school board members, superintendents, and facilities managers (if the district has one). Also, State departments of education sometimes require plan reviews before districts can build new schools.
3. Gather baseline data on current energy use, energy costs and potential savings, student/teacher population, student absenteeism, and average test scores on standardized tests. Work closely with building engineers and custodians in your school district to determine energy usage.
4. Determine specific goals in terms of improved energy management and savings; daylighting and air quality.
5. Identify and access additional resources and partners, including utilities and local businesses, ESCOs, other State and federal agencies, and environmental groups.
6. Identify a “champion” who understands the school system to advance program.
7. Establish program design team to include students, teachers, principals, building engineers and custodians, school district representatives, and parents.
8. Identify funding mechanisms and leveraging opportunities. Sources of funding include: capital improvement programs, revolving loan funds, school district capital and operating budgets, school district bonding authorities, targeted loan funds, energy savings performance contracts and lease-purchase programs, and utilities (including opportunities through utility restructuring activities). ESCOs may provide financing and often include educational materials in their packages.
9. Partner with schools and other educational organizations to develop energy/environmental curriculum to help teachers and students understand benefits of energy-efficient and “green” design and construction practices.
10. Assign a full-time Resource Conservation Manager for the school district.
11. Hold workshops for designers/engineers/building custodians to educate on benefits of energy-efficient and renewable energy technologies and practices.
12. Provide training in energy-efficient operations and maintenance for maintenance staff and building operators.
13. Develop a plan to collect data and monitor changes relative to baseline.
14. Monitor program and make adjustments as necessary.
15. Document the results and market the program to other States and school districts.

Partners and Possible Incentives

- **Utility companies:** Load management; improved public relations. Utilities often provide excellent resources, including incentives for energy efficiency, low interest loan programs, and expert technical assistance.
- **Energy Service Companies (ESCOs):** Economic opportunity.
- **Teachers' Union, Principals, Superintendents, School Boards, Building Managers, Parent/Teacher Associations:** Healthier teaching environment and improved student performance; energy savings off-set scarce resources to fund computers, textbooks, salaries, and equipment; and reduce maintenance requirements with new, more efficient equipment.
- **Other national partners may include:** U.S. Department of Education, U.S. Environmental Protection Agency, Alliance to Save Energy, and American Institute of Architects.

Resources Needed

- Architectural and engineering expertise
- Financing expertise
- Staff time and training
- Support of local school board, superintendents, principals, parents, building engineers, and maintenance staff

Resources Available

School planning, design, and construction

- U.S. Department of Energy (DOE) EnergySmart Schools Program (www.eren.doe.gov/energysmartschools) Provides information on reducing energy costs through better school design and management practices.
- DOE's Rebuild America and the EREC/EREN Clearinghouse (www.eren.doe.gov/buildings/rebuild) and 1-800-DOE-EREC helps schools and other building owners create local partnership to plan and implement energy-efficient, cost-saving building renovations. Nearly 100 school districts nationwide are participating.
- DOE's Center of Excellence for Sustainable Development (www.sustainable.doe.gov) Excellent resource for sustainable development practices and success stories.
- DOE's Clean Cities Program (www.ccities.doe.gov) Program can connect to resources for school buses that run on alternative fuels, such as natural gas and electricity.
- U.S. Department of Education School Construction and Design (www.ed.gov/inits/construction/indes.html) Promotes Administration's proposal to modernize America's schools.
- U.S. EPA's Energy Star Buildings Partnership (www.epa.gov/buildings) or 1-888-STAR-YES (1-888-782-7937) Offers tools to help schools make buildings energy-efficient and reduce pollution.
- The National Clearinghouse for Educational Facilities (www.edfacilities.org) The most comprehensive listing of professional association and organizations, federal and State programs and resources, academic research centers, products and services, and publications devoted to the planning, design, construction, and maintenance of K-12 schools.
- Alliance to Save Energy's Green Schools Program (www.ase.org/greenschools/start.htm) Focuses on improving energy efficiency of K-12 school facilities.
- Sustainable Building Industries Council (www.sbicouncil.org) SBIC High Performance School Buildings provides information for decision makers about the value of high performance, sustainable schools.
- Whole Building Design Guide web site (www.wbdg.org) Provides building criteria, standards, sustainable design principles, and lessons learned.
- American Institute of Architects Committee on Architecture for Education (www.e-architect.com/pia/cae/welcom.asp) Issues related to pre-kindergarten through university level facilities. Architects who provide environmental or energy-efficient design can be found under the service type.
- K-12 Construction Facts (www.ed.gov/inits/construction/k12-facts.html)

Financing

- Qualified Zone Academy Bonds (QZABs) (www.ed.gov/inits/construction/generalqzab)
- Green Energy Finance (www.energyfinance.org) One-stop shop of energy efficiency financing resources for building managers, lending institutions, architects, and others.
- ESCOs (www.naesco.org) Listing of ESCOs around the country.

Improved Learning Environment

- Pacific Gas & Electric Study on Daylighting and Productivity (www.h-m-g.com)
- EPA's Indoor Air Quality in Schools (www.epa.gov/iaq/schools/) 1-800-438-4318. Provides information on improving air quality through better school design and management practices.

Benchmarking Performance

- LEED Green Building Rating System (www.usgbc.org/programs/leed.htm) The Green Building Council rating system that evaluates building performance relating to energy and sustainable design.
- Sustainable Building Technical Manual: Green Building Practices for Design, Construction, and Operations - A one stop shop for designers, builders, owners, and operators of public and private facilities to help implement energy and resource efficient/green design strategies. Copies can be obtained through the U.S. Green Building Council at (info@usgbc.org).
- DOE's Center of Excellence for Sustainable Development Toolkit (www.sustainable.doe.gov/toolkit/buildings.htm) Portfolio of programs and tools to measure energy use and potential savings.

Developing Energy Curriculum

- National Energy Education Development Project (NEED) (www.need.org) Promotes energy efficiency through the development of objective, multi-faceted energy education programs.

Key Conditions/ Factors

- Availability of energy use data at individual school or school district, and ability to characterize potential savings (knowledge of buildings, local energy costs, and conditions).

Special Opportunities for Success

- New school construction or planned retrofits of existing school buildings
- Budget surpluses at State level or within school capital and operating budgets
- New school board with priority on improving learning environment

Success Boosters

- Strong support of local champions
- Ability to market the program effectively to all decision-makers
- Clear examples of benefits and successful projects
- Ease of participation

Technology Transfer Plan

- Web site, conferences, and model schools
- EnergySmart Schools materials
- Local recognition awards for successful schools

Barriers and Potential Solutions

- **Difficulty obtaining funding within school district:** Use SEP funds as seed money; seek corporate partners; look for other State funding opportunities.
- **Lack of knowledge of available funding options to start program:** Seek peer advice from network.
- **Disinterest due to lack of knowledge of potential energy benefits:** Provide information to decision-makers on energy benefits and related environmental and economic benefits.
- **Lack of priority given to energy issues within school district and/or State:** Link energy efficiency benefits to other priorities. For example, demonstrate how the savings from a reduction in school energy consumption could fund another priority project.
- **Lack of in-house technical expertise:** Seek advice from peers, private sector volunteers, and through peer exchange with other States/programs.
- **Hidden agendas held by participants/clients:** Try to mesh benefits/outcomes to meet the needs of all participants.

Metrics

Primary:

- Square feet of building space retrofitted or built to energy efficiency specs
- Reduction in energy consumption, measured in Btus/square foot and monthly or annual cost savings

Additional Indicators:

- Decline in absenteeism
- Improved test scores on standardized tests
- Number of new partnerships between schools and State and federal agencies, environmental organizations, and local utilities and businesses

Case Studies/Examples

States reported that in 1998, they used $2 million in federal funds for energy efficiency schools programs, which leveraged $66.8 million in State funds, and $264.9 million in private-sector funds. (www.naseo.org)

DOE's EnergySmart Schools web site at (www.eren.doe.gov/energysmartschools) contains best practice examples for (1) improving existing buildings; (2) new construction; and (3) operations and maintenance procedures. The examples also include contact information.

South Dakota

South Dakota has implemented a comprehensive program aimed at saving energy in their schools and other institutional buildings, modeled after the former Institutional Conservation Program. Through this program, South Dakota provides grants for up to 50% of the cost of installing energy conservation measures in existing school buildings. To be eligible, projects must demonstrate a 15-year payback; projects with paybacks of 10 years or less are encouraged."

