



CALIFORNIA'S
COALITION
for ADEQUATE
SCHOOL HOUSINGSM

www.cashnet.org

C.A.S.H. Maintenance Network Regional Workshop

Thursday, October 29, 2009

8:00 a.m. to 12:00 p.m.

Los Angeles County Office of Education

9300 Imperial Highway

Downey, California

RESOURCE CONSERVATION

CHRIS COX

San Bernardino County Superintendent of Schools

CALIFORNIA'S COALITION *for* ADEQUATE SCHOOL HOUSING

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Handout materials are available online after the workshop. To download the materials, visit www.cashnet.org/meetings and click on the link labeled "Workshop and Conference Handouts."

RESOURCE CONSERVATION

Chris Cox

Director, Business Support Services

ENERGY CONSERVATION

- ◆ Establish a preventative maintenance program on HVAC systems
- ◆ Install occupancy sensors where appropriate (conference rooms, restrooms, etc.)
- ◆ Replace inefficient lighting with high-efficiency lighting
- ◆ Purchase appliances with EnergyStar® rating

ENERGY CONSERVATION

- ◆ SBCSS HVAC replacement project
 - 50,000 square foot building
 - 20 package units; 3 variable air volume (VAV) units
 - ◆ August 2008 bill: \$
 - ◆ August 2009 bill: \$
 - ◆ Savings: \$

SCE ENERGY AUDITS

- ◆ SCE Energy Efficiency Audit
 - Free service
 - SCE will look at one or two campuses
 - District provided information/guidance on improving energy efficiency
 - SCE rep: david.fanous@sce.com

SOLAR

- ◆ Power Purchase Agreements
 - Minimizes upfront costs and eliminates maintenance/operations expense
 - Preset energy prices for life of agreement (typically 15 – 20 years)
 - K-12 locations require DSA approval, inspection, and closeout
 - May limit district's ability to alter a site layout once system is installed

SOLAR

- ◆ Power Purchase Agreements (cont)
 - Third party site access required for maintenance/operations
 - Best payback at sites using large amounts of electricity
 - Don't oversize your system due to inefficient HVAC, lighting, etc.
- ◆ Solar compliments a district's energy program

WATER CONSERVATION

- ◆ Install aerators on faucets
- ◆ Install low-flow shower heads in locker rooms
- ◆ Maintain sprinkler systems in good repair
- ◆ Adjust timers according to season
- ◆ Avoid over-watering landscape areas

WATER CONSERVATION

- ◆ Adjust sprinklers so they don't water sidewalks and driveways
- ◆ Promptly repair leaking toilets and faucets
- ◆ Plant native trees and shrubs that utilize less water
- ◆ Purchase and install items with the WaterSense® label

WATER CONSERVATION

- ◆ Use non-potable water
 - SBCSS Dorothy Gibson Co. HS in Ontario converting to recycled water
 - Inland Empire Utility Commission contractor doing the work
 - Estimated cost \$128,000
 - Up to 5-year interest-free payment schedule

Cost/Savings/ROI

City of Ontario Charges (1/1/09)	Potable	Non-Potable					
Readiness to Serve (3" meter)	\$174.50	\$87.25					
Usage (to 15 HCF)	\$1.62						
Usage (above 15 HCF)	\$1.88						
Recycled (to 1000 HCF)		\$0.97					
Recycled (above 1000 HCF)		\$0.89					
			Potable Cost	Non-Potable Cost	Usage Savings	12-month meter savings	Total Annual Savings
Project demand est (10.4 AF = 4634 HCF)		\$8,713	\$4,205	\$4,508	\$1,047	\$5,555	22.3 yrs
Actual FY 08/09 usage	6256 HCF	\$10,772	\$5,648	\$5,124	\$1,047	\$6,171	20.1 yrs
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Annual Potable Escalation	4%						
Annual Non-Potable Escalation	2%						
	CY 2010	2011	2012	2013	2014	2015	2016
Potable	\$11,203	\$11,651	\$12,117	\$12,602	\$13,106	\$13,630	\$14,175
Non-Potable	\$5,761	\$5,876	\$5,994	\$6,114	\$6,236	\$6,361	\$6,488
Savings	\$6,489	\$6,822	\$7,170	\$7,535	\$7,917	\$8,316	\$8,734
Cumulative Savings	\$6,489	\$13,311	\$20,481	\$28,016	\$35,933	\$44,250	\$52,984
	2017	2018	2019	2020	2021	2022	2023
Potable	\$14,742	\$15,332	\$15,945	\$16,583	\$17,246	\$17,936	\$18,654
Non-Potable	\$6,618	\$6,750	\$6,885	\$7,023	\$7,163	\$7,306	\$7,452
Savings	\$9,172	\$9,629	\$10,107	\$10,607	\$11,130	\$11,677	\$12,248
Cumulative Savings	\$62,156	\$71,785	\$81,892	\$92,499	\$103,630	\$115,307	\$127,555

RESOURCES

- ◆ *Planning for Energy Efficiency, Coalition for Adequate School Housing*
www.cashnet.org/resource-material/CASHpublications.html
- ◆ *Southern California Edison Business Energy Guide* www.sce.com/business/energy-solutions/business-energy-guide.html
- ◆ *Customer's Guide to Solar Power Purchase Agreements*, Rarus Institute

QUESTIONS?

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