

NAESCO

San Francisco Regional Meeting

*Expanding the Market Value of
Energy Efficiency in California*

Daryl Mills

California Energy Commission

June 21, 2006



Energy Commission & Its Functions

Energy policy and information advisor to the California governor and legislature

- **Major functions:**

- License power plants
- Assess current and future energy trends
- Advance energy technologies
- **Promote energy efficiency and conservation**



STATE OF CALIFORNIA



ENERGY COMMISSION



PUBLIC UTILITIES COMMISSION

ENERGY ACTION PLAN II

***IMPLEMENTATION ROADMAP
FOR ENERGY POLICIES***

September 21, 2005



Energy Action Plan II

“Implementation Roadmap for Energy Policies”

www.energy.ca.gov/energy_action_plan

1. Energy Efficiency is resource of first choice
2. Demand Response – develop tariffs to induce customers to help lower consumer costs and increase system reliability
3. Increase renewable resources to help mitigate impact of climate change.
4. Environmentally sound conventional electric generation.
5. Promote, dependable, affordable environmentally responsible wholesale and retail markets, sound market rules, coordinate with Western region.
6. Improve efficiency of natural gas end-use and strengthen infrastructure to deliver supplies to California.
7. Transportation fuels – increase use of alternative fuels, increase vehicle efficiency, strengthen public transportation to reduce dependence on petroleum
8. Research and Development
9. Climate Change -- GHG emission reduction goals established



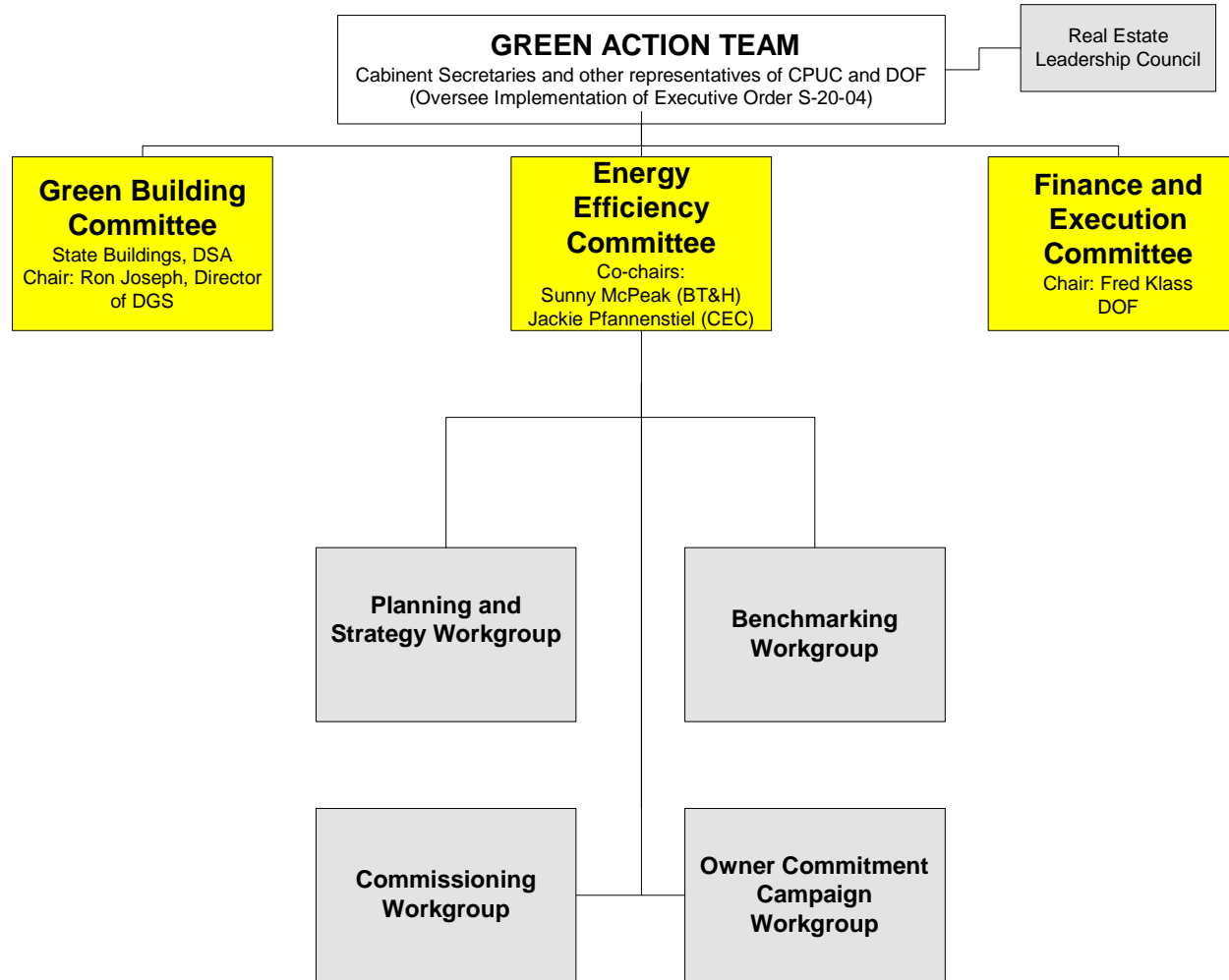
Governor's Executive Order S-20-04 – Green Building Initiative

