

Bringing Energy Policy to Reality (and Vice Versa): A Local Government Perspective on Energy Efficiency and Green Buildings

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Today's Talk

- Local government involvement (or not) in energy efficiency
- Case study of Oakland Unified School District



Local Government In California

- 58 counties
- Nearly 500 cities
- Over 1000 school districts
- Over 2000 special districts (water, transit, sewage, mosquito abatement, fire protection, etc.)



Local Government Experience With Energy Efficiency

2005 study of why local governments do or do not participate in energy efficiency programs*

- Key barriers:
 - time and resources
- Secondary barriers:
 - lack of knowledge of energy issues and technologies
 - understanding the various programs
- Staff not dedicated to energy:
 - responsibilities include, but are much greater than, energy management
 - expertise is not in energy
- There is great interest in more access to technical resources and other assistance to help local governments implement energy efficiency projects

* Jody London Consulting, *Public Agency Participation in Energy Efficiency Programs: Technology Transfer Feasibility Study*, Prepared for the Southern California Edison – Southern California Gas – County of Los Angeles Energy Efficiency Partnership, December 2, 2005



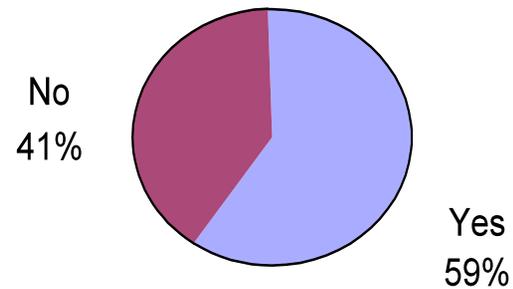
Recent Policies Create New Opportunities

- AB 32, SB 375 create new obligations and opportunities
- Local governments with track record on energy and sustainability can take on more than utility “partnerships” often allow
- Majority of local governments do not know where and how to start
- In-house energy and sustainability staff can be part of the “green workforce”



Local Government Preparedness for Energy Management*

Does your agency have a complete inventory of facilities for the purpose of tracking energy consumption and energy efficiency projects?

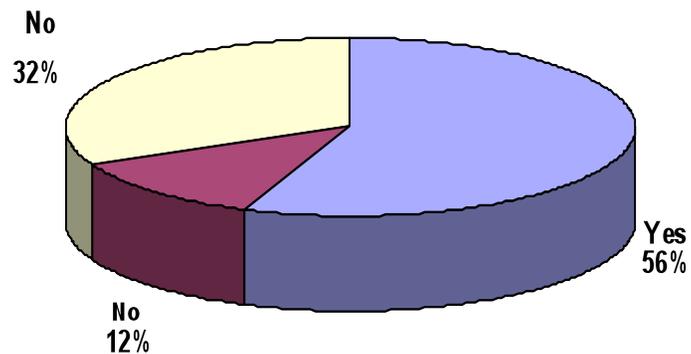


* Source: Jody London Consulting, 2005

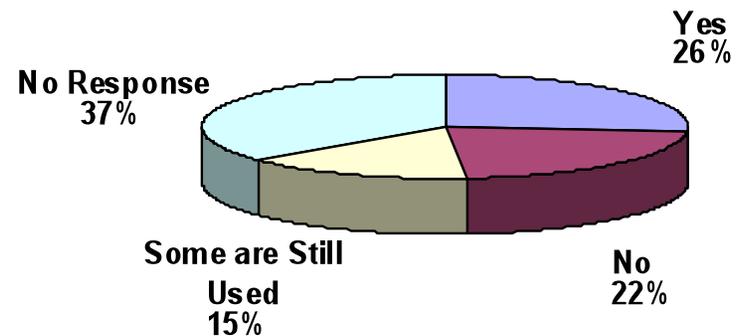


Persistence Is A Challenge

Did you implement any operational procedures during the 2001 energy crisis (e.g. turning off decorative lights)?



Are all of these operational procedures still in place and used today?