Texas

Texas developed a School Energy Management Program to provide a range of integrated services to school districts to improve energy efficiency. The State estimates that districts could reduce energy waste by $100 million annually. Workshops staffed by successful Texas school energy managers and energy professionals provide districts the tools to evaluate their energy needs and resources. The Energy Efficient School Partnership Service targets districts with fifteen or less campuses. It delivers personalized on-site assistance in calculating building energy cost and utilization indices, setting up energy-efficient operational procedures, and identifying appropriate financing sources for cost-effective capital energy projects.

How To Guide: Deploy clean transportation technologies

This activity combines technology deployment strategies with education and outreach to increase the number of alternative fuel vehicles (AFVs) deployed.

The transportation sector has an enormous impact on our economy, our national energy security, and our environment. Transportation accounts for 66% of the U.S. annual petroleum consumption and oil imports comprise 35% of the merchandise trade deficit. Moreover, emissions from vehicles are the single largest contributor to air pollution in many cities, making the air unhealthy to breathe and increasing health care costs. States can improve air quality and boost economic activity through deployment of clean transportation technologies.

Linking the economic driver of increasing petroleum price to the environmental driver of air quality concerns will expand the basis of support for adoption of alternative fuel vehicles.

Desired Outcome:

Expand the fleet of clean transportation technologies, with an infrastructure to support them. Increase consumption of alternative fuels to avoid harmful emissions, reduce the nation's dependence on oil imports, and increase public awareness of benefits of clean energy technologies.

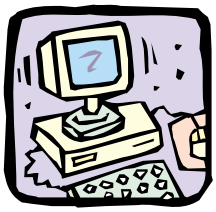
Program Design

Steps

1. Establish baseline data (fuel usage patterns, number of AFVs currently deployed, existing infrastructure); determine program goals and target market.
2. Conduct inventory of other State transportation projects and look for linkages.
3. Identify EPAct and CAAA-required vehicles and target for program.
4. Identify and recruit fleet and vehicle operators inclined to use alternative fuels, particularly fleet operators: taxis, delivery services, shuttle services, transit buses, airport ground fleets, school bus fleets, and national park vehicles.
5. Create incentives for infrastructure and vehicles including: provide technical training; facilitate construction of fueling stations; offer tax benefits for AFV purchase or conversion; allow HOV lane access for AFVs; waive vehicle license tax or sales tax for AFVs.
6. Integrate with DOE's Clean Cities program; build on experience and link efforts.
7. Educate potential users on benefits of AFVs.
8. Identify partners and collaborate to build coalition support and deploy technologies.
9. Participate in AFV promotions, e.g., Clean Cities sponsored 75-100 "Advancing the AFV Choice" events around the country in FY 2000.
10. Monitor and publish results (fuel use impacts, number of vehicles, emission reductions, etc.).
11. Incorporate program into State Implementation Plan (SIP).
12. Adapt program to technology changes.
13. Implement sunset incentives after goal is reached.

Partners and Possible Incentives

- **Auto dealers, conversion companies, fuel providers:** Increased sales, increased public awareness of AFVs through high-profile demonstrations.
- **Fleet operators (federal/State/local government and corporate):** Federal and State tax benefits.
- **Environmental groups, health associations:** Reduced emissions, cleaner air and water.
- **Utilities:** Increased sales in alternative fuels (natural gas and electricity).
- **Universities, schools:** Alternative fueled, less polluting buses; energy efficiency education; technical training.



Resources Available

- DOE Clean Cities (www.ccities.doe.gov) Working in over 60 communities to promote alternative fuels and new vehicle technologies to reduce air pollution and oil consumption. Clean Cities Clearinghouse provides information about vehicle manufacturers and distributors, fueling stations, success stories, and repair sites, as well as publications. (Call toll free: 1-800-ccities.)
- DOE Alternative Fuels Data Center (www.afdc.doe.gov)
- AFV Fleet Buyer's Guide web site (www.fleets.doe.gov)
- SEP Special Projects grants (www.eren.doe.gov/buildings/state_energy)
- Federal programs promoting transportation choices (www.livablecommunities.gov/toolsandresources/transportation.htm)
- Congestion Mitigation and Air Quality Improvement Program (www.catsmpo.com/progs/cmaq)
- Model Year 2000 Fuel Economy Guide (www.fueleconomy.gov) Published jointly by DOE and EPA, gives consumers tools to compare fuel economy (AFVs and advanced technology vehicles are included).
- Financing through State or local agency fleet operations budgets.
- Utilities, AFV manufacturers, and AFV coalitions may provide financing.
- Department of Transportation's Transportation Equity Act (TEA-21) monies can be secured through State transportation agencies or metropolitan planning agencies.
- Other federal agencies, e.g., Environmental Protection Agency, Department of Interior's Green Energy Parks, may provide resources.

Resources Needed

- Funding for training, materials, demonstrations, staff
- Technical expertise to facilitate technology deployment
- Land and partners for infrastructure development
- Support from State legislature (for tax benefits, any zoning changes, etc.)
- Support for State coalition

Key Conditions/ Factors

- Concentration of vehicles
- Alternate fuel availability
- Technology availability and reliability

Special Opportunities for Success

- Air quality non-attainment areas
- Abundance of AFV fuel stocks, i.e. corn States
- High visibility events in State, e.g., Olympics, Super Bowl

Success Boosters

- Supportive utilities
- Broad, strong coalition
- Strong champion at the State and local level
- Financial resources

Technology Transfer Plan

- Develop and publish State-specific program information
- Present program details and program results to all partners and policymakers
- Post results on web site

Barriers and Potential Solutions

- **Lack of vehicle availability:** Partner with manufacturers to increase supply.
- **Low gasoline prices:** Emphasize environmental benefits and national security issues (dependence on imports).
- **Fleet manager inertia:** Educate on benefits of AFVs.
- **Lack of political driver:** Educate public and policymakers on benefits of AFVs; demonstrate link between AFV benefits and other policy goals.
- **Large incremental cost of AFVs:** Create financial incentives and financing mechanisms.
- **Lack of consistent payment methods for fuels:** Work with partners in State and Region to create standardized system.

Metrics

Primary:

- Changes in fuel consumption (reduction in oil, increase in alternative fuel) measured in Gges (gallon of gasoline equivalent)
- Increase in number of AFVs in use

Additional Indicators:

- Increased sales of AFVs and hybrid vehicles
- Number of fueling stations
- Estimated emissions reductions
- Jobs created, other economic impacts
- Number of vehicles replaced with AFVs

Case Studies/Examples

Maryland
The Maryland Energy Administration is working to simultaneously augment the statewide refueling infrastructure for alternative fuels and promote conversions or purchase of dedicated vehicles using alternative fuels. Maryland is also helping to develop a universal refueling card system.

How To Guide: Quantify the impacts of the energy/environmental businesses in the State

This activity involves gathering data on the energy and environmental businesses in the State, including the revenue generated. This activity is relatively low-cost and can be used to inform various audiences on the impacts of these businesses. This information is instrumental for long-range economic planning and will enable the State to provide effective information, resources, and other support for these businesses. This will boost local economic activity.

Desired Outcome:

A report which describes the nature, number, and impacts of the energy and environmental businesses in the State. This information will be integrated in the State's planning process to facilitate growth of energy/environmental businesses.

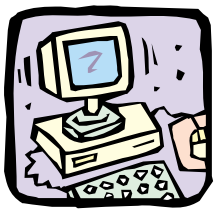
Program Design

Steps

1. Select contractor to collect data and write report.
2. Design study/survey structure.
3. Collect required data (product(s) sold, number of employees, growth over time, needs) through a combination of mailed survey forms and meetings with individual businesses or data from State revenue office.
4. Organize data and conduct analysis; write report.
5. Disseminate report to energy and environmental interest groups, local Chambers of Commerce, State planning office, State economic development agency, legislators, Governor's office.
6. Design programs to provide needed assistance to these businesses.

Partners and Possible Incentives

- **State economic development agency, State trade office, State legislators:** Will gain greater understanding of State's economic base and how to promote business growth.
- **Energy/environmental businesses, trade associations, interest groups:** Accurate information on economic impacts can be used to promote growth, raise public awareness, support business development.
- **ESCOs:** Economic opportunity.
- **State energy/environmental office:** Comprehensive data will assist program development and help to promote energy efficiency and environmental efforts.
- **Utility companies:** Boost public relations.