www.green.ca.gov

- Goal: Reduce Grid based electrical purchases in all State and Commercial buildings by 20% by 2015
- Commits the State to aggressive action
 - Benchmarking, Commissioning, Retrofitting, operating its own facilities
 - Encourages cities, counties and schools to do the same.
 - Encourages private commercial buildings owners to take aggressive action.

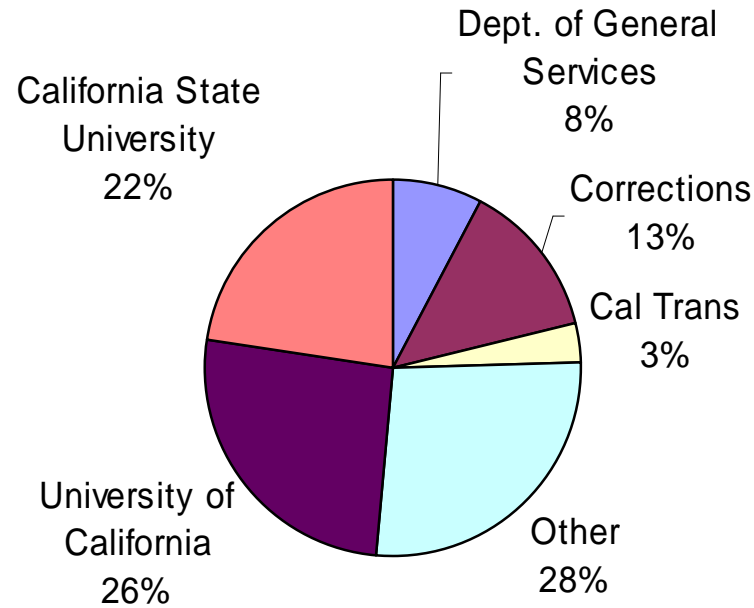


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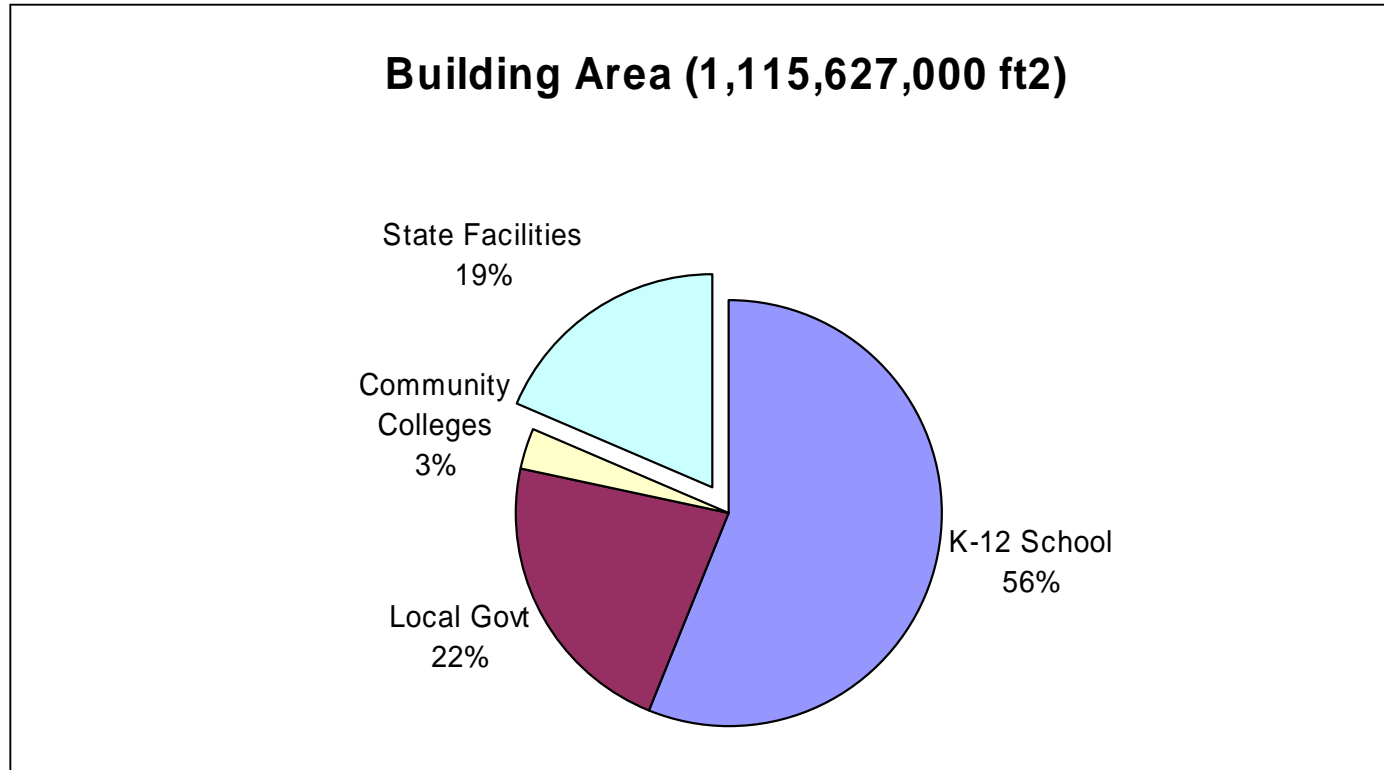