* Source: Jody London Consulting, 2005



Energy Management Tasks

ADMINISTRATIVE	
Establishing Utilities Budget	Interacting with Utilities Accounts Payable/Receivable organizations
Authorizing Payment of Bills	Directly Collecting Utility Consumption and Billing Information
Aggregating Multiple Accounts within your organization	Automating the Collection and Use of Utility Consumption and Billing Information
Verifying Accuracy of Utility Bills	Providing Energy Reports to internal organizations
Preparing Periodic Consumption and Utility Spending Reports	Providing Utilities Accounts Payable/Receivable Service
Collecting Utility Billing Information and "Re-Billing" internal customers	
TECHNICAL ANALYSIS	
Analyzing Utility Rates	Performing Facility Energy Audits
Hiring Energy Related Consultants	Performing Energy Efficiency Project Costs/Benefits Analysis
Providing Energy Reports to Executive Mgmt. or Elected Officials	Developing Energy Project Proposals

ENERGY PROJECT MANAGEMENT	
Obtaining Energy Project Funding	Conducting Monitoring & Verification of Project Results
Contracting for Implementation of Energy Projects	Creating and/or Keeping Energy Project Cost/Savings History
Administering Energy Project Contracts and Contract Payments	Applying for Energy Efficiency Project Funding from outside entities
FACILITIES MANAGEMENT	
Analyzing Facility Operations from an Energy Viewpoint	Directly Installing Energy Projects
Operating and Maintaining Building HVAC Control Systems	Providing Facilities Maintenance
Interfacing with Building Control System Data	Interacting with Facilities Maintenance organizations
Proposing and Implementing Facility Operational Changes	
ENERGY POLICY	
Developing and/or Promoting a Formal Energy Policy	Participating in Energy Legislative Proceedings
Directly Interfacing with Other Public Agency Officials	Providing Energy Policy Input on New Building and Remodel Designs
Participating in Energy Regulatory Proceedings (for example CPUC, CEC)	



Building Institutional Capacity

Puget Sound Energy Resource Conservation Manager

- School districts, public sector government agencies, and commercial or industrial customers.
- Puget Sound Energy helps fund the Resource Conservation Manager position within the organization.
- Participating entity must make a three-year commitment to keeping the position on staff.

Marin Energy Management Team

- Energy manager for all the cities, school districts, and special districts in Marin County.

Ventura County Regional Energy Alliance

- Shared energy management resource for the many small and medium cities in Ventura County, as well as school districts, the community college district, and other special districts



Case Study:

Oakland Unified School District

School Funding in California

80% of local school district funds in California comes from the State

- Over past 18 months, \$12.5 billion in reductions to schools, with an additional reduction of \$4.5 billion in deferrals.
- \$7.5 billion in programmatic cuts and an additional \$5 billion for the loss of cost-of-living adjustment.
- February 2009 budget deal impacts funds that might be available for energy efficiency:
 - Reduces the amount school districts are required to set aside for routine restricted maintenance from 3% to 1% of general fund budget for current year plus four years
 - Eliminates the local 0.5% statutory match for deferred maintenance for the current year plus four years



Impact of State Budget on Oakland Unified

#	Category	2008-09	2009-10	% Chg
		Working Budget	Adoption Budget	
1	School District Leadership	15,353,460	8,168,508	-47%
2	Professional/ Curriculum Development	28,113,318	18,808,898	-33%
3	Debt Service and Self-Insurance	38,330,550	26,440,853	-31%
4	School Climate/ Violence Prevention	9,634,904	7,204,184	-25%
5	Adult Education	16,725,587	14,296,312	-15%
6	Extended Educational Services	38,483,511	33,187,924	-14%
7	Early Childhood Education	23,837,372	21,126,673	-11%
8	Business, Personnel & Data Management	19,161,585	17,053,686	-11%
9	Core Classroom/ School Allocation			
	General Education	199,393,794	178,296,378	
	Alternative Education	9,846,651	8,572,228	
	Special Education	72,651,628	73,418,170	
	Other Schools (Charter & Private Schools)	8,418,842	6,441,154	
	Enhanced Core Classroom/ School Allocation	34,049,443	34,316,775	
	<i>Subtotal</i>	<i>324,360,358</i>	<i>301,044,705</i>	<i>-7%</i>
10	Nutrition Services	14,979,440	14,647,457	-2%
11	Facilities Maintenance, Construction & Upkeep	155,602,779	153,323,037	-1%
GRAND TOTAL – ALL FUNDS, RESOURCES, SITES		684,582,864	615,302,237	-10%



The 2010—2011 Budget Challenge

Need to cut \$27 million from \$252.3 million General Fund Unrestricted Resources budget

