State and Local Government Procurement Project

Draft Summary Report

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in cooperation with

The Energy Efficiency Procurement Collaborative
U.S. Environmental Protection Agency
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The Consortium for Energy Efficiency (CEE) has recently completed the first phase of its State and Local Government Purchasing Project, pursued under the Energy Efficiency Procurement Collaborative, in fulfillment of DOE and EPA contracts. During this phase, CEE completed research on purchasing practices at 9 state and local government pilot sites. A report for each site provided an overview of the purchasing system, and recommendations for overcoming barriers and incorporating energy efficiency into their standard purchasing practices. This report includes a process summary of CEE's efforts, as well as an overall summary of findings and recommendations.

Full-length individual pilot project reports are available by request from CEE. This Summary Report provides an overview of the process and findings.

CEE wishes to thank the staff from the pilot project sites for taking the time to meet with our research team and provide information on their procurement systems and practices. In addition, we want to thank the Energy Efficiency Procurement Collaborative, the US EPA and US DOE for providing funding assistance for this project, and Northern States Power, for providing a separate grant to support three pilot projects in Minnesota. Special thanks to the CEE contractors who worked on the project.

I. BACKGROUND AND PERSPECTIVE

State & Local governments spent about $738 billion in 1994 for purchases, a 19% increase from 1980, according to the 1995 edition of **Business Statistics of the United States.** In 1994, state and local government purchases represented 11% of the Gross Domestic Product (GDP), while federal government purchases constituted only 6%.

No one knows for sure how much of purchasing is for energy consuming products and equipment. A recent report by Lawrence Berkeley Labs (LBL) estimates that state and local governments spend $50 *billion* per year on energy-related products and $12 billion per year on energy bills. The potential savings' opportunities here are huge, considering that efficient products can save 20-50% of energy usage. LBL's report projects savings from a successful multi-year effort to promote energy efficient purchasing at the state and local level to be:

- 21.6 billion kWh of electricity, plus 34 trillion Btu's of gas and fuel oil;
- over $1.2 billion in energy costs annually for state and local governments;
- 4.1 MMTC in CO^2 emissions from state and local government energy use.

CEE's Involvement

CEE was a founding member of the Energy Efficiency Procurement Collaborative (EEPC), initiated through the efforts of NYSERDA and funded by EPA and DOE to promote energy efficiency in state and local government procurement. In March 1998, CEE agreed to contract with the EEPC to continue the work the EEPC had begun. This effort became part of "ENERGY STAR Purchasing", a DOE/EPA initiative to enlist the substantial buying power of state and local governments in market transformation efforts for energy-efficient products. This voluntary market-pull program was developed to lead market demand for Energy Star labeled products and other products in the top 25% of the market for energy efficiency, while helping state and local governments save energy costs and reduce pollution. It also complements existing federal initiatives, including

- the ENERGY STAR® Product Labeling program;
- EPA Green Lights/ENERGY STAR Buildings program;
- DOE Volume Purchasing Initiatives;
- Rebuild America
- Federal Procurement Challenge Programs

As part of the Energy Star Purchasing Initiative, the EPA and DOE developed the ENERGY STAR Purchasing Tool Kit, a comprehensive guide to purchasing over 50 energy efficient products, including office equipment, lighting and HVAC equipment. Each separate product listing includes information resources, specification language and source listings for high efficiency products & manufacturers. The Tool Kit contains an interactive Life Cycle Cost Analysis diskette which provides a comparison of the costs of purchasing energy efficient equipment with conventional equipment. When purchase cost, operating costs, and local utility rates are entered, the software calculates projected savings from reduced energy consumption and maintenance costs. A second volume is the Communications Starter Kit, containing tools and materials to inform and educate employees, management, and the general public about the Energy Star Purchasing initiative.

The Tool Kit is currently available through the Energy Star Hotline 1-888-STAR-YES and the Energy Star website at www.energystar.gov by clicking on the purchasing icon.

CEE's Objectives

For this research

- To gain an understanding of the state & local government marketplace and to organize segments;
- To deliver the knowledge captured in the Tool Kit and help to implement positive change;
- To identify necessary changes and additions to the Tool Kit;
- To build relationships with relevant supporting organizations, including purchasing associations, the trade press and general media, state and local energy offices, and other allies.