California State Facilities

Building Area (206,581,719 ft²)



State, Local Government, K-12 Schools and Community Colleges



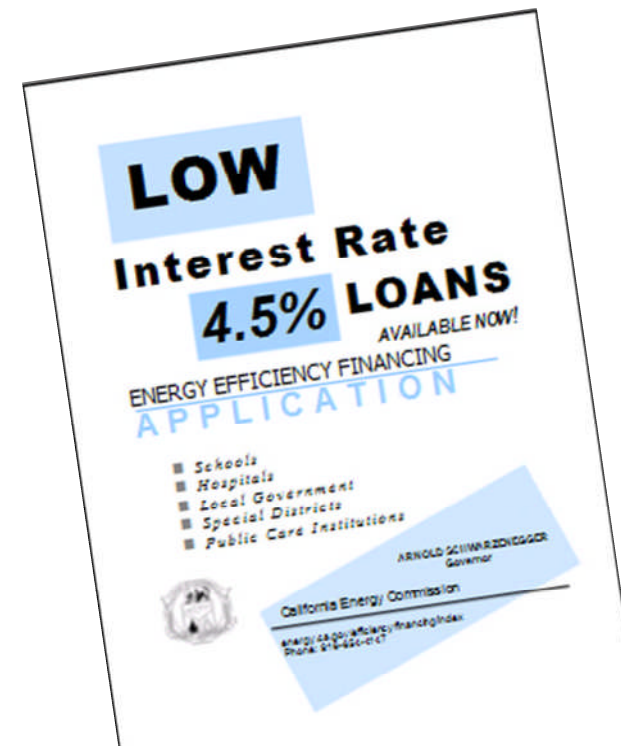
Discussion Topics

- Energy Commission Programs for Public Agencies
 - ☑ Low interest rate loans
 - ☑ Technical assistance for existing and planned facilities
 - ◆ Energy Partnership Program
- How the Commission financing can help



\$40 Million Available Now!

