

**Department of General Services
Energy Efficient State Property Revolving Fund
Annual Legislative Report
January 1, 2010**

Background

The American Recovery and Reinvestment Act of 2009 (Public Law 111-5) provided funds to the United States Department of Energy to make allocations to its existing State Energy Program (SEP). Accordingly, on June 25, 2009, the California Energy Commission (CEC), in its role as the administrator of the SEP in California, received \$226,093,000 for dissemination under SEP guidelines.

On June 28, 2009, Governor Schwarzenegger signed Assembly Bill 11 from the Fourth Extraordinary Session of the 2009-2010 Session (ABx4 11), thereby adding Sections 25470 through 25474 to the Public Resources Code (PRC). A brief summary follows:

25470: Definitions

25471: The Energy Efficient State Property Revolving Fund (Loan Fund) is hereby created in the State Treasury for the purpose of implementing projects in state-owned buildings and facilities to achieve greater, long-term energy efficiency, energy conservation, and energy cost and use avoidance. Notwithstanding Section 13340 of the Government Code, the money in this fund is continuously appropriated to the department, without regard to fiscal years. The CEC will transfer \$25,000,000 into the fund, which the Department of General Services (DGS) will administer and account for in accordance with Public Law 111-5.

25472: The DGS will consult with the CEC to create a program that improves long-term energy efficiency in State-owned facilities. The program will provide loans to participating agencies, who will be able to repay the loans through energy cost avoidance.

25473: The DGS will submit a report to the Legislature on January 1, 2010, July 1, 2010, and annually every January 1 thereafter that includes:

- An initial list of projects identified for each fiscal year
- The anticipated cost of the projects
- An analysis of the methodology
- An estimate of the reduction in energy consumption

25474: The DGS will deposit all loan repayments and interest income into the fund.

Progress

The DGS and the CEC entered into an interagency agreement that describes each department’s respective roles and responsibilities. This agreement went into effect on September 30, 2009, upon approval from the Energy Commission. The agreement outlines the program goals, criteria for program development and marketing, criteria for project identification and selection, and reporting requirements.

The first elements of the program plan are project identification, selection and approval. Participating departments and agencies are responsible for identifying projects using benchmarking information and energy audits. They then package the project for submission to the loan program’s project review committee. If selected, the project continues on to the loan review committee for loan approval and execution.

The DGS has initiated efforts to develop projects using a variety of methods that include:

- Existing Retro-Commissioning (RCx) Contracts: DGS executed contracts for RCx services with several contractors. During the investigation and calibration of the buildings, the RCx agents identified energy efficiency measures that exceeded the existing contracts’ scopes. The DGS is amending those contracts to cover the extended scope of work.
- Energy Services Company (ESCO) Contracts: Under the authority of Public Utilities Code Section 388, the DGS has established a pool of qualified ESCOs and will issue contracts to them for energy retrofits at State-owned facilities.
- Special Repair Contracts: The DGS’ Building and Property Management Branch has surveyed its five-year plans for building maintenance and repair to identify energy-related projects that are potential candidates for participation in the revolving fund loan program.

The table below illustrates the savings potential in a building that is representative of most large-office buildings in the State’s portfolio in terms of age and size. This facility received a preliminary audit last year that includes measures with both long-term and short-term paybacks. Combining measures in this way allows departments to replace large, expensive equipment by balancing their payback periods with those of cheaper, more productive measures.

Table 1: Preliminary Audit Results for a 250,000 Square Foot Office Building

Proposed Energy Efficiency Measure	kWh Savings	Therms Savings	Project Cost After Incentives	Annual Energy Cost Avoidance	Payback in Years (Project Cost ÷ Cost Avoidance)
Lighting Upgrade	272,230	0	\$416,086	\$40,835	10.2
Boiler Replacement	0	4,999	\$107,501	\$5,949	18.1

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Proposed Energy Efficiency Measure	kWh Savings	Therms Savings	Project Cost After Incentives	Annual Energy Cost Avoidance	Payback in Years (Project Cost ÷ Cost Avoidance)
Chiller Replacement	210,305	0	\$408,057	\$31,546	12.9
Improved Chilled Hot Water through Coils	38,337	0	\$22,758	\$5,751	4.0
Replace Coils on Air Handling Unit-3	5,383	0	\$11,746	\$808	14.5
Replace Dampers	13,199	0	\$23,152	\$1,980	11.7
Cooling Tower Sequencing	83,268	0	\$5,843	\$12,490	0.5
Vending-misers	10,500	0	\$8,535	\$1,575	5.4
PC Energy Management Software	149,500	0	\$44,290	\$22,425	3.0
	782,772	4,999	\$1,047,968	\$123,359	8.5

In addition to the retrofitting of large buildings, the DGS is also coordinating with other departments to create a small building retrofit component for the loan program. Departments such as the Department of Motor Vehicles (DMV), the California Highway Patrol, and the Department of Parks and Recreation, among others, have started to compile project packages to retrofit their field offices, most of which are smaller than 50,000 square feet. These smaller buildings, which are owned and operated by approximately twenty different departments, comprise over half of the square footage in the portfolio of State-owned facilities. Potential measures for implementation include:

- Interior and exterior lighting retrofits
- Motors and process improvement equipment
- High-efficiency chiller and boiler replacements that meet and exceed Title 24 baseline requirements
- Variable speed drive installation on existing air conditioning or refrigeration compressor motors
- Air conditioning complete subsystem replacements (evaporative condensers, air-cooled condensers, cooling towers, or compressors)
- Refrigeration complete subsystem replacements (condensers, evaporators, cooling towers, or compressors)
- Controls and energy management systems for heating, ventilation, and air conditioning (HVAC) or refrigeration equipment
- Variable speed drives on fans (including supply fans, exhaust fans, and cooling

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tower fans)

- Variable speed drives on pump motors (including chilled water and cooling tower pumps)
- Demand control ventilation installation
- Cooling tower upgrades
- Reflective window film installations

These measures can reduce a small building's energy consumption from 15 to 20 percent. The DGS has prepared a Request for Proposals (RFP) to engage an energy services company (ESCO) to perform retrofits statewide on a department-by-department basis. The first RFP covered facilities belonging to the DMV.

July 1, 2010 Report

PRC Section 25473 requires the DGS to submit to the Legislature on July 1, 2010, an update to this report. This report will contain actual costs and savings calculations for projects already underway. Current plans indicate that the entire \$25,000,000 in the loan fund will be encumbered by September 30, 2010; therefore, the July 2010 report will include estimated costs and savings for the first cycle of financing.