Resources Available

- State-specific business data from State revenue office
- Membership data from trade associations
- General information from Energy Information Administration (www.eia.doe.gov)

Resources Needed

- Expertise in data collection and analysis, either contract or in-house
- Funds for staff time or contractor (estimated at $20,000)
- Cooperation from energy efficiency and renewable energy businesses
- Cooperation from State revenue office

Key Conditions/ Factors

- Availability of business data
- Interest among industry

Special Opportunities for Success

- Other highly visible energy/environmental events, such as Earth Day
- Start of Statewide economic development initiatives
- Start of Statewide long-range energy supply planning

Success Boosters

- Cooperative spirit among State government agencies
- Large percentage of on-site information gathering
- Support/publicity from trade associations

Barriers and Potential Solutions

- **Confidentiality of business data:** Obtain endorsement of key business and industry associations; ensure privacy of data.

- **Response rate to survey:** Follow-up with phone calls, personal visits.

Technology Transfer Plan

- Publish report, present results at conferences, post information on web site
- Inform legislators and Governor
- Provide specific feedback to industry associations
- Develop detailed database on energy/environmental industries, and make information available during planning processes

Metrics

Primary:

- Number of businesses assisted

Additional Indicators:

- Number of web site hits (information requests)
- Interest from legislature, requests for reports
- Demand for additional information or survey update

Case Studies/Examples

Washington

The Energy Division of Washington State Trade and Economic Development created a report on the renewable energy and energy efficiency industries in the State. The findings concluded that Washington's energy efficiency and renewable energy industries generate yearly sales of $1 billion and employ nearly 4,000 people. The information contained in the report has played an important role in long-range economic planning and developing supportive policies for the businesses. Copies of the report can be obtained on-line at: www.energy.cted.gov/econreport or by calling 360/956-2096.

How To Guide: "Greening" of State buildings

This activity targets State buildings for energy efficiency and renewable energy improvements. It provides an integrated approach, combining technical assistance and education and outreach, for increasing energy efficiency and related economic and environmental benefits in State buildings.

The buildings sector consumes nearly one-third of the nation's primary energy and is responsible for a significant proportion of carbon dioxide, sulfur dioxide, and nitrogen oxide emissions. State and local governments own and lease millions of square feet of space. By implementing energy efficiency retrofits in existing buildings and designing new buildings to energy and resource-efficient "green" standards, State governments can create significant energy savings and reduce greenhouse gas emissions. States can use energy efficiency as a pollution prevention strategy. These results benefit the State taxpayers, building occupants, building operators, and the environment.

Desired Outcome:

Reduced energy consumption and energy costs in State buildings. Reduced greenhouse emissions. Improved indoor air and lighting quality; improved work environment and worker productivity.

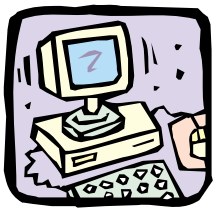
Program Design

Steps

1. Establish baseline data, including energy consumption in BTUs/square foot and monthly/annual energy costs by building type and climatic regions.
2. Conduct preliminary audit of building operations and facility equipment.
3. Compare to ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) standards.
4. Develop key energy/environment guidelines for facilities for energy, water, and materials use.
5. Review existing procurement RFP (request for proposals) or RFQ (request for qualifications) for building materials purchase for renovation or construction. If necessary, rewrite or modify RFPs/RFQs to include guidelines or goals identified in step 4. Seek necessary approvals to issue RFPs/RFQs to implement retrofits.
6. Identify funding mechanisms: ESCOs (energy service companies), energy savings performance contracts, capital improvement funds, Petroleum Violation Escrow funds, State bonds, operating budgets, utilities, etc.
7. Market program to appropriate State agencies, building engineers, and maintenance staff.
8. Select process or service provider.
9. Perform technical analyses of participating buildings and install recommended measures.
10. Develop procedure for monitoring, metering, and building commissioning by third party (or reviewed by third party) and adjust program as necessary.
11. Provide training to maintenance staff in energy-efficient operations and maintenance practices.
12. Document, publish, and market results.
13. Look for ways to institutionalize process.

Partners and Possible Incentives

- **Utility companies:** Load management, restructuring opportunities. Utilities may provide incentives for energy efficiency, low interest loan programs, and expert technical assistance.
- **State General Services Administration, Governor's Office, State budgeting office:** Energy cost savings can be channeled to other projects; emission reductions can benefit other efforts (such as emission trading systems, air quality standards); boost State image with improved environment and work conditions.
- **Building officials/operators:** Improved energy management; reduction in maintenance calls due to improved equipment and more satisfied/comfortable tenants; increased durability of building; protection from energy inflation.
- **State environmental and natural resources agencies:** Activity aligns with State and national environmental goals; provides showcase for new technologies or outreach materials.
- **Manufacturers and suppliers (technical services and green products):** Economic opportunity; high visibility project can promote green products/services.
- **ESCOs:** Economic opportunity; high visibility project can promote energy efficiency in buildings and green products/services. ESCOs guarantee a level of savings for a defined number of years.
- **Employee Unions:** Improved work environment (better air quality, stable temperature, improved lighting, etc.) will reduce absenteeism and raise productivity and satisfaction of employees.
- **American Institute of Architects:** Goals further the mission of the members.
- **State ASHRAE chapter:** Goals further the mission of the members.
- **State Building Operators and Managers Association chapter:** Benefits from increased efficiency (such as reduced costs, protection from energy inflation, and decreased maintenance) accrue to members.



Resources Available

- DOE's Center of Excellence for Sustainable Development has a "Tool-Kit of Sustainable Development Support Tools" (www.sustainable.doe.gov/toolkit/buildings.htm) which can help to determine current energy use and potential savings.
- Department of Energy programs (www.eren.doe.gov) Access to National Laboratories, Rebuild America, Building America, etc.
- Environmental Protection Agency's Energy Star Buildings Program (www.epa.gov/buildings) Offers tools to help make buildings energy efficient and reduce pollution.
- The California Energy Commission web site (www.energy.ca.gov/reports/efficiency_handbooks/index.html) Several guides available to download on a range of topics including financing, hiring an energy auditor, energy accounting, hiring an ESCO, etc.
- Green Energy Finance (www.energyfinance.org) One-stop shop of energy efficiency financing resources for homeowners, building managers, lending institutions, architects, and others.
- American Institute of Architects (www.aiaonline.com) Architects who provide environmental or energy-efficient design can be found under the service type "sustainable design."
- Green Building Resource Council (www.greendesign.net/gbrc/start/htm)
- U.S. Green Buildings Council (www.usgbc.org)
  - Sustainable Building Technical Manual: Green Building Practices for Design, Construction, and Operations – copies can be obtained through the U.S. Green Buildings Council (info@usgbc.org).
  - LEED Green Building Rating System (www.usgbc.org/programs/leed.htm) Green Building Council rating system that evaluates building performance relating to energy and sustainable design.
- Sustainable Building Industries Council (www.sbicouncil.org)
- Whole Buildings Design Guide web site (www.wbdg.org)
- National Association of ESCOs (www.naesco.org) National listing of energy service companies.

Resources Needed

- Engineering and architectural expertise to design retrofits
- Knowledge of green products and procurement practices
- Financing mechanisms
- Purchasing/contracting expertise
- Staffing resources
- Buy-in by appropriate State officials
- Examples of RFPs/RFQs
- Examples of retrofit guidelines
- Case studies of successful State retrofits

Key Conditions/ Factors

- Availability of baseline data on building energy use
- Room for improvement in energy use

Special Opportunities for Success

- Beginning of large-scale new construction or rehab program
- State revenue surplus
- Utility restructuring may spur demand for reliability of energy supply

Success Boosters

- Beginning early in the building design/retrofit process
- Collaboration with multiple State agencies
- Champion in State government
- High quality energy savings data with which to market and continue the program

Technology Transfer Plan

- Presentations to and by partner groups
- Presentations to peers at conferences, including All-States Meeting
- Recognition program for participating State officials
- Program information/results available on State web site
- Building labeling programs
- Report success story in WinSAGA

Barriers and Potential Solutions

- **Institutional inertia:** Show that department cost-savings lead to reduction in next year's operating budget. Highlight all benefits to partners and decision makers; gather information on other successes; start with a pilot project; propose energy savings returned to agency operating budgets and possibly allow for tax cuts.
- **Availability of funding:** Research ESCO possibilities.
- **Unfavorable policies/practices regarding first cost vs. life-cycle cost:** Gather information on differences between the two methods; provide for a waiver for current policy; change policy if possible.
- **Lack of authority to implement:** Seek approval from appropriate decision maker; add to program team; rely on champion to build support.
- **No continuity of building maintenance:** Emphasize the importance and benefits of energy efficiency during meetings with client building officials.