- Loans for energy efficiency and self generation projects
- Interest rate is 4.5%-- reduced to 4.1% if projects completed in one year
- Maximum simple payback 9.8 years (loan amount)
- Up to \$3 million per application—no minimum



First come, first served



Unique Loan Program Features

- Simple application, no fees
- Technical review of each application
- Payments based on estimated annual energy cost savings
- Up to 15 year repayment term
- First payment is not due for at least 6 months after all projects completed—time to accrue energy savings
- Loans are not collateralized
- Technical support available during and after project installation



Simple Loan Application Process

- **Complete one page application**
- Provide feasibility study discussing proposed project and providing assumptions of pre and post energy use and savings
- Estimate project cost
 - Labor (in house/outside), materials, etc.
 - Maximum amount/loan application is \$3 million
- Governing body resolution can come later

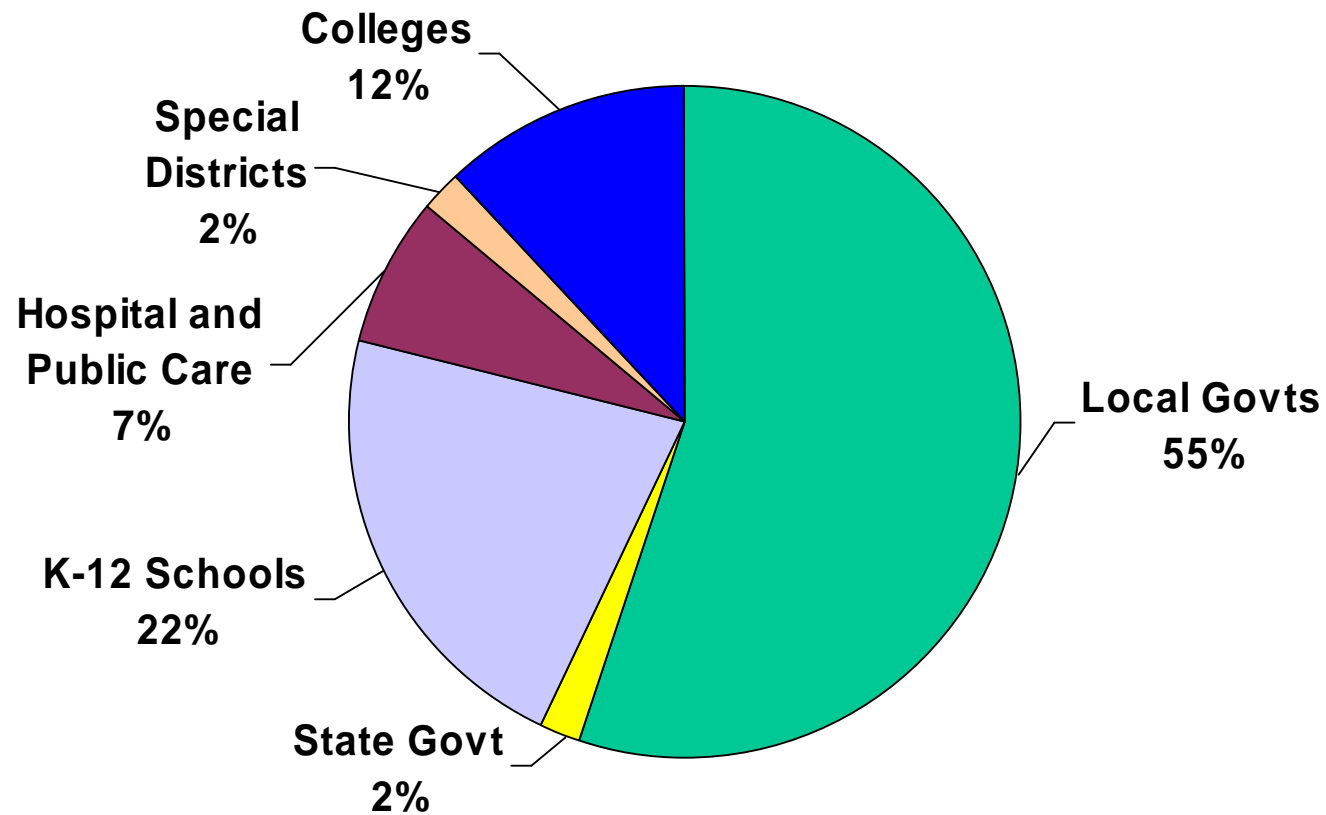


Loan Process

- **Complete loan applications can be approved at a business meeting in 4-6 weeks**
- Expenses can be incurred after business meeting approval
- Loan agreement with sample terms and conditions on CEC Website: www.energy.ca.gov/efficiency/financing
- CEC pays invoices in arrears
 - Contractor/vendor invoices plus proof of payment
 - Progress Report
 - 4.1% interest rate for projects completed within a year with one invoice submittal

