

The following are excerpts from A Guide to Energy Efficiency in Schools authored by Pamela T. Johnson, Los Angeles County Office of Education, and Michael F. Manning and James R. Solberg, Ph.D., Diablo Education Consultants. The Guide is a joint publication of SPURR and REMAC, joint powers agencies formed to pursue lower energy costs for schools.

ENERGY EFFICIENCY IN SCHOOLS

As public education in California faces its leanest budget in a decade, drastic cuts are being made in county offices of education and school and community college districts across the State. When deferred maintenance is cut, school buildings deteriorate. As equipment ages and needs major repair or replacement, school energy costs climb. Demand-side management (DSM) provides schools the opportunity to reduce costs by using less energy.

Utility companies in California are showing a renewed interest in supporting energy efficiency. Reducing the need to produce power is more cost-effective than building new power-generating plants. Because DSM reduces the need to produce power, utility companies are offering attractive incentives for DSM projects to promote the upgrading of energy-inefficient equipment in existing facilities and the design of energy efficiency into new construction. In response, private industry is expanding its creative approach by offering DSM turnkey services. Many companies nationwide offer DSM services and are known as Energy Service Companies (ESCOs). Most ESCOs offer districts full service, which includes energy audits, engineering studies, retrofit specifications, financing, installation, project management, on-going maintenance and post-installation monitoring.

DSM can be implemented using different approaches. Many districts have the personnel, resources and ability to undertake a DSM project; some may choose to have consulting engineers help them through the process; others may prefer to hire an ESCo to provide a turnkey project.

The DSM process involves a series of steps in two broad categories: planning and implementation.

Planning:

In the planning stage, the scope of the project is defined, a cost-benefit analysis of the energy-efficient measures is performed, an approach to project management is chosen, the funding source is identified and the logistics of implementation are addressed. Alternative financing opportunities may provide the quickest way for funding and, if structured properly, require no payment until guaranteed savings are achieved.

Implementation:

In the implementation stage, specifications are developed, the project is reviewed and approved by various personnel and entities, equipment is purchased and installed and the district assumes a long-term commitment to energy savings.

DSM has advanced technologically to the point that equipment performance can be easily and accurately predicted. The unpredictable aspect of DSM is human behavior. People are the most critical factor in the success of DSM, and their presumed behavior is an important component in projecting energy cost savings. A school's energy-management program affects administrators, teachers, students, parents and support staff, and the program's success is contingent upon their support. Given the long duration of payback, a district must have a commitment that will endure changing boards, changing district personnel and changing ESCo personnel. To be successful, this commitment must continue even if the originators of the project are no longer involved.

For more information on DSM funding and implementation, contact Your Local Utility.