



# California Energy Commission K-12 Programs



## Green Schools Summit

Anaheim, California  
December 2008



# Who is the Energy Commission?

Energy policy and information advisor to  
the California governor and legislature



- **Major functions:**

- **Promote energy efficiency and renewable energy**
- Develop building & appliance standards
- License power plants
- Assess current and future energy trends
- Advance energy technologies
- Assess alternative transportation fuels





California Energy Commission

## Energy Commission Programs for Public Agencies

### Bright Schools Programs

- ✓ Free Technical Assistance to Help Identify Energy Saving Projects

### Energy Project Funding

- ✓ Low-Interest Loans for Energy Saving Projects

1/12/2009

3



California Energy Commission

## Bright Schools Program



**\$20,000 of Free Technical Assistance**

4



## Free Service Include:



- **Comprehensive Energy Audits**
- **New Construction Design Assistance**
- **Proposal Review Assistance**
- **Bid Specification Assistance**

5



## What is included in a Comprehensive Energy Study?

- **Executive Summary**
- **Existing Energy Use**
- **Energy Using Systems**
- **Energy Project Recommendations**
  - Annual Cost Savings
  - Project Costs
  - Simple Payback Period
    - All engineering calculations
  - Green house gas savings
- **Rebates and Financing Available**

6



## Fortuna Joint Union High School District

### Project Recommendations:

- Lighting Efficiency Improvements
- HVAC Controls
- Tankless Water Heaters

Estimated Project Cost = \$90,552  
Cost Savings = \$ 17,932 per year  
Simple payback after incentive = 5 years

### Other Analysis Completed:

- Solar PV Analysis



## New Construction Design Assistance

- Provide design consultation
- Identify cost-effective energy-saving measures
- Compare different technologies
- Develop computer simulation models of your planned project
- Assist with commissioning





## Tahoe-Truckee Unified School District

- **Alder Creek Middle School**
  - Analyzed CHPS Daylighting Credits
  - Life-cycle cost of Ground Source Heat Pump – compared alternative systems.
  - Assisted with development of RFP for Commission Services
- **Truckee High School Gym**
  - Energy Efficiency Measure Identification



*Photography: John Swain Photography*



## West Contra Costa USD

### Dover Elementary School

#### Design Assistance Recommendations:

- Additional insulation
- Improved daylighting controls and window glazing
- Improved lighting efficiency
- Point of use domestic hot water heaters



## West Contra Costa USD

### Final Package

- 18.8% better than T24
- 188,788 kWh Savings
- 1,237 therms Savings
- \$31,111 Annual Cost Savings

### CHPS Points

- 4 points for credit EE1.1: Superior Energy Performance
- 1 point for credit EQ1.1: Daylighting
- 2 points for EQ2.1: Thermal Displacement



## Free Photovoltaic (PV) Project Proposal Evaluation

- We Will Compare and Analyze:
  - Electricity discounts
  - Electricity escalation rates
  - Terms of purchase agreements





## Simple Application Process



- Two page application
- Governing body resolution can follow
- Latest 12 months of utility (electric & gas) bills for each facility account
- Any past energy studies
- Your site map



## Common Questions

**Question:** How long will it take to get an audit report?

**Answer:** Once we get a complete application, a draft report should be done in 3-6 months – sometimes quicker.

**Question:** How many buildings can be covered with the \$20,000?

**Answer:** For a comprehensive audit, about 200,000 square feet. We can fund additional studies if you implement the recommendations.



## Energy Efficiency Funding Available Now: \$29 Million

- Funding for energy efficiency and self generation projects
- 3.95% Interest Rate
- Up to 100% funding for projects
- Up to \$3 million per application—no minimum

First come, first served

**EASY LOANS**  
No application fees, points, or hidden costs

**Interest Rate**  
**3.95%**

FINANCING FOR ENERGY EFFICIENCY & ENERGY GENERATION PROJECTS

**APPLICATION**

- Public Schools & colleges
- Public Hospitals
- Local governments
- Special Districts
- Public Care Institutions

ARNOLD SCHWARZENEGGER  
Governor

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## Unique Financing Features

- Simple application, no fees or points
- Technical review of each application
- Pay us back with the estimated project savings
- First payment due min. 6 months after project completion
- Up to 15 years to pay us back, no penalty for paying us early



## Unique Financing Features (cont)

- Funds can supplement incentives and rebates
- Loans are not collateralized or secured
- Complementary technical support available during and after project installation
- Max. Loan = Annual cost savings x 10 years or the total project cost whichever is less

1/12/2009

17



## Willits Unified School District

*"Faced with budget issues, the District was determined to realize savings by reducing energy use. Thanks to a low interest loan from the Energy Commission we were able to install energy efficient lighting and HVAC units throughout the District"...*

Steve Jorgensen – District Superintendent

**Bright School Program –**  
Provided a \$19,960 audit at no cost to the district.

**CEC Loan: \$ 106,777**  
Est. Annual Cost Savings: \$14,600  
Simple Payback: 7.3 years



40 tons of CO2 Saved

18



## Funding for Photovoltaic Systems

**Question:** Can we get funding for a photovoltaic system?

**Answer:** Yes, but to maximize our funding, package it with other energy efficiency measures so that the overall payback is as close to 10 years. We can help identify projects to maximize your cost savings.



## Funding for Solar Photovoltaics

Project	Annual Cost Savings	Project Cost	CSI Rebate	Simple Payback (yrs) w/CSI rebate
Lighting Retrofits	\$30,000	\$150,000		5
Mechanical Controls	\$6,000	\$30,000		5
Vending Machine Controls	\$1,300	\$1,300		< 1
50 kW (AC) PV System	\$9,000	\$425,000	\$130,000	32.3
Total	\$46,300	\$606,300	\$130,000	10.3

**CEC Funding for efficiency package = up to \$463,000**

**CEC Funding if PV were only project funded = \$90,000**



## Anderson Union High School District

### Projects Installed:

- Lighting and controls
- Chiller for the administration building
- Re-commission the energy management system
- 245 kW photovoltaic system

Estimated Project Cost = \$2,017,500  
Utility Rebate = \$857,500  
CEC Loan = \$1,160,000  
Cost Savings = \$118,333 per year  
Simple payback after rebate = 9.8 years

**266 tons of CO2 Saved**



21



## Simple Application Process

- **Complete one page application**
  - ✓ If you already have a feasibility study, attach it with your application.
  - ✓ If you don't have a study, contact us for assistance in identifying projects.
- **Governing body resolution can come later**

1/12/2009

22



## When Will Funds Be Available?

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- **Applications can be approved in 4-6 weeks**
- Expenses can be incurred after CEC approval
- CEC pays invoices on a reimbursement basis
  - ☑ Payment in about 4-6 weeks, funds can be wired for quicker payout



## Energy Commission Websites

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- **Bright Schools Program**
  - [www.energy.ca.gov/efficiency/brightschoools](http://www.energy.ca.gov/efficiency/brightschoools)
- **Energy Efficiency Financing Program**
  - [www.energy.ca.gov/efficiency/financing](http://www.energy.ca.gov/efficiency/financing)



## *Thanks*

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