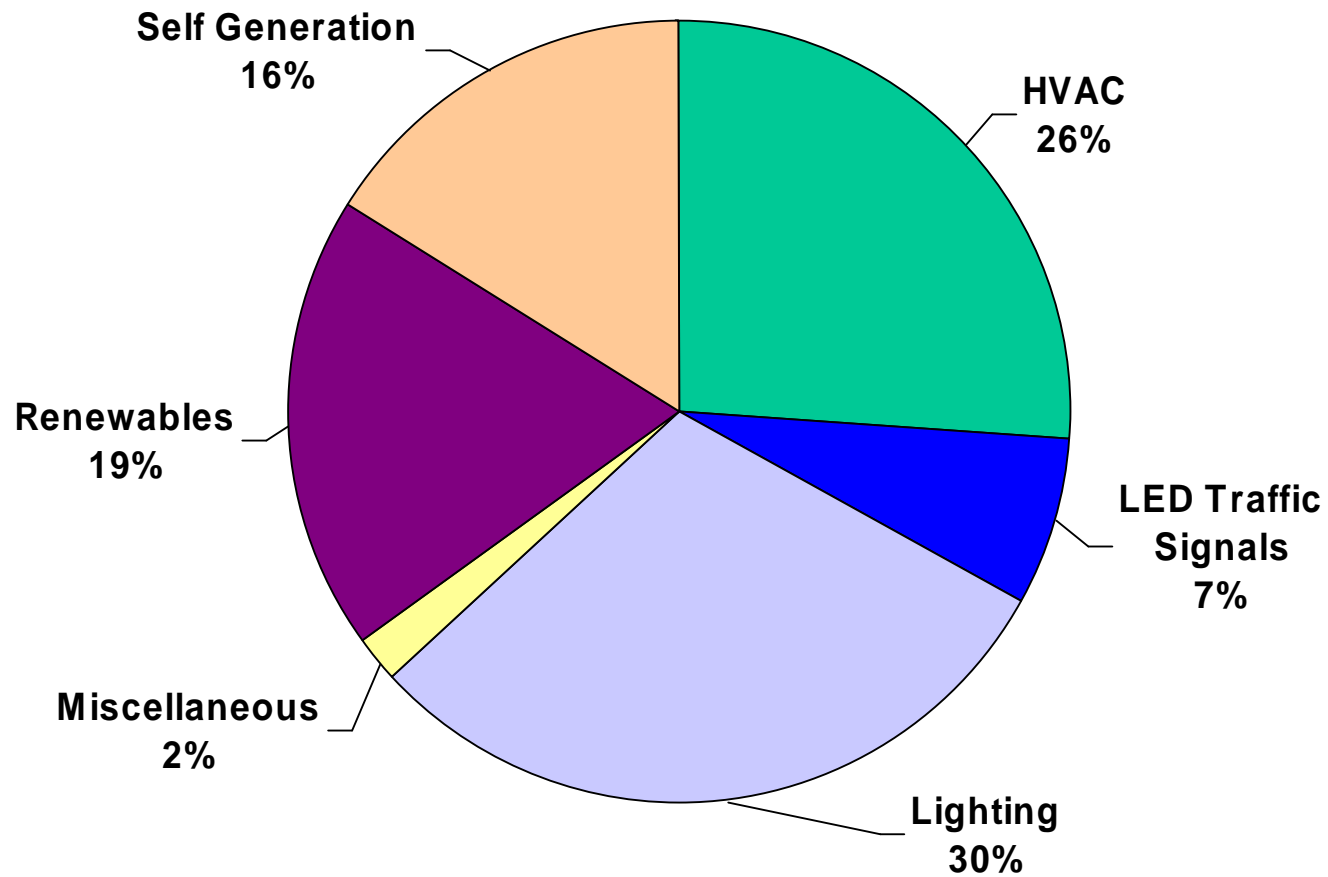


\$179 Million in Loan Awards to 689 Recipients