Longer Term Potential Objectives

- To build an infrastructure for delivering ongoing support, including enlisting participation of local implementers and utilities, and working with developers of a web-based product.
- To identify additional program components necessary to address procurement barriers.
- To develop a program template to assist CEE member utilities to deliver program services to state and local government customers.

II. CEE'S PROJECT ACTIVITIES

RFP Process and Results

In October 1998, CEE issued three Requests for Proposals (RFP's) for contractor services to aid state and local governments in procuring energy efficient products. The specific services requested within each of the RFP's were as follows:

EEPC 001 - Pilot Projects - To study the procurement processes of select state and local governments and assist them to identify enhancements.
EEPC 002 - Tool Kit Testing - To introduce the Energy Star Purchasing Tool Kit to state and local government purchasing officials and solicit appropriate feedback.
EEPC 003 - Market Segmentation Study - To characterize segments of the state and local government to guide future outreach efforts and target issues for additional review.

CEE received 7 responses to the solicitations, and in mid-December, 4 contractors were selected to provide services requested from the three RFP's. All contractors proposed Pilot Project sites, and 12 sites were selected to include a broad representation of state and local government entities, including:

- 1 State
- 4 Cities
- 4 Counties
- 2 Universities
- 1 School District

(Three projects in Minnesota, co-funded by Northern States Power, did not begin until April, and were not completed at the time this report was written. The information from the Minnesota sites is therefore not included in the findings discussed in this report.)

In addition, 2 contractors' proposals for Tool Kit Testing were selected, and one was selected to do the Market Segmentation Study. The following chart shows the contractors and their projects.

STATE & LOCAL GOVERNMENT PROCUREMENT PROJECT
SELECTED CONTRACTORS AND PROJECTS

Contractor	KJ Consulting	Paul Hlavac & Associates	Strategic Energy Innovations	Washington State University
Principal Contact	Katherine Johnson	Paul Hlavac	Cyane Dandridge	Rick Kunkle
EEPC 001 Pilot Projects	Montgomery Co. Maryland	State of Tennessee	City of San Francisco	City of Portland, Oregon
	City of San Antonio	Hennepin County	University of CA San Francisco	
		City of St. Paul		
	Bexar County, TX	Ramsey County		
	Harlandale, TX Schools		University of WA Seattle	
EEPC 002 Tool Kit Testing	❖			❖
EEPC 003 Mkt. Segmentation		❖		

(Projects in shaded area are co-funded by Northern States Power. These projects have not yet been completed, and therefore, are not reflected in this Summary Report)

Process Overview of Pilots, Tool Kit Testing and Market Segmentation Study

The contractors' work on the projects began in late January. In proposing Pilot sites, some had already made contacts at the Pilot site organizations, but others had made little or no initial contacts. The process of identifying the appropriate personnel at each site, and making contact with them was

often a difficult and time-consuming process, and continued through April in some cases. Purchasing-related staffs are generally extremely busy, and some meetings or interview calls took weeks to arrange. At each site, the list of contacts grew as meetings were held. One meeting would usually lead to another, either through recommendations by interviewees, or additional information the contractor received as to the extent of the purchasing process. At many of the pilot sites, the Purchasing departments were organized into sections responsible for different types of purchases, with different managers and sometimes different purchasing philosophies and practices. Often, responsibility for purchasing energy using products and equipment would be scattered throughout several sections, so attempts would be made to meet with purchasing staff and management from each section that purchased energy consuming products, as well as overall management of the entire purchasing function.

In addition to commodity purchases, another very important area of purchasing is in building construction and renovation. To understand how purchasing happened here, meetings were held with totally separate departments or agencies, those with Design/Construction and Facilities Management responsibility. In most cases, these departments could not provide the amounts they spend on purchasing energy-using products for renovation and new construction projects. However, the consultants concluded that they often exceeded the total amount spent on energy-using products by all other entities within the governmental body, including centralized and non-centralized purchasing organizations.