Budget Cut/ Addition Strategy	Potential Savings/ Additional Resource
Boost attendance 1 percent	\$2 million
Decrease utilities spending	\$500,000
Central Office reductions/ redesign, including Tier 3 Categorical Flexibility	Pending redesign and decisions re: Tier 3 Categorical Flexibility (e.g., Adult Ed)
School Closures/Mergers	\$320,000 per ES; \$500,000 per MS; \$405,000 per HS
Furloughs/ Compensation adjustments	Pending
Increase class sizes	Adding 3 students per class can save \$15--\$28 million



Oakland Unified: Energy Management and Green Buildings

- Oakland has over 100 buildings, many of which are more than 80 years old
- 2006: \$435 million general obligation bond for replacing old portables and modernization
 - Advanced meters are being installed as buildings are upgraded
- 2007: policies on energy and water conservation, green buildings
- Incremental energy audit program
- 2009: U.S. Department of Energy Solar America grant
 - \$500,000 for solar planning, jointly with Berkeley Unified, West Contra Costa Unified



Energy and Water Conservation Plan

Steps the District is taking:

- ❖ Integrated energy audits through PG&E
- ❖ Energy Efficiency Building Retrofits
- ❖ Energy Efficiency Trainings
- ❖ Energy awareness section in Facilities newsletter
- ❖ Encouraging energy conservation, energy efficiency, load management, and demand response to reduce environmental impacts associated with energy use

Status:

- ❖ We have completed energy efficiency audits on the schools identified as the highest energy users
- ❖ We have implemented the PG&E recommendations, making these schools more energy efficient
- ❖ 5 new audits were completed in October for sites with high energy usage
- ❖ 8 additional sites scheduled for audits in 2009



OUSD Energy and Cost Analysis: Winter Shut Down 2008-2009

- In December - January 07-08, and again December - January 08-09, 74 sites participated in a winter shutdown. This included high schools, middle schools, and elementary schools.
- Each school, with assistance from Buildings & Grounds and Custodial Services, maximized energy and cost savings by following the Energy and Water Policy guidelines for going dark during the vacation periods:
 - Turn off all interior and exterior lighting except security lighting
 - Shut down all heating and air ventilating systems
 - Empty and unplug all refrigerators, freezers & appliances except as designated for use by Food Service
 - Unplug all vending machines
 - Turn off and unplug all office equipment
 - Turn off and unplug all coffee makers, water coolers and dispensers, televisions, VCR /DVD players and other plug loads
 - Remove personal aquariums, pets, terrariums, etc.
- Variables that affect energy usage include:
 - Change in plug load (i.e., additional electrical equipment)
 - Change in after hours activity (i.e., Civic Center usage)
 - Change in rate schedule
- The \$121,465.20 cost savings is an estimate based upon 17 days of total shut down at all 74 sites that participated.



CHPS – Construction of High Performance Schools

OUSD Board Policy supports implementing sustainability initiatives such as: improved recycling, green cleaning, environmentally preferable purchasing, and energy & water efficiency, including the design and construction of high performance (CHPS) schools in all new construction, modernizations, and new additions, as well as operations and maintenance. Goal is facilities that are:



- Healthy
- Naturally Daylit
- Thermally, visually and acoustically comfortable
- Efficient in use of energy, materials, and water
- Easy to maintain and operate
- Commissioned
- Environmentally responsible
- A teaching tool
- Safe and secure
- A community resource
- = Sustainable

CHPS Projects– Update + Incentive Funding

- As of March 2009, the OUSD Facilities Division has submitted two projects to the DGS/High Performance Incentive (HPI) Grant program: Chabot Elementary and Cox Elementary modernization projects.
- Each project was fully reviewed by DSA's High Performance Schools Section, and garnered between 40.5 - 42 points, amongst the State's highest scoring HPI projects, including both new construction and modernizations/new additions.
- Together these **two projects are projected to earn \$ 62,742 in additional HPI incentive grant funding** from the State.
- If the District's 5-6 other major projects qualified for OPSC Modernization funding, with each achieving similar 41CHPS points, OUSD could expect **approximately \$ 634,049 in additional High Performance Incentive Grant funding** from the State!
- Recently the Division received a \$500,000 grant for technical assistance from U.S. Department of Energy to create a Solar Master Plan, and other template documents. This is a partnership with Berkeley Unified, West Contra Costa Unified, KyotoUSA, and MIG, Inc. under the Solar America Showcase Initiative.



Potential Areas For Collaboration – OUSD And Local Governments, In General

- Developing a database of energy usage
- Training on energy management, fiscal policies
- Assistance in developing, implementing energy management plan
- Pilot new technologies
- Other