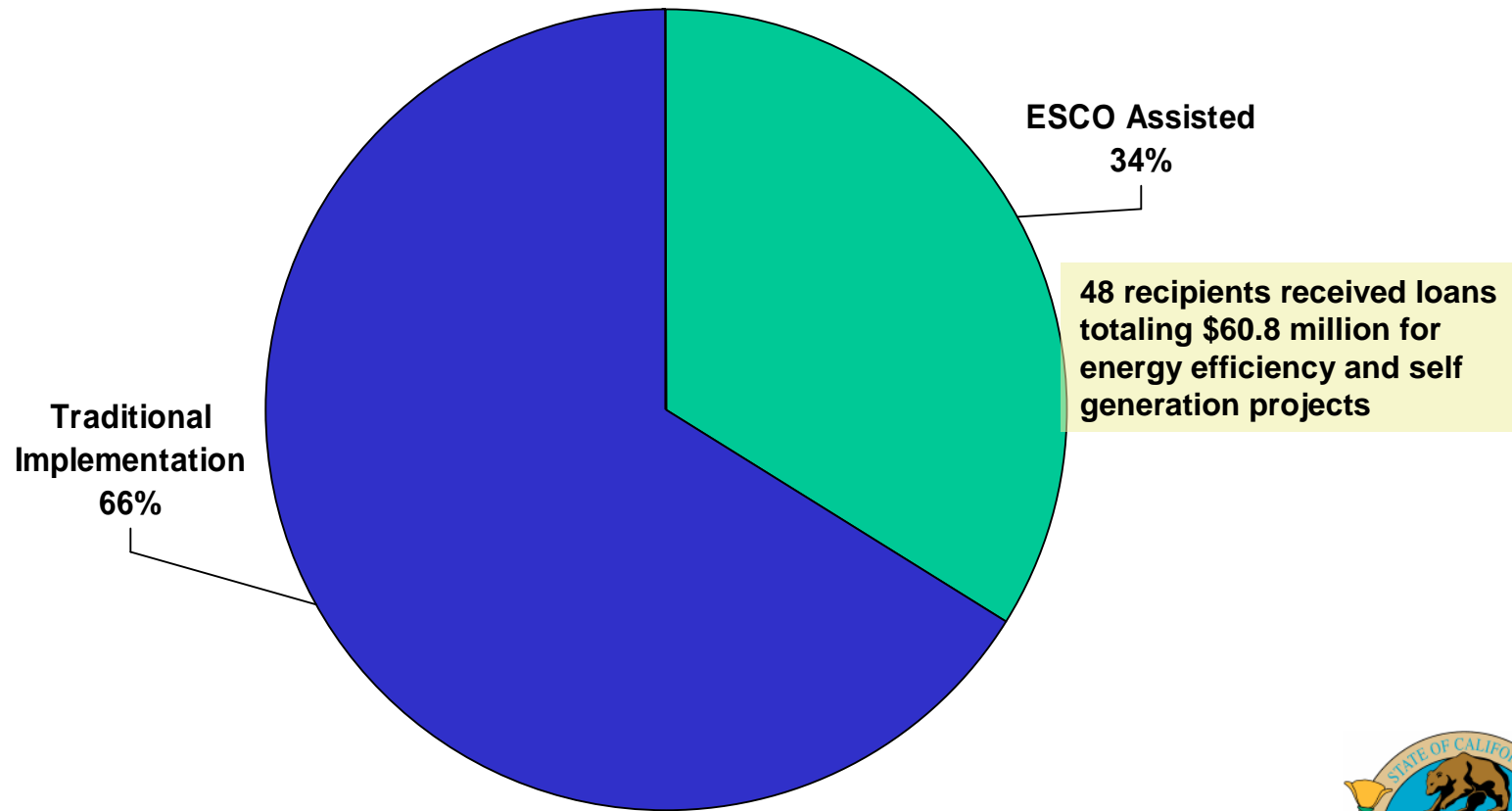


What Has Been Funded with Loans?