Metrics

Primary:

- BTUs/square foot (pre and post)
- Square feet of office space retrofitted or built to "green" specs
- Return on investment

Other Indicators:

- Emissions reductions
- Recycled materials included
- Water savings
- Increase in indoor air quality
- Building occupant satisfaction (Employee surveys)
- Decrease in maintenance costs
- Decrease in employee sick days
- Increase in employee productivity

Case Studies/Examples

California

In California, the Department of General Services partnered with the California Energy Commission, California Integrated Waste Management Board, Department of Health Services, and California Air Resources Board to develop the largest civic building project in the history of the State. The $392 million, 1.5 million square foot Capitol East End Complex will feature sustainable building measures and will result in estimated savings of $220 million to the State through the consolidation of 6,300 employees who are currently housed in 19 separate locations. Some of the "green" features of the five-building project include: photovoltaic panels to provide electricity from the sun to power recharging stations for electric vehicles, and to supplement office energy needs; buildings designed to be at least 30 percent more energy efficient than required by State code resulting in savings of approximately $400 thousand a year in energy costs; use of asphalt, concrete, steel, carpeting, glass, drywall, and other building materials derived from recycled sources.

Wisconsin

The State of Wisconsin's Energy Initiative relies on creative partnership to improve energy efficiency. Wisconsin worked with the State's utility companies to make basic changes to public buildings, such as installing new lighting fixtures and steam traps. The Initiative forecasts a $60 million reduction in State spending over a ten-year period. Energy-efficiency improvements funded through the Initiative have resulted in reduced emissions of carbon dioxide, sulfur dioxide, and nitrous oxides. Increased demand for energy efficiency products and services has spurred new employment opportunities in the State.

Montana

In response to a growing need to finance energy efficiency improvements in public buildings, Montana designed a State Buildings Energy Conservation Program to fund capital improvements without tapping general fund budgets. Montana sells general obligation bonds to fund energy efficiency improvements; the bonds are repaid through savings in energy costs. Once the debt is repaid, the energy savings can be used to fund new services for Montanans.

Appendix II: How-To Guides for Recommended State Activities for Key Goal Two

Key Goal 2: Increase market acceptance of energy efficiency and renewable energy technologies, practices, and products

Market transformation is one of the main activities that SEP has emphasized. The States have been engaged in market transformation in a rich variety of ways for many years. Utility deregulation, volatile energy prices, and concerns about the stability of energy supply are three major concerns that are causing great changes in the market, and changes in the types of information that consumers will need. States are in a key position to affect market transformation at the local community level. Almost everything States do as part of SEP contains some element of market transformation. Thus, effective market transformation is naturally one of the program=s Key Goals for the next decade. The End-Use Sector Offices within DOE=s Office of Energy Efficiency and Renewable Energy have invested over $60 million during the last five years in partnering with the States in targeted technology deployment programs across all sectors.

How To Guide: Maximize energy savings through building standards

This activity promotes the adoption, implementation, and enforcement of building energy codes. States that adopt national model energy codes and implement them properly can help ensure that new buildings meet a minimum level of energy efficiency. Efficient buildings create multiple benefits, including lower operating costs for building owners, increased comfort and safety for occupants, and improved air quality locally and globally. States can capitalize on the synergies between environmental and economic drivers to leverage investment in energy-efficient buildings.

Desired Outcome:

To reduce the baseline energy use in buildings by supporting the adoption and implementation of building energy codes.

Program Design

Steps

1. Determine the status of residential and commercial energy codes in your State. For example, Is there a Statewide code, or are codes adopted at the local level? How are energy codes implemented and enforced in your State, and who is involved in this process? Who are the energy code advocates and adversaries in your State? What beyond-code energy efficiency programs are being implemented in your State? DOE can help you with answers to these and other questions. Call the BSGP Hotline at 1-800-270-CODE.
2. Prepare a strategy for supporting building energy codes based on what you learned in Step 1, and establish objectives associated with this strategy. Activities may involve the following:
   - Build grassroots support for updating codes. The Building Codes Assistance Project (BCAP) can help. Contact www.bcapenergy.org.
   - Work with code officials, legislature, regulatory authorities, and policy makers at the State and local level to encourage the adoption, implementation, and enforcement of the latest national model codes and standards.
   - Seek buy-in and support from partners at the State and local level, and ensure the approach and activities build upon activities already underway.
   - Provide testimony at legislative or regulatory hearings.
   - Train local code officials and builders/contractors on the energy code and accompanying code compliance software tools such as MECcheck and COMcheck.
   - Train building designers on the energy code and accompanying code compliance software tools and support materials.
   - Coordinate with utility companies, market transformation groups, and others to link energy codes with beyond code energy-efficiency programs.
3. Evaluate how well you met your stated objectives in Step 2, and refine strategy as needed.

Partners and Possible Incentives

- **State/Local code enforcement agencies and associations:** Shared goals - these agencies welcome additional support.
- **Product manufacturers:** Opportunity to increase sales of energy-efficient products.
- **Utilities:** Can link support of energy codes to beyond-code programs
- **Realtors:** Can “sell” energy-efficiency, and can provide buyers with information they need for possible energy efficiency financing.
- **Insurance Industry:** Code-compliant buildings can lead to fewer property losses.
- **Federal Resources:** Department of Energy Building Standards and Guidelines Program (BSGP) assists States with the adoption, implementation, and enforcement of building energy codes.
- The Building Code Assistance Project provides advocacy assistance and grass roots building advice when invited by authorized State administrations or legislative committees. It is the mission of this organization.

Resources Available

- Department of Energy, Regional Offices and Building Standards and Guidelines Program (www.eren.doe.gov/buildings/codes_standards/buildings) Provide a range of financial and technical assistance in support of the adoption, implementation, and enforcement of building energy codes.
- Building Codes Assistance Project (www.bcap-energy.org) Provides energy code advocacy support.
- Model Code Groups are dedicated to preserving the public health, safety and welfare in the built environment through the effective, efficient use and enforcement of Model Codes. Building Officials and Code Administrators International (BOCA) (www.bocai.org); International Conference of Building Officials (ICBO) (www.icbo.org); Southern Building Code Congress International (SBCCI) (www.sbcci.org); International Code Council (ICC) (www.intlcode.org)
- The American Society of Heating, Refrigerating and Air-Conditioning Engineers cosponsors the consensus process that produces and maintains a model code, ASHRAE/IESNA Standard 90.1, Energy Standard for Buildings Except Low-Rise Residential Buildings. They provide continuing education training on energy codes. (www.ashrae.org)
- The Illuminating Engineering Society of North America provides continuing education training on energy codes. (www.iesna.org)
- The New Buildings Institute (www.newbuildigs.org) A national collaborative to encourage and support workable energy codes and design guidelines.
- Home Energy Rating Systems Council (www.hers-counicl.org) Provides information on energy rating processes and guidelines.
- The Utility Connection (www.utilityconnection.com) Refers to public electric, gas, water, and financial resources sites.
- National Institute of Building Sciences (www.nibs.org/nibshome.html) Source of knowledge and advice on building regulations, science, and technology.
- National Conference of States on Building Codes and Standards (www.ncsbcs.org) Promotes the development of an efficient, cooperative system of building regulation to ensure the public's safety in all buildings.
- The American Institute of Architects (www.aiaonline.org)
- Residential Energy Services Network (www.natresnet.org) A national network of mortgage companies, real estate brokerages, builders, and others whose objective is to expand the national availability of mortgage financing options and home energy ratings.
- The National Association of Home Builders (www.nahb.com) Addresses issues of importance to builders nationwide.
- Green Energy Finance (www.energyfinance.org) One-stop shop of energy efficiency financing resources for building managers, lending institutions, architects, and others.

Resources Needed

- Funding for staff and materials
- Staff for training, outreach, and code enforcement
- Training materials and guides
- Code compliance software

Key Conditions/ Factors

- Identify status of energy codes in the State
- Regulatory atmosphere conducive to updating building codes

Special Opportunities for Success

- State's regular code adoption/review cycle
- Concerns about the reliability of electric supply under deregulation may spur demand for energy efficiency and renewable energy
- DOE determinations that new editions of the model energy codes will increase energy efficiency in new buildings. States are required to review their codes and advise DOE of their actions within 2 years of a DOE positive determination.

