

US EPA ARCHIVE DOCUMENT



California Energy Commission

Energy Efficiency Funding Programs for W&WW Sector

California Financing Coordination Committee
Funding Fair, Sacramento, May 2009

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California Energy Commission



- Energy Management @ Water & Wastewater Treatment Facilities

Energy-Water → Very Strong Connection

Water Conservation
Water Use Efficiency

Energy Management
Energy Efficiency
Renewable Energy
Generation



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• Sustainability through Water Conservation & Energy Efficiency

Rate Structure

Energy Efficiency, D. Generation, Load Shifting

Premium Efficiency Motors
EE Pumps / Motor Systems
& Processes
VFDs, DO Controls
Fine Bubble Aerators
SCADA Systems/Automation
Water Storage / Pump Management
Renewable
CHP & CH₄ Utilization @ WWT
Plants

Renewable Energy Sources

PV, Wind --
Mature Technologies,
Issues
Fuel Cells, Solar Thermal --
Emerging Technologies
CPV - RD&D Stage

Reducing Water Demand / Use

Loss Reduction, Water Use
Conservation / Efficiency

Improving Operational & Transfer Efficiency

Conveyance & Transfers
Reducing Water Losses

Increasing Water Supply & Developing Local Water Supply Sources

Conjunctive Management &
Groundwater Storage
Surface Storage
Water Recycling
Desalination



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- Energy Commission's Ongoing Programs for Energy Management, Energy Efficiency, & Renewable Energy Generation



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- CEC's Energy Partnership / Technical Assistance Program

www.energy.ca.gov/efficiency/partnership/index.html

EE Projects Typically Reduce Annual Utility Costs by an Avg. of 20% through Reduced Annual Maintenance Costs, Increased Cost Savings, Conserved Resources and Reduces GHG Emissions;

CEC Provides Technical Assistance Services to Conduct Energy Audits and to Identify Energy Efficiency Projects;

Existing Facilities → Conducting Energy Audits, Reviewing Existing Proposals & Designs, Developing Equipment Performance Specifications, Reviewing Equipment Bid specifications, Assisting in Contractor Selection & Commissioning etc.

New Construction → Providing Design Consultation, Comparing Different Technologies, Reviewing Schematics / Construction Plans, Providing Equipment Specification Consultation, Identifying Cost-Effective, Energy-Saving Measures, Developing Computer Simulation Models for the Planned Project, Helping in Selecting Experienced Professionals with EE Expertise, Assistance with Commissioning etc.

Eligibility → Cities, Counties, Special Districts / Public and/or Non-Profit Hospitals / Public Care Facilities / Colleges / Universities.



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- CEC's Energy Financing Program

www.energy.ca.gov/efficiency/partnership/index.html

CEC Provides Financing through Low-Interest Loans for Feasibility Studies and Installation of Energy-Saving Measures.

Eligible Projects: Lighting , Pumps, Motors and/or VFDS, Building Insulation, HVAC Modifications, Automated Energy Management Systems / Controls, Energy Generation including RE Projects & Cogeneration, Streetlights / LED Traffic Signals, etc.

Eligible Institutions: Public Schools / Colleges / Cities / Counties / Special Districts / Public Hospitals / Public Care Institutions, etc.

Financing Amount: Up to 100% of the Cost of EE Projects or \$3 million per Application, Which Ever is Less.

Criteria For Loan: EE Projects Must be Technically & Economically Feasible. Projects must have a Simple Payback Period of 10 years or less based on energy costs savings. The Loan Term cannot exceed the useful life of loan-funded equipment.

Interest Rate: 3.95% Fixed



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- Renewable Energy Rebates

PV \$2.20 – 2.50/watt -- SMUD
\$1.55/watt (\$0.22/kWh) - PG&E
\$1.90/watt (\$0.26/kWh) – SCE; SDG&E
~ 30 MW @ W & WWTF

Wind \$2.50/watt upto 7.5 kW
\$1.50/watt > 7.5 kW to < 30 kW
~ 1 MW @ WTF

Fuel Cell
\$3.00/watt Using Renewable Fuel
Limit < 30 kW
~ 15 MW @ WWTF

Digester Gas @ WWTF → 42 MW



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- Feed-in-Tariff

Adopted by CPUC – Feb. 2008

Requires 3 Big IOUs to Buy Power from RE Projects

Max. Generation: 480 MW Statewide → 1.5 MW/Facility

Allocation:

Water & WW Agencies: 250 MW

- Small Hydro, Solar, & Biogas Technologies
- Buyers - Mainly PG&E, SCE, & SDG&E.

Dairy Facilities: 230 MW

- Biogas Technologies
- Buyers - PG&E & SCE.