\$102 million in loans since 2000



ESCOs Have Assisted Public Agencies Secure Loans from the Energy Commission



CEC Loans to State Agencies

- Department of Mental Health (DMH)
 - Napa State Hospital
 - Total conditioned area = 1,500,000 SF
 - Lighting, motors, VFD, Boiler, EMS
 - Project total cost = \$1,392,000
 - CEC loan = \$1,392,000 (100% Financing)
 - PG&E rebate = \$100,000
 - Annual cost savings = \$207,000
 - Project completed: March 2006
 - Project simple payback: 7 years



CEC Loans to State Agencies

- Department of Mental Health (DMH)
 - Patton State Hospital
 - Total conditioned area = 1,000,000 SF
 - Premium Efficiency Motors and EMS
 - Project total cost = \$1,800,000
 - CEC loan = \$1,800,000 (100% Financing)
 - SCE rebate = \$92,000
 - Annual cost savings = \$180,000
 - Project completed: May 2006
 - Project simple payback: 10 years



Alameda County

“We have the largest rooftop solar system in the nation!”

Matt Muniz, P.E., Energy Program Manager

“With the Energy Commission’s Energy Efficiency Financing Program we installed our 1.18 MW solar project at Santa Rita Jail. As a result we are now saving \$423,000 annually. The loan application was simple and straightforward.”

CEC Loans Totaling: \$4,214,848

Annual Cost Savings: \$423,000

Simple Payback: 4.6 years



Butte County Photovoltaic System

County facilities: East and West Facility, Admin. Building

Three PV systems with 1.18 MW DC (or 995kW AC) capacity

Financial Information

- \$4.2 million PG&E rebate
- \$3.2 million CEC low interest loan
- \$1.0 million Butte County fund



WEST INSTALLATION



San Francisco Installs LED Traffic Signals

“Our annual electricity for traffic signals has been reduced from approximately \$1.4 million a year to approximately \$400,000 a year.”

- LED traffic modules consume 80 to 90 percent less electricity.
- The old incandescent lamps were replaced annually, while most LED modules last from four to seven years. The yellow LED modules last even longer.

CEC Loans: \$3,392,216

Annual Cost Savings: \$400,000

Simple Payback: 6 years



College of the Canyons

“The college implemented all recommended projects!”
James C. Schrage, Dean, Physical Plant and Facilities Planning

“CEC financing allowed us to install many efficiency measures including a cogeneration system for our pool. The energy savings of these projects have exceeded our expectations.”

CEC Loan: \$1,317,000

Annual Cost Savings: \$156,930

Simple Payback: 8.4 years



City of San Carlos

“The indoor comfort problems at city hall have virtually been eliminated!”

Richard Averett, Finance Director

“The Energy Commission’s low interest loan program helped the city make upgrades to our city hall HVAC equipment...This new upgrade allows the city to provide a more comfortable environment for the employees and the public and also saves us money on our utility bills.”

CEC Loan: \$657,303

Annual Cost Savings: \$81,151

Simple Payback: 8.1 years



Los Angeles Pierce College

“We have reduced our operating cost and our dependence on purchased electricity!”

Tim Oliver, Vice President Administrative Services

“The college is using cutting edge on-site generation technologies such as photovoltaic and low emission microturbine cogeneration to supply part of the electricity needs while saving energy costs. This is great!”

CEC Loan: \$1,208,375

Annual Cost Savings: \$142,120

Simple Payback: 8.5 years



Websites

- **Energy Efficiency Financing Program**
 - www.energy.ca.gov/efficiency/financing
- **Energy Partnership Program**
 - www.energy.ca.gov/efficiency/partnership
- **Bright Schools Program**
 - www.energy.ca.gov/efficiency/brightschoools
- **Emerging Renewables Program Rebates**
 - www.consumerenergycenter.org/erprebate/index.html
- **Green Buildings Initiative**
 - www.consumerenergycenter.org/erprebate/index.html



Questions?

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