Success Boosters

- Strong alliances with State energy code advocacy groups
- Industry support prior to introducing energy code upgrades to the legislature
- Be sensitive to the concerns of industry groups - especially builders; try to find common ground

Technology Transfer Plan

- Presentations at conferences; peer exchanges with other States/agencies
- Energy code training for builders, code officials, designers, and others
- Provide testimony at code hearings
- Post information on State web site; establish 1-800 number for information
- Energy-efficient design curriculum for architectural and engineering schools

Barriers and Potential Solutions

- **Code officials prioritize health/life safety-related code requirements over energy requirements:** Provide information on the importance of energy codes, and distribute easy-to-use compliance forms and software.
- **Resistance from builders to change from standard practice:** Meeting energy codes does not have to be difficult, and training builders/contractors on energy efficiency measures can help them recognize this.
- **Builders' concern that more stringent energy codes will increase housing costs:** Awareness campaigns to help dispell this myth. Energy efficiency can improve affordability by reducing heating/ cooling costs. Many measures have little/no first cost.
- **Lack of understanding of energy code requirements by builders and design professionals:** Make it easier to demonstrate code compliance through the use of code compliance software like MECcheck and COMcheck.
- **Lack of consumer demand/awareness:** Market benefits of efficient buildings to consumers to spur demand.

Metrics

Primary:

- Successful adoption/upgrades of State building energy code
- Reduction in energy consumption in code-compliant buildings (BTUs per square foot)
- Increase in code-compliant buildings

Other Indicators:

- Number of code officials, designers, builders, and subcontractors trained
- Number of hits on the web site or calls to the 1-800 number
- Number of requests for software, support tools, and training materials received
- Decreased State annual energy costs, adjusted for weather and construction
- Increased sale of energy measures

How To Guide: Develop a targeted consumer education campaign using innovative, interactive technologies

This activity encourages the development of new, interactive technologies, such as CD-Roms and web sites, to provide targeted consumer information. Consumer education is critical to changing attitudes toward energy consumption and to changing purchasing patterns. States can provide clear, current information about the benefits and long-term value to consumers from investing in energy efficiency and renewable energy technologies, practices, and products. This information can influence a change in consumer preferences and spark market demand for energy efficiency and renewable energy.

Desired Outcome:

Spur demand for energy efficiency and renewable energy technologies, practices, and products.

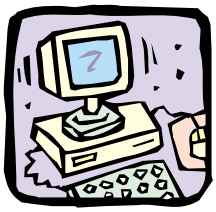
Program Design

Steps

1. Develop baseline and performance metrics (e.g., goal is to increase sales of green products by x).
2. Establish evaluation plan. This step needs to be dynamic and integrated throughout the process.
3. Identify what drives consumer purchasing decisions and what information is needed to influence decisions.
4. Define target audience(s) and identify the audience's needs.
5. Determine message (e.g., "Buy green" "Practice energy efficiency," etc.); keep it simple and catchy; clearly identify benefits to consumer.
   [Note: important to maintain product neutrality and present balanced information.]
6. Determine best approaches to target diverse audiences (paid advertising, PSAs, bill stuffers, web site, interactive kiosk, etc.).
7. Look for opportunities to use innovative, interactive technologies, e.g., web sites with "plug and chug" capabilities.
8. Determine best entity to implement campaign, e.g., cooperative extension service, schools, private sector media firms, etc.
9. Develop program partnerships with community groups. Seek partners who are already established in the community and who are trusted; seek partners who will use both group interaction and who will talk one on one with potential customers. Examples: neighborhood groups, community leadership groups, church groups, groups aimed at the children of potential clients such and Boys and Girls Clubs or Scouts.
10. Develop partnerships with businesses who benefit. Work with home improvement stores to include information at store sites and to advertise, particularly at key times such as fall winterization.
11. Implement marketing activities.
12. Monitor and adjust as necessary.
13. Document results.

Partners and Possible Incentives

- **Utility companies:** Load management; goodwill gesture (providing consumer information) to build community image.
- **DOE Energy Star program and other federal and State energy efficiency programs:** Shared message and goals; mutually beneficial to align efforts and promote message.
- **Energy/environmental associations/interest groups:** Shared message and goals; mutually beneficial to align efforts and promote message.
- **Universities:** Students may provide low-cost technical assistance for developing tools to gain experience and exposure.
- **Media:** Information will benefit consumers (audience); goodwill gesture to build community image.
- **Equipment and service vendors:** Raising consumer awareness of energy efficiency benefits will increase demand for products/services.
- **Business organizations (e.g., Chamber of Commerce):** Businesses benefit from integrating energy efficiency; also, businesses provide a valuable customer service by disseminating information and may build clientele.
- **Private sector partners:** Opportunities to capitalize on promotional activities, e.g., can promote energy efficiency improvements during Energy Awareness Month.
- **Home improvement stores:** Information will benefit customers; goodwill gesture to build community image; information may spur sales of energy efficiency products.
- **Libraries:** Many have tool exchange programs and may build on consumer education information provided.



Resources Available

- Department of Energy Laboratories and Facilities (www.doe.gov/people/peopnl.htm) Quick link to all DOE labs, facilities, and special offices.
  - Argonne National Laboratory (ANL) (www.anl.gov)
  - Brookhaven National Laboratory (www.bnl.gov)
  - E. O. Lawrence Berkeley National Laboratory (LBNL) (www.lbl.gov)
  - Idaho National Engineering and Environmental Laboratory (www.inel.gov)
  - National Renewable Energy Laboratory (NREL) (www.nrel.gov)
  - Oak Ridge National Laboratory (ORNL) (www.ornl.gov)
  - Pacific Northwest National Laboratory (PNNL) (www.pnl.gov)
  - Sandia National Laboratories (SNL) (www.sandia.gov)
- The Center of Excellence for Sustainable Development (www.sustainable.doe.gov) Expansive database for sustainable development resources.
- Clean Energy for the 21st Century (www.eren.doe.gov/cleanenergy/links.html) User friendly educational site on what clean energy is and where/how it can be applied.
- Energy Star (www.energystar.gov) Quick access and easy to understand energy efficiency product information.
- Environmental Protection Agency (www.epa.gov) Easy to use educational site for all ages, includes regulation and policy information.
- Association of State Energy Research and Technology Transfer Institution (www.energy.wsu.edu/cfdocs/asertti/default.cfm) This is a “confederation of state and regional organizations.” All partners are listed.
- The Cooperative State Research, Education, and Extension Service (www.reeusda.gov/1700/statepartners/usa.htm) Master list of all State/university extension services.
- Rocky Mountain Institute (www.rmi.org) Great for discovering market-based solutions.
- National Association of Home Builders (www.nahb.com) Features energy-efficient public service projects and information.
- Alliance to Save Energy (www.ase.org) Reliably-updated energy information source for consumers and professionals.
- American Council for an Energy Efficient Economy (www.aceee.org) Guides to top rated energy-efficient products, publications, and legislative measures.
- Home Energy Rating System Council (www.hers-council.org) Promotions for energy-efficient residential improvements.
- The Utility Connection (www.utilityconnection.com/page7a.html) Refers to all public electric, gas, water, and financial resources sites.
- The Interstate Renewable Energy Council (www.irecusa.org) Provides an extensive resource guide on latest technology and information for renewables.
- The State Public Interest Research Groups (www.pirg.org) State programs and campaigns and other environmental resources.
- Union of Concerned Scientists (www.ucsusa.org) Informative and readable information on green living.
- Who’ s Who in Renewable Energy Online (www.serve.com/commonpurpose/contacts.html) This is a massive intersection point to numerous renewable energy contacts.

Key Conditions/ Factors

- Access to baseline information
- Access to technology
- Ability to identify what drives consumer decisions and target message to address these factors

Special Opportunities for Success

- Volatility in energy prices (due to restructuring, supply shortages, etc.) will spur consumer demand for information about energy efficiency/renewable energy.
- "Green" climate in State
- Smaller retail outlets may be more open to promoting energy efficiency as a competitive edge over large chains

Success Boosters

- Regular maintenance and frequent updates (web site)
- Information system security

Resources Needed

- Technical assistance to develop tools
- Creative staff to craft message
- Funds for staff and materials

Barriers and Potential Solutions

- **Resistance to change and new technology:** Educate on benefits and make tools easy to use for a novice.
- **Need for technical computer programming staff:** Seek assistance from college students looking for experience; look to "sharing" technical staff with other programs/agencies.
- **Expense of new information applications:** Use SEP grant as "seed" money to leverage support from partners; seek funding from Special Projects and other government programs.
- **Lack of availability of consistent energy technology information:** Peer exchange among States on what has worked and what needs improvement.