Rate Set by CPUC → ~ 9 cents/kWh for 2008



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- Some Examples of CEC Funded Projects in W&WW Sector

Premium Efficiency Pumps & Motors, VFDs, Increasing Reservoir Capacity, Aerators Upgrading, Cogeneration System, Renewable Energy Projects, SCADA System, Treatment Process Modifications, etc.

Total Loan Amount	~ \$9.4 million
Total Project Cost	~ \$9.9 million
Demand Reduction	~ 1.8 MW
Energy Savings	~ 13.3 GWH / yr
GHG Reduction	~ 4,900 Metric Tons CO ₂ e / yr
Cost Savings	~ \$1.8 million / yr
Avg. Loan Pay Back Period - 5.3 years	



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- The American Recovery and Reinvestment Act of 2009 signed by President Obama on February 17, 2009

<http://www.energy.ca.gov/recovery/index.html>



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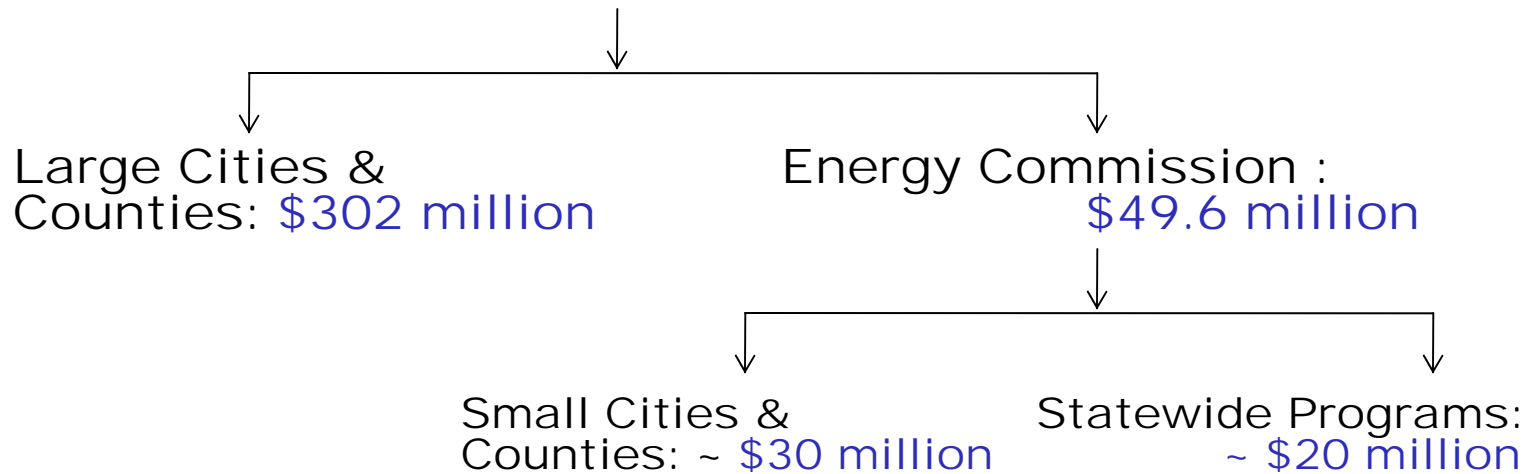
- ENERGY AND CLIMATE: \$42,000,000,000

Energy Efficiency & Conservation Block Grant Program (EECBG):

National: \$3.2 billion

California: \$351.5 million

68%	Local Governments
28%	States
2%	Tribes
2%	Competitive Grants



Population:

< 35,000 & < 200,000, respectively

~ 260 Cities & 31 Counties are Eligible



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- Energy Block Grants:

Assist Small Cities, Small Counties, and State Government Implement Projects and Programs to:

Reduce Total Energy Use,

Reduce Fossil Fuel Emissions, and

Improve Energy Efficiency in Buildings and other Appropriate Sectors.

For EECBG Guidelines:

<http://www.eecbg.energy.gov>

<http://www.energy.ca.gov/recovery/guidelines>



- Energy Block Grants Tentative Schedule:

State Plans Due to DOE – May 26, 2009

Cities / Counties Plant Due to DOE –

June 25, 2009

36 Months Window Expected to Complete the
Awarded Projects



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- State Energy Program – Nationally: \$3.1 billion
California through the Energy Commission:
\$226 million

Provides \$s for Energy Efficiency Retrofits of Buildings and Industrial Facilities and Supports Renewable Energy Projects and Activities.

With \$226 million, CEC will:

Implement Building & Industrial Incentives,
Establish & Expand Financial Incentives or Loans for Energy Efficiency,
Expand Renewable Distributed Generation Programs,
Expand Renewable Energy Programs,
Promote Regional Cooperation,
Facilitate Sharing of Best Energy Practices, and
Increase Coordination with Utilities Including Promulgation of Measurement and Verification Methodologies.