The Tool Kit was distributed to staff at all pilot sites, and two separate Tool Kit Testing initiatives also were conducted. Washington State University (WSU) contacted over 100 state and local governments in the Northwest, offering to send copies of the Tool Kit to those willing to review it and provide feedback. WSU staff solicited comments on the effectiveness of the Tool Kit from approximately 60 individuals with purchasing responsibility in these organizations, and prepared a report on the responses. In addition, CEE attended several purchasing conferences to promote the Energy Star Purchasing project and highlight the Tool Kit, and helped to organize a Purchasing conference with the International Council for Local Environmental Initiatives (ICLEI). Tool Kits were given to participants at all conferences, and in several cases, CEE did follow up surveys to get participants' comments on the Tool Kit, and its effectiveness to their organization. CEE prepared a comprehensive Tool Kit Assessment report from the overall survey responses.

The Market Segmentation Study has recently been completed by CEE, and the Draft Report is now available for review and discussion. The Market Segmentation Study will help to identify a set of common needs for all or most organizations (e.g., tools, information, specifications, financial tools, etc.), as well as custom needs for individual segments. We will prioritize these needs and continue to integrate activities and information with other organizations working in government procurement to leverage resources.

CEE staff presented a summary of project activities and preliminary findings at a June 1999 CEE Program Committee Meeting in Newton, MA. A Project Advisory Committee of members with interest in government procurement was formed at that meeting to guide the development of future program activities.

The primary focus of the remainder of this report is a summary of the results of EEPC001- Pilot Projects. Although the Tool Kits were given to individuals at each of the Pilot sites as part of EEPC001, the Tool Kit Assessment is summarized in a separate report and any discussion of the Tool Kit in this report is to provide context of CEE's efforts. The results of the Market Segmentation Study are detailed in a separate report also. All reports are available by request from Pat Barnes at CEE.

III. GENERAL FINDINGS

Overview of Purchasing

Although there has been a trend during the past decade towards decentralization of purchasing authority, most organizations still have a central Purchasing bureau or department that manages annual supply contracts for commodities & certain services (e.g., maintenance), and conducts formal bid processes. Often this department is part of a larger "general services" agency. Purchasing departments vary in size and functional organization. For example, the city of Portland has five buyers who work with different bureaus for a wide variety of projects, while the state of Tennessee has more than 20 buyers who are responsible for purchasing specific products, or groups of products.

Purchasing staffs are usually extremely busy doing their many jobs, including, among others:

- initiating and completing bid processes for a wide variety of products and services, and ensuring fairness and open competition;
- registering bidders and maintaining bidders lists;
- preparing and administering agency and statewide or citywide contracts;
- interacting with their city-wide or state-wide agency clients; assisting them in setting product specifications; dealing with purchase requests;
- addressing & managing complaints from clients or vendors;
- interacting with vendors and administering contracts;
- administering complex purchasing systems;
- staying abreast of changes and new trends in purchasing. (See Market Segmentation Study for more information on trends in government purchasing).

Government purchasing is subject to rules and regulations, laws, policies and more or less strict procedures, depending on the organization and amount of purchase. The procurement systems of states and local governments are often subject to audits by an Inspector General, Attorney General, legislative committee, or other overseeing authority, on some periodic basis, to ensure compliance with statutes and regulations. The larger the expenditure, usually the more stringent the bid process must be. For smaller purchases, individuals (with appropriate responsibility or approval) can often buy directly from vendors, without going through the Purchasing Department. Our research has shown that the range for individual purchase authority varies, from $500 to $25,000 for the sites studied here. The University of California at San Francisco allows authorized individuals to purchase up to $2,500 per day. The University of Washington at Seattle allows individuals to purchase up to $2,500 ($10,000 for computers) per purchase period, with approval from the department head. City of Portland employees can purchase up to $5,000 with department approval, using a city credit card. Many organizations recommend that individuals solicit 3 or more informal (oral or written) bids for purchases, but a formal bid process is not required.