Technology Transfer Plan

- Disseminate materials developed; publish program results (report success stories in WinSAGA)
- Make presentations at conferences, seminars, and participate in peer exchange
- Seek opportunities to expand programs and services

Metrics

Primary:

- Percentage increase in sales of energy efficiency/renewable energy products or services (compared to baseline)

Other Indicators:

- Consumer satisfaction with information (survey)
- Number of web site hits

Case Studies

Virginia

The Virginia Department of Mines, Minerals and Energy (DMME) has worked with State agencies and institutions to ensure they use energy resources efficiently and effectively. DMME assists State agencies to take advantage of the opportunities under utility restructuring to increase the efficiency of their operations. DMME is implementing a second-generation utility data management system with State agencies. The objective of this system is to better manage the utility use and profile data that will be needed to bid for independent utility suppliers, make energy efficiency investment decisions, and to evaluate the effectiveness of these actions. As part of this work, DMME will work with the Department of Planning and Budget to develop guidelines for use of a $1 million State general fund appropriation for utility metering and energy efficiency projects.

Pennsylvania

The Pennsylvania Department of Environmental Protection (DEP) is working with the Environmental Fund of Pennsylvania to develop a series of videos on a variety of environmental and energy issues. These video programs will be 30-minutes in length and will be broadcast once a month for a period of 12 months. The show will be shot in digital DVC and SVHS and digitally edited. The series will be promoted through public service announcements and printed media such as display ads and newsletters. Each show will feature two 30 to 60 second commercials promoting the importance of energy conservation. Shows will also be on the Interactive Learning Center site on the DEP web site. Different topics for energy/environmental efficiency will be introduced each month. At least one show will be devoted exclusively to energy issues.

Appendix III: How-To Guides for Recommended State Activities for Key Goal Three

Key Goal 3: Use innovative approaches to reach market segments and meet policy goals not typically addressed by market-based solutions

The energy marketplace in a deregulated environment is such that we cannot depend on market forces to reach all segments of the population, and a stable supply of energy is an absolute necessity, not a luxury, or even a taken-for-granted convenience such as phone service. It is projected that market forces will most effectively address large industrial and commercial customers. Typically, smaller consumers such as small businesses, homeowners, and low-income consumers are not highly valued customer groups. The recommended implementation activities in this section present different strategies for ensuring the availability of energy services and energy-efficient technologies to these under-served audiences.

How To Guide: Implement innovative appliance financing programs for low-income consumers

This activity helps low-income consumers (including the "working poor") to purchase energy-efficient appliances through financial assistance and education. Low-income consumers are often unable to afford new, high-efficiency appliances and instead purchase older appliances with a lower first cost, but greater operating expense. Current loans to low-income consumers have high interest rates, or are not available at all. These consumers represent an under-served market and need assistance to access the benefits of energy efficiency.

Low-income consumers spend a disproportionate amount of their total annual income on energy (14%) compared with middle-income consumers (3.5%). Energy-efficient appliances can create cost savings for low-income households and improve economic independence. These benefits multiply for the community by increasing economic activity, conserving energy, and reducing emissions from power generation.

Desired Outcome:

Increase in number of low-income consumers who purchase energy-efficient appliances through innovative financing programs.

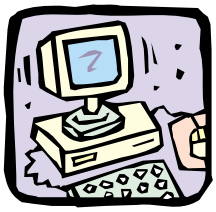
Program Design

Steps

1. Examine current appliance purchasing/financing patterns of low-income consumers and identify target market.
2. Determine baseline data and develop evaluation mechanism to track program results.
3. Form partnerships and work with partners on program design.
4. Determine where low-income consumers purchase appliances. Consider both new and used appliance retailers.
5. Determine method for engaging target market in program; earn trust of low-income consumer with clear, simple materials; smooth, transparent process; and respectful treatment.
6. Enlist partners for personal marketing to low-income families.
7. Develop several alternative financing approaches (e.g., rebates to consumers, tax credits to landlords or vendors, loans financed with energy savings, payment in-kind).
8. Test market the different approaches and widely implement the most effective one(s).
9. Evaluate progress and make any necessary modifications.
10. Look for opportunities to transition financing role to private sector.

Partners and Possible Incentives

- **Appliance manufacturers or retailers:** May help fund and promote program as a goodwill gesture; promotions may spur sales from other markets as well.
- **Community-based organizations, neighborhood organizations, consumer advocates, low-income advocates, churches, senior citizen groups:** Shared goal to improve economic independence of low-income consumers; can align efforts to achieve common goal.
- **Utility companies:** Load reduction; reduction in arrearage (and related costs) resulting from consumer ability to pay lower energy bills.
- **Landlords/Building owners:** Improve energy management in rental buildings; longer-lasting appliances.
- **Financial institutions:** Increased economic activity benefits business; improving economic independence of a consumer group creates potential new customers for institution. Programs for low-income can become part of their community reinvestment act requirements.



Resources Available

- Resources offered by partners (previous page)
- The National Consumer Law Center (www.nclc.org) Helps consumers, their advocates, and public policy makers to use consumer laws on behalf of low-income Americans seeking economic justice.
- Oak Ridge National Laboratory web site (www.ornl.gov) has a variety of documents which provide background information and guidance on restructuring.
- Low Income Home Energy Assistance Program (www.ncat.org/liheap) Information on low-income energy issues.
- National Rural Electric Cooperative Association (www.nreca.org) Information about consumer-owned cooperative electric utilities. All partners are listed.
- The Utility Connection (www.utilityconnection.com/page7a.html) Refers to all public electric, gas, water, and financial resources sites.
- Community Reinvestment Act (www.bog.frb.fed.us/DCCA/CRA/) Federal Reserves Board home page about the CRA.
- Community Reinvestment Fund (www.crfusa.com) Excellent site with information about CRFs and links to resources.
- The National Community Reinvestment Coalition (www.ncrc.org) Another quality site with numerous community reinvestment links.
- Residential Energy Services Network (www.natresnet.org) Information on increasing the available financing options for home energy improvements.
- The Bullitt Foundation (www.bullitt.org) Targeting lower economic rural and urban communities.
- David and Lucile Packard Foundation (www.packfound.org) Supports non-profit organizations involved in various activities including environmental.
- The Energy Foundation (www.ef.org) Partnership of foundations providing grants dedicated to sustainable energy.
- Ford Foundation (www.fordfound.org) Asset building and community development programs.
- The Foundation for Global Community (www.globalcommunity.org) Dedicated to sustainable communities.
- The John D. and Catherine T. MacArthur Foundation (www.macfdn.org/index.htm) Grant making information for their ”Program on Global Security and Sustainability.”
- The Joyce Mertz-Gilmore Foundation (www.jmgf.org) Interested in promoting development and efficient use of electric energy.
- The McKnight Foundation (www.mcknight.org) Programs dedicated to protecting natural resources and encouraging responsible use.
- The Pew Charitable Trusts (www.pewtrusts.com) Interested in promoting policies and programs aimed at atmosphere, forest, and marine.
- The Rockefeller Foundation (www.rockfound.org) Focus on low-income community improvement.
- The Interstate Renewable Energy Council (www.irecusa.org) Provides an extensive resource guide on latest technology and information for renewables.

Resources Needed

- Sufficient Staff
- Funds

Key Conditions/ Factors

- "Seed" money to start financing options

Special Opportunities for Success

- Utility restructuring may generate funding for program (systems benefit charges)
- Electricity reliability concerns may increase support for appliance efficiency programs

Success Boosters

- Strong support from partners

Technology Transfer Plan

- Share results and information with partners and national associations; post on web site
- Presentations to other States at conferences, mentoring, peer exchange opportunities, etc.

Barriers and Potential Solutions

- **Low-income consumers have less access to technical resources and web-based information:** Provide information through multiple channels, including brochures, verbal announcements at community action agencies, churches, etc.

- **Low-income advocates sometimes resist these programs, viewing them as turning grant funds into loan funds:** Demonstrate goal to increase economic independence and ability of program to save money for low-income consumers; enlist advocates' support.

- **Financial institutions may resist offering small loans:** Work with financial institutions to include programs into their community reinvestment plans.

- **Many low-income consumers distrust financial institutions or lack experience dealing with them:** Clearly explain process, assist with forms. Make it as simple to participate as possible.