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- Federal SEP Schedule

Guidelines Released: [March 12, 2009](#)

Initial Application Due Date: [March 23, 2009](#)

Comprehensive Application Due Date:

[May 12, 2009](#)

DOE Anticipates Making ~ 56 Grant Awards,

Projects will be completed in 3 years,

20% Match Not Required

DOE, however,

Encourages Plans that Achieve a High Degree of
Leveraging, and/or

Projects that Extend the Impact of the Funds.



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- ENERGY AND CLIMATE

Remaining, ~\$36 billion Available Nationwide through DOE through Competitive Grants and Other Financing for Energy & Climate Change-Related Programs,

Energy Commission will Coordinate with Other State Agencies and Entities to Identify Ways to Leverage these Funds.



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- Other Energy Projects Related Funding Sources

Clean Water State Revolving Fund (SWRCB)

→ \$4 Billion

Loan Funding for Water Quality Protection Programs
e.g. Wastewater Treatment, Non-point Source Pollution Control, and Watershed and Estuary Management.

Drinking Water State Revolving Fund (CDPH)

→ \$2 Billion

Incentive for Public and Private Water Systems to Finance Drinking Water Infrastructure Improvements.

20% \$s for Green Projects:

Water and/or Energy Efficiency

Innovative Water Quality Improvements

Decentralized Wastewater Treatment

Storm-water Runoff Mitigation, and

Water Conservation.



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- Eligible Activities for Use of Funds

Development of an EE & Conservation Strategy,
Residential and Commercial Building Energy
Audits,

Incentive Programs for EE Improvements,

Grants to Non-Profit Organizations &
Governmental Agencies for EE Retrofits,

EE and Conservation Programs for Buildings and
Facilities,

Development and Implementation of
Transportation Programs to Conserve Energy,

Building Codes and Inspections to Promote
Building EE,

Energy Distribution Technologies including
DG, CHP, & District Heating & Cooling Systems,



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- Eligible Activities for Use of Funds

Material Conservation Programs Including Source Reduction, Recycling, and Recycled Content Procurement Programs that Lead to Increases in Energy Efficiency,

Reduction and Capture of Methane and excluding Carbon Capture or Sequestration from Power Plants,

Energy Efficient Traffic Signals and Street Lighting, Renewable Energy Technologies on Government Buildings, &

Any Other Appropriate Activity that Meets the Purposes of the Program and is Approved by DOE.



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- **Receiving Funding from CEC**
No Timeframe from DOE yet,
Solicitations Details & Funds Distribution
Mechanism will be Available Soon on the
Energy Commission's Website,
Additionally, Links to Other Programs will be
Offered and an e-mail List Server Set up
Specifically for Information about the Economic
Recovery Plan.
- **Funding Available from the Energy
Commission?**
No Information yet; Probably Sometime Late
Spring or Early Summer,
We are Waiting for the Federal Guidelines.



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- **Timeframe for the Competitive Solicitations from the Federal Government**

Solicitations will be Released at Different Times,

CEC's Intent is to Keep Those on Our List Serve Informed When Any New Solicitations are Available,

You may also Sign up on the Federal List Serve www.grants.gov

Click on Grant Email Alerts (right side of page)

- **Signing up for Information Updates**

Please Visit Energy Commission's Homepage @ www.energy.ca.gov

Click on Economic Recovery Button under Hot Topics and Sign up for the List Serve.



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- Funds Disimbursement Mechanism

CEC has Submitted a Proposed Strategy to DOE Describing Funding & Evaluation Criteria.

Emphasis would be (at the Minimum) on Cost Effectiveness, Project Readiness, and Job Creation;

Current Status:

Energy Commission Staff is Discussing this Program with Stakeholders and has Started Developing Detailed Application Materials and Evaluation Criteria.

List Servers have been Set up so that Local Governments and Others can Register to Receive Program Updates.



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- Other Sources of Information

Renewable & Energy Efficiency Incentives Database

<http://www.dsireusa.org>

Financial Incentives:

State, Utility, & Local Grants/Rebate/loan Programs;
Alternative Fuel & Vehicle Incentives; and
Production Incentive, Property Tax Exemption etc.

Rules, Regulations & Policies:

Appliance/Equipment Efficiency Standards, Building
Energy Code, Energy Standards for Public Buildings; &
Green Power Purchasing/Aggregation, Interconnection, Net
Metering, Renewable Portfolio Standard, Solar/Wind
Permitting Standards etc.

Flex Your Power - Rebates, Incentives & Services

<http://www.fypower.org/res/tools/rgl.html>



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