For competitive bid processes, all bid evaluation criteria must be explained clearly in the Invitation to Bid, and no additional criteria may be used. If energy efficiency were to be an evaluation criterion, the energy efficiency requirement would be explained in detail, and included at this time. The criteria for selection of winning bids is typically "lowest responsible and responsive bidder", although some of the systems we researched allowed for, but did not require, the consideration of "total cost of operation" in the bid selection criteria. By far, the majority of our interviews suggested that neither energy efficiency nor total cost was considered for most purchases, (even when total cost was allowed).

Difficulty of Introducing New Products and Technologies

When a new or different product or technology is requested by a user agency, purchasing staff must research the product and manufacturers, and develop bid specifications that clearly and correctly state their needs, while maintaining an "open and competitive" solicitation. There must be sufficient anticipated demand for the new product or technology, as well as availability of two or more models that meet the specifications, before Purchasing staff will initiate efforts to develop a new term contract that bidders will respond to.

Vendors can challenge unclear or incorrect specifications, and this process can ultimately result in an inferior product being selected. Due to the time constraints, administrative and legal requirements, purchasing staff will often buy the same "tried and true" products and technologies that have been purchased in the past. In many cases, the majority of term contracts are not new, they are just renewed regularly, with the prior period contract providing information for the renewed contract. Introducing a new technology or product onto a term (statewide or citywide) contract may take months, or in some cases, years to complete. One site we studied had recently completed a term contract for the purchase of compact fluorescent bulbs, 18 months after the initial request by an agency. Because it was a new contract for an unfamiliar technology, it required a lot of extra up front work, and because the purchasers were so busy with other requirements, this request kept getting placed on the bottom of the pile.

Specifications for Energy Efficiency

In the sites we researched, it was unusual for purchasing staff to develop specifications without at least some input from the requesting agency (one exception is term contracts, which often follow prior contract specifications). Most often, for products or technologies specifically requested by a user agency, the specifications are developed by the requesting (user) agency, sometimes in cooperation with the purchasing staff, or with input from trusted vendors. Usually, if energy efficiency is specified as a requirement in the purchase of commodities or services, it is due to the initiative of one or more individuals in the agency - "Champions" for the energy efficiency cause, and is not due to an enforced policy or directive by the government, although a small minority do have such policies or directives.

Building Construction and Renovation

Purchasing for capital building and renovation projects is done through a different process, typically not through the Purchasing department. Building construction and renovation is usually facilitated by the agency with responsibility for property or facilities management. The larger organizations will

usually have Design & Construction groups to manage the process. These capital projects go through long, involved approval processes, and can take years to implement. Often the budget is set before the approvals are in place. Decisions are made over time, and the specifications can change throughout the project's development & construction process.

The design of these projects is sometimes done in-house, if the organization has the staff capability. In projects we studied, the design was usually contracted to an outside A/E firm. Thus, the project's outside designers are responsible for specifying energy consuming products and systems. The design fee is often calculated based on the project's construction budget, no matter how complex or difficult the design work may be. Construction is usually done by an outside firm, and the construction contractor is responsible for purchasing the products and systems, within the overall construction budget. Whether the specifications are done in-house, or by an outside firm, energy efficiency often is not a prime consideration. The organization's own staff may not be knowledgeable about or interested in, energy efficient products and systems, and when under time pressure, they may not specify or even consider energy efficient technologies. Third party designers may not be interested in specifying anything other than standard technologies, not wanting to take any risks, since they are liable for the products and technologies they design. Also the (often) extra first cost of the high efficiency system or product may exceed budget limitations. Even if the organization or the outside contractor has one or more "champions" who specify energy efficiency, these specifications may not endure the ongoing cost containment process that occurs throughout the life of the project. "Value engineering" is one process that organizations use to reduce the cost of an over-budget project, and often energy efficiency specifications are considered "luxury items" and are among the first to be cut.

Barriers to Energy Efficient Purchasing

- Agencies Don't Pay Energy Bills -It is not unusual for one "General Services" agency to pay the energy bills for many others. In some cases, the individual agencies and facilities do not know what amount of energy their facilities consume, or the cost. The state of Tennessee charges individual facilities for energy costs on a per square foot basis, regardless of consumption. The state has a "facilities revolving fund" to pay for energy costs, janitorial services, and maintenance of buildings. One rate is paid by all agencies. Even if one agency reduced their individual consumption by 30% or more due to an energy efficiency project, it would have only a slight effect on the overall costs covered by the revolving fund, and it is unlikely that the state would reduce it's per square foot charge. The agency implementing the project would see no savings.