Metrics

Primary:

- Number of participants who receive financing through program
- Number of appliances purchased through financing program
- Reduction in low-income consumers' energy bills

Other Indicators:

- Reduction in energy consumption due to replacement of less-efficient appliances
- Number of rebates offered and given

How To Guide: Access Systems Benefit Charges to support energy programs managed through the State Energy Office

This activity encourages the development of new funding sources for State energy programs through participation in regulatory proceedings and partnering with other stakeholders. States are uniquely positioned to use key economic and environmental drivers to guide policy and to obtain funds to support energy efficiency and renewable energy. State Energy Offices have the opportunity to work with other State policy makers to shape the transition to utility restructuring.

Through active participation in regulatory proceedings, States may secure additional funding and new opportunities to manage energy efficiency and renewable energy initiatives. This is particularly important as traditional sources of funding, such as Petroleum Violation Escrow funds, are diminishing. Using these resources strategically to deliver immediate results and to create sustainable services will strengthen the Energy Offices and produce multiple energy, environmental, and economic benefits for the States.

Desired Outcome:

Secure funding through System Benefit Charges for energy efficiency and renewable energy programs that focus on the State's priorities and are managed through the State Energy Office.

Program Design

Steps

1. Conduct analysis to demonstrate the need for energy efficiency and renewable energy in the State's restructuring plans. Assess current energy costs to consumers, reliability of supply, environmental benefits of energy efficiency and renewable energy alternatives, and projected return on investment.
2. Develop proposal. Clearly identify energy efficiency and renewable energy programs to be funded by Systems Benefit Charges (SBC). Identify levels of SBC funding needed (give options).
3. Identify market segments served through proposed programs and benefits created for these customers.
4. Demonstrate competency skills of the State Energy Office as manager of proposed programs.
5. Assess political feasibility. Clearly identify supporters and potential opposition. Educate State decision-makers on proposal.
6. Contact Public Utility Commission and ask to be placed on notification list; specify what information you wish to receive.
7. Identify stakeholders (including members of public utility commission); refer to court docket for list of participants. Form stakeholder collaborative to develop legislative and/or regulatory support. Be clear on collaborative's goals and timeframe.
8. Find a strong, visible Champion to promote inclusion of energy efficiency and renewable energy programs in SBC and to promote State Energy Office as manager of these programs.
9. Participate in restructuring regulatory proceedings. Once the notice of hearings is published, participants have a set period of time to intervene. Become involved from outset to ensure right to participate and to be fully informed.
10. Develop legislation (include sunset provisions).
11. Present legislative package to legislature/decision-makers and market legislative proposal.
12. Establish and manage programs with SBC funding.

Partners and Possible Incentives

- **Legislative champion/legislators interested in energy efficiency and renewable energy issues:** Shared goals; aligning efforts will benefit all parties.
- **Public interest groups, environmental groups, low-income advocates:** May provide experience, technical information, and support for energy program funding. Demonstrate mutual benefits of proposed programs, such as a cleaner environment, increased economic independence for specific market segments, etc.
- **Solar/renewable industry:** Economic opportunity; may receive boost through specific renewable programs.
- **Utilities, public utility commissions, and their staffs**
- **Small business associations**
- **Universities**
- **Energy marketers**
- **Municipal utilities and rural cooperative utilities**

Resources Available

- DOE's Energy Information Administration (www.eia.doe.gov) Offers a one-stop shop to answer many questions posed by those interested in electric utility restructuring.
- Department of Energy's Office of Power Technologies (www.eren.doe.gov/power) Access building energy data, success stories, and building codes.
- National Association of Regulatory Utility Commissioners (www.naruc.org) Contains a variety of position papers, articles, documents, and other publications related to utility restructuring around the country. Provides links to all state public utility commissions.
- Regulatory Assistance Project (www.rapmaine.org) Direct link to Systems Benefit Charges information.
- National Conference of State Legislatures (www.ncsl.org) Guide to latest policy issues and State and federal legislation.
- National Association of State Energy Officials (www.naseo.org) Provides up-to-date information and publications on all energy types, incentives, and policies.
- LIHEAP Clearinghouse (www.ncat.org/liheap/toolkit/peer.htm) Tool-kit on intervention in utility restructuring and low-income issues.
- National Association of Energy Service Companies (www.naesco.org) Source for information about policy.
- The Utility Connection (www.utilityconnection.com) Refers to all public electric, gas, water, and financial resources sites.
- American Council for an Energy Efficient Economy (www.aceee.org/briefs/mktabl.htm) Summary of Public Benefit Programs listed by State.
- American Public Power Association (www.APPAnet.org) Provides information on local power issues, current legislative initiatives, and links to additional resources.
- Western Area Power Administration (www.citation.com/hpage/wapa.html) Large database of information for western states.
- Department of Energy Laboratories and Facilities (www.doe.gov/people/peopnl.htm) Quick link to all DOE labs, facilities, and special offices.
  - Argonne National Laboratory (ANL) (www.anl.gov)
  - E. O. Lawrence Berkeley National Laboratory (LBNL) (www.lbl.gov)
  - National Renewable Energy Laboratory (NREL) (www.nrel.gov)
  - Oak Ridge National Laboratory (ORNL) (www.ornl.gov)
  - Pacific Northwest National Laboratory (PNNL) (www.pnl.gov)
  - Sandia National Laboratories (SNL) (www.sandia.gov)

Resources Needed

- Staff and funds for stakeholder collaborative
- Funds for initial economic analysis
- Access to data (taxes, etc.)
- Expertise on issues, either in-house or contract
- Commitment from collaborative members - this is a long process
- Commitment to support staff participation in collaborative, regulatory process

Key Conditions/ Factors

- Intent to restructure, or rate cases before PUC
- Common vision within the stakeholder collaborative

Special Opportunities for Success

- Restructuring
- States with higher pollution
- Loss of other funding

Success Boosters

- Solid economic analysis to promote need for energy efficiency and renewable energy programs
- Strong, credible champion(s)
- Favorable political climate

Barriers and Potential Solutions

- **Anti-tax climate:** Highlight return on investment and comprehensive benefits produced through proposed programs.
- **Unwillingness to compromise:** Look for opportunities to attach to existing programs, legislation.
- **Utility opposition:** Enlist as ally by demonstrating benefits of energy efficiency and renewable energy to utility.

Technology Transfer Plan

- Share results with other States through conferences, peer exchange
- Post results on web site
- Provide information to NASEO
- Encourage technology companies that will utilize the funds
- Provide information on results to ratepayers

Metrics

Primary:

- Legislation passed which commits to funding for energy efficiency and renewable energy programs
- Dollars committed to energy efficiency and renewable energy programs through the SBC
- Number of programs funded by SBC that are managed through the State Energy Office

Other Indicators:

- Public interest standard for SBC program performance
- Energy saved as a result of programs implemented
- Number of people served

Case Studies/Examples

California

California's public benefits program was enacted in September 1996 and began March 31, 1998. The program provides annual funding of about $496 million, including $218 million for energy efficiency, $62 million for public interest research, development, and demonstration, $135 million for renewable energy sources, and $81 million for low-income services. The program will continue at least through 2001.

The California Energy Commission (CEC) is the administering agency for the research, development, and demonstration, and renewable energy programs. The CEC developed a strategic plan for implementing the research, development, and demonstration funds and a market-based distribution plan for the renewables fund is being implemented.

New York

The New York State Energy Research and Development Authority was designated as the fund administrator for a SBC fund established in 1998. The New York SBC provides funding over three years for the following programs: energy efficiency ($161.6 million); research and development ($40.4 million); low-income assistance ($29.3 million); and environmental disclosure ($3.0 million).

For a summary of public benefit provisions in State laws see:
(www.appanet.org/general/issues/publicbenefits.htm)

States Currently Implementing Systems Benefit Charges

- California (www.cpuc.ca.gov/divisions/energy/index.htm)
- Connecticut (www.state.ct.us/dpuc)
- Delaware (www.state.de.us)
- Illinois (www.state.il.us)
- Maine (www.state.me.us)
- Maryland (www.energy.state.md.us)
- Massachusetts (www.magnet.state.ma.us)
- Montana (www.psc.state.mt.us)
- New Hampshire (www.puc.state.nh.us)
- New Jersey (www.njin.net/njbpu)
- New York (www.dps.state.ny.us)
- Ohio (www.puc.state.oh.us and www.pwc.state.oh.us)
- Oregon (www.puc.state.or.us)
- Pennsylvania (www.puc.paonline.com)
- Rhode Island (www.ripuc.org)
- Texas (www.puc.state.tx.us)
- Vermont (www.state.vt.us/psb)
- Wisconsin (www.psc.state.wi.us)

How To Guide: Aggregate under-served markets into buying pools

This activity promotes new opportunities to increase energy security and lower energy costs for under-served markets. It involves market analysis and collaboration with community partners, as well as outreach activities to inform target markets and technical assistance for participants.

Many customers do not have a sufficiently large load to attract the services of utilities and energy service companies. These under-served markets can include small businesses, residential customers, schools, small agricultural firms, and municipal governments. However, by aggregating the load into a buying pool, an attractively sized "customer" can be created. Buying pools have the opportunity to wield significant market power. Buying pools can secure reliable energy supplies at lower costs. Aggregating buyers can also increase access to energy efficiency services and renewable energy resources. States can deliver energy, economic, and environmental benefits to under-served markets by assisting in the development of buying pools.

Desired Outcome:

Under-served markets will have increased access to stable power supply at reasonable cost and greater opportunities to secure energy efficiency and renewable energy services. This will result in both economic and environmental benefits to customers who otherwise might not have access.

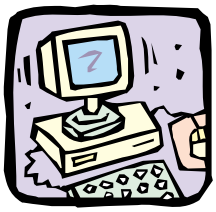
Program Design

Steps

1. Examine demographics and determine target market (e.g., block of small businesses, low-income neighborhood, a single school district or group of districts, tribal reservations, small communities, agricultural firms, municipal governments).
2. Conduct analysis of target market's energy load, current costs, projected savings, and other market factors to evaluate aggregation opportunities.
3. Enlist non-profit organizations to take on the role of aggregating small markets and look for existing groups to take on the role for their members or clients. Assist these groups in creating the administrative structure necessary to aggregate markets.
4. Carry out public education and outreach activities (workshops, presentations, audits) to increase awareness of benefits of buyers pools and educate on aggregation process. Help participants access information on energy prices, service offerings, and service quality of competitive providers.
5. Provide technical and legal assistance for market participation. Assist in negotiating service price, offerings, and quality with providers.
6. Monitor effectiveness of buyers pools, including participation rates, changes in energy costs for participants, and compliance with service offerings.
7. Modify program and assistance provided, as necessary.
8. Apply program to additional market segments.

Partners and Possible Incentives

- **Small business associations:** Activity will benefit members, raise competitiveness of participating businesses.
- **Utility companies:** Improve reliability and decrease need for new generating capacity through better load management; reduce arrears, decrease marketing costs and other expenses.
- **ESCOs:** Economic opportunity.
- **Community redevelopment and housing associations:** Common goal is to improve energy and financial conditions for under-served markets; aligning efforts will serve shared goal. Energy savings may be returned as community development funds.
- **Native American tribes, municipal governments, schools districts:** Can reduce energy costs through aggregation; alleviate drain on budget from high energy costs.



Resources Available

- Energy Cooperatives Network (www.energy-co-op.net/index.html) Comprehensive listing of federal, State, and non-profit resources available to small consumers and groups of consumers on the benefits of choice and options for aggregation.
- The National Rural Electric Cooperative Association (www.nreca.org) Provides legislative, legal, and regulatory services; offers programs in insurance, management, and employee education, training, consulting, public relations, and advertising.
- Community Action Agencies can provide information on and access to low-income markets. Agencies are listed in phone book or access through national association (www.ncaf.org).
- National associations for State and local agencies can provide member information (www.naseo.org, www.nascsp.org, www.ncaf.org, www.nacaa.org, www.nliec.org, www.neada.org).
- National Association of Regulatory Utility Commissioners (www.naruc.org) Contains a variety of position papers, articles, documents, and other publications related to utility restructuring around the country.
- Cooperative Development Institute, Lynn Benander, Executive Director (lbenander@coopdev.org) Phone: (413) 774-7599 Fax: (413) 774-3948
- The Utility Connection (www.utilityconnection.com) Provides links to 3,486 electric, gas and water utilities, utility associations, news, magazines, utility financial resources, related State and federal regulatory and information sites.
- Oak Ridge National Laboratory (www.ornl.gov/ornl/btc/restructuring/pub.htm) A variety of documents which provide background information and guidance on restructuring.
- The National Consumer Law Center (www.nclc.org) Helps consumers, their advocates, and public policy makers to use consumer laws on behalf of low-income Americans seeking economic justice.
- DOE's Weatherization Assistance Program promotes energy savings in low-income communities (www.eren.doe.gov/buildings/weatherization_assistance/).
- Enterprise Zones (www.ezec.gov).

Resources Needed

- Staff to perform market analysis and provide outreach
- Legal assistance
- Technical assistance
- Financial resources to support start-up

Key Conditions/ Factors

- Strong community or client advocacy groups who are able to rise to the challenge and aggregate markets into buying pools.
- Thorough understanding of the needs and priorities of all participants.

Special Opportunities for Success

- Current utility restructuring
- New construction of low-income housing
- Aging municipal/government facilities, schools, and small businesses

Success Boosters

- Works best in extremely competitive energy markets
- Political support
- Positive media coverage to encourage participation

Technology Transfer Plan

- Present results and process through peer exchange between States and conference presentations
- Media coverage
- Post information on State's web site (or a partner's site)

Barriers and Potential Solutions

- **Under-served markets/client groups are often extremely fragmented and may not have much in common:** Link groups with common goal of reliable and affordable energy.

- **Community based organizations and associations are not always willing to take on the complicated, time-consuming task:** Educate on benefits, provide technical and financial support, follow-up to determine additional needs.

- **Legal barriers:** Decide on appropriate legal framework for aggregation (co-op, buying club, municipal utility, etc.) and clarify all requirements and risks.

- **Any financing necessary will be risky and expensive:** Look for opportunities to finance through savings; research potential grant funding; seek utility investment.

Note: Competitive markets have been slow to emerge for small consumers and will therefore be difficult for any aggregator at this stage.

Metrics

- Comparison of individual vs. aggregate price
- Percentage of market penetration

Case Studies/Examples

Illinois

The Center for Neighborhood Technology in Chicago, Illinois, recently partnered with Commonwealth Edison to launch the New Community-Based Energy Cooperative. ComEd will invest $14.7 million in start-up funds over the next three years. The Co-op will work with Illinois residential, industrial, and commercial energy customers. Residential customers in Illinois use 50 percent of their power in the three summer months. By aggregating communities, including industrial customers, the aggregate energy use profile becomes more attractive. The immediate goals of the Co-op are to improve energy reliability, lower customers' costs, reduce energy waste and pollution, and earn money for community development initiatives. ComEd will pay the Co-op for reducing its members' demand for energy and will distribute cash energy reduction payments to its members or subsidize the purchase of energy-efficient equipment. The Co-op will launch its first pilot neighborhood program in Pilsen, a low-income community. The Association of Illinois Electric Cooperatives and other national Co-op organizations are providing technical and organizational assistance.

Consumer benefits include: Lower energy bills, access to energy-efficient technologies, more reliable electrical service, cleaner environment, healthier retail and commercial community, new social capital, and improved collective bargaining power in a competitive market.

Commonwealth Edison benefits include: improved reliability, increased capacity, better performance, and enhanced corporate citizenship.

For additional information, contact: Jennifer Amdur Spitz at (773) 975-1345.

California

In California, the California Electric Users Cooperative (CEUC), a newly formed federation of 18 agricultural cooperatives and its affiliated grower cooperative, have signed a favorable full service electric supply contract for electricity with New West Energy of Phoenix, Arizona. A unique feature of this cooperative is that it contains both large and small agricultural firms; the cooperative organization used the attractive demand profiles of their larger members to build a package that was attractive to aggregators and provided benefits to smaller members as well. Farmers are now saving on electric costs for their cooperative as well as on the commercial meters on their farming operation.

New York

In New York City, the 1st Rochdale Cooperative Group, Inc. has been organized. This electric user cooperative, the first ever created to serve a major city, is purchasing power for nearly 50,000 apartments. This cooperative could eventually provide power for 600,000 New Yorkers living in cooperative apartments that range from low-income flats to Park Avenue penthouses. By pooling their purchases, members are already saving on their energy costs and anticipate securing even lower rates for its members as the cooperative grows and restructuring expands its purchasing opportunities. For more information see: www.energy-co-op.net.