- Municipal Utilities as Revenue Source- Cities with municipal (city-owned) power supplies often depend on the revenue from power sales to city agencies for operating expenses. In some cases, the revenues provide a substantial contribution to the city's budget. This is a real disincentive for the utility to encourage, or participate in, projects that reduce substantial amounts of energy.

- Zero-Based Budgeting -For agencies that do pay their own utility bills, energy budgets are often based on the previous year's consumption. If an agency reduces its consumption by 30% or more through energy efficiency, then the next year's budget will be based on the reduced cost, and the savings go to the general fund. Thus, there often is no incentive for agencies to save energy.

- Low Cost of Energy - Several of the pilot sites pay energy rates of approximately $.03 per kWh. The potential energy savings in these organizations are less significant, and may be less important to the organization than in other, higher energy cost areas. Some individuals at one pilot site believe that negotiating even a modest decrease in kWh price would produce savings in excess of those generated through purchase of energy efficient products.

- Impact of MIS Departments - Management Information Systems (MIS) departments are usually responsible for specification of computers and sometimes other electronic equipment. MIS departments are often the least energy conscious purchasing or specifying group. None of the pilot sites' specifications for computer purchases included energy efficiency criteria. Fortunately, most computers purchased under state or local government contracts are Energy Star rated anyway. Unfortunately, however, most sites studied do not require that the energy efficient features be enabled. In fact, many MIS groups disable these features, due to potential network problems they cause. Our research suggests also that users disable the energy efficiency features because they find them inconvenient. This is a major problem area, considering the number of computers in use by state and local governments. The City of San Francisco employees are using approximately 12,000 computers. The city's Bureau of Energy Conservation staff estimate that 40% or more have disabled energy management features, and up to 70% are left on constantly. Users at the University of Washington at Seattle operate over 7,000 university-owned computers, with a replacement cycle of every three years. The Energy Star features are not routinely enabled. At the University of California at San Francisco, the Source, a computer & peripherals store for staff & students, sells about 2,500 computers per year. They are not shipped from the manufacturers (Dell and Macintosh) with Energy Star features enabled. The entire campus operates over 15,000 computers.

IV. RECOMMENDATIONS – POTENTIAL INTERVENTION STRATEGIES

These are general recommendations from the pilot project reports that could be applied to any state or local government organization to encourage greater energy efficiency in its purchasing practices.

- **Create or Identify Energy Champions Within Government Organizations**

- Recruit high-level decision-makers to make an organization-wide commitment to purchasing energy efficient products, both as commodities and for building construction and renovation.

- Carry out the commitment through management to staff through organizational policies and procedures. Publicize the commitment. Develop energy awareness campaigns for employees, energy events and/or conferences, and possibly incentives or awards for individual efforts.

- Identify an Energy Manager for each major agency or department. Hold regularly scheduled meetings to share information on new or existing high efficiency technologies and agency energy efficiency efforts. Include staff from Purchasing and Design/Construction departments.

- **Communicate Energy Efficiency benefits in tangible and meaningful ways**

- Link energy efficient purchasing to environmental benefits, and existing environmental commitments, as well as to cost savings and other benefits.

- Authorize and encourage staff to pay a slightly higher price when savings in operating cost and maintenance justify the price.

- Track energy consumption of individual facilities, to be used as a baseline for energy savings due to a purchasing initiative. There are a number of software programs available to track consumption.

- Devise a means to measure energy and other cost savings and environmental benefits resulting from implementing energy efficiency in purchasing.

- Establish regular training sessions for procurement officials on the benefits of energy efficiency in purchasing. Include training in the use of the Energy Star Tool Kit, and stress the importance of using Life Cycle Costing. Revise Purchasing Manuals to incorporate energy efficiency requirements.

- Establish regular training sessions for Project Managers, architects and engineers (including contractors) on the benefits of energy efficiency, and how to incorporate energy efficiency into new construction/renovation projects.

- Allow agencies to keep a portion of the savings for which they are responsible, ideally targeted for additional energy projects. A revolving fund could be implemented for energy efficiency projects and purchases, with re-payment from savings.

- Join or start a purchasing coop for energy efficient products.

- Document and publicize successes to maintain a high level of awareness. Share success stories with other organizations to spread the word, and the good work.

- **Develop energy efficiency specifications.**

- Encourage facility managers to develop lists of standard energy-efficient products to be used in building maintenance. For example, set standards that all replacement light fixtures be rated as Energy Star, or equal.

- Integrate a preference for high-efficiency products into written documents from the Purchasing department, e.g., bid document and boiler plate instructions to vendor. Adopt bid document language that directs bidders to propose energy consuming products that meet Energy Star labeling when ratings are available, or fall within the top 25% of available like products.

- Add energy-related instructions on purchase orders that agencies submit to Purchasing. A written instruction, reminder or logo would encourage staff to purchase efficient products.

- Integrate energy efficient purchasing language into boilerplate sections of city, county or state construction standards.

- Add energy efficient specifications to each appropriate term contract as they come up for renewal.

- **Implement and enforce energy efficiency specifications.**

- Require that new purchase of all energy consuming equipment and technologies by Energy Star rated, or equivalent high efficiency specifications.

- Require Life Cycle Costing be used for procurement of energy consuming products and equipment. Train all relevant staff on LCC.

- Include energy efficient products when Life Cycle Costing or other factors justify the purchase.

- Develop standard language for use in RFQ's and RFP's that directs architects and engineers to specify efficient products and technologies in projects.

- Consider adding up to 5% to the cost of new construction/retrofit projects for the higher "first cost" of energy efficient products and technologies. Ensure that this added amount is not used for anything else, and make sure that energy efficiency improvements do not get slashed or "value engineered" out of the project if the project goes over budget.

- **Enlist the Vendors**

- Work with vendors to educate them on the state or local government's desire to purchase high efficiency products. Develop a training session for vendors, and require that potential bidders complete the training. Vendors can help to promote the most efficient products and educate users, and also help ensure availability of products.

- Identify sources for model energy efficiency equipment specifications.

- **Enlist support and input from the A&E community.**

- Develop a process to ensure that A/E firms who contract with the government for project services have appropriate energy efficiency experience and qualifications. (The ultimate goal would be a certification process that would be implemented regionally or nationally.)

- Communicate the preference for energy efficient products and technologies very early in the design process. Architects and engineers should be directed to incorporate energy efficient design and Energy Star rated (or equivalent) products and technologies as required elements of the project.

- Use design assistance programs offered by outside organizations such as utilities, state and/or federal programs.

IV. POTENTIAL FOR MARKET TRANSFORMATION

The time is right for moving forward. State and local government purchasing represents a huge opportunity for energy efficiency initiatives. It also presents a huge challenge. Although there are many similarities among government purchasing systems, each is a separate functioning organization with individual issues and opportunities. The work that is currently being done by the Northwest Energy Efficiency Alliance, WSU, CEE and possibly other organizations, provides a framework for identifying the issues involved in making changes, and developing tools and methods for providing assistance to governments to accomplish change.

Getting the word out about the benefits of energy efficiency to stakeholders in the process, from high level officials to administrative purchasing staff, is a critical element of the process of change. Nothing makes more of an impression than demonstrating how energy efficiency can meet an individual's particular needs and concerns. For legislators or administrators, the ultimate benefit might be the substantial cost reductions achieved or the high visibility of an energy efficient facility. For facility operators, the issue might be performance, extended life, and reduced maintenance requirements of high efficiency technologies. For purchasing staff, product quality and reliability might be primary concerns. In any case, the message must be circulated widely, and targeted to the listener.

To make energy efficient purchasing a standard practice, the approach should be multi-faceted, working with a number of key stakeholders in the process. A commitment by the organization to purchase energy efficient products and putting it into practice will be key elements, in addition to educating stakeholders. Demonstrating and using the tools that have been developed, including the Energy Star Tool Kit, as well as identifying and developing additional tools and materials, will also be an important part of the continuing process.