

State Incentives for Biomass Products and Power

California Biomass Collaborative
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California Energy Commission

- Renewable Portfolio Standard Program
- Renewable Energy Program
 - Existing Renewables Program
 - New Renewables Program
 - Emerging Renewables Program
- Public Interest Energy Research
- Agriculture Biomass to Energy Program
- Dairy Power Production Program

California Energy Commission

- Renewable Portfolio Standard Program
 - major component of state support of bioenergy
 - requires utilities to increase their purchases of electricity from eligible renewable energy technologies (including biomass, digester gas, landfill gas, and municipal solid waste conversion) by at least one-percent a year to reach 20% of their retail sales by 2017.
 - State's Energy Action Plan Urges 20% goal to be achieved by 2010.

Renewable Portfolio Standard Program

(cont'd)

- The utilities are required to hold competitive solicitations to procure eligible renewable energy.
- The Public Utilities Commission established a market price referent system based on a combined cycle “proxy” plant for baseload power and a combustion turbine “proxy” plant for peak.
- Contracts above the MPR may be eligible for supplemental energy payments.

California Energy Commission

- Renewable Energy Program
 - provides supplemental energy payments to foster development of existing, new, and emerging renewable generation technologies
 - As of July 2004, the Commission had awarded over \$690,000,000 to renewable projects

Renewable Energy Program

- Existing Renewable Facilities Program
 - offers financial incentives to existing renewable facilities. Between 1998 and April, 2004 – almost \$192 million had been paid to 102 eligible facilities with an additional \$6.5 million to be paid in the latter part of 2004.
 - Direct-combustion biomass and solar thermal facilities predominate.
 - <http://www.energy.ca.gov/renewables/index.html>

Renewable Energy Program

■ New Renewable Facilities Program

- provides financial incentives to encourage new electricity generation projects most likely to become competitive with conventional technologies.
- Projects coming on-line are eligible for supplemental energy payments (SEP) for the first five years of generation or for ten years to meet above-market costs of RPS requirements.

New Renewable Facilities Program (cont'd)

- **Three auctions (1998, 2000, 2001) awarded funding to 81 projects of which 45 are on-line.**
- **As of July, 2004, supplemental payments of \$39.2 million had been made to 43 on-line projects. Successful projects include 2 biomass, 1 digester gas and 14 landfill gas projects totaling 50.5 MW**
- **Incentive payments range from 0.0068 to 0.0148 cents/kWh**

http://www.energy.ca.gov/renewables/new_renewables.html

- (REP Quarterly Report to the Legislature, July 2004)

Renewable Energy Program

- Emerging Renewables Program
 - provides rebates to all grid-connected utility customers for the purchase of renewable energy generating systems under 30 kW. Systems using photovoltaic, wind, solar thermal-electric technologies, and fuel cells operating on renewable fuels, including landfill gas and digester gas, are eligible for funding.

Emerging Renewables Program (cont'd)

- Payments to over 9700 installed systems totaled over \$154 million by mid-2004
- Rebates vary with size and technology from \$0.70 to \$3.20/watt.
- \$70 million available through 2006
- <http://www.consumerenergycenter.org/erprebate/>

California Energy Commission

- Public Interest Energy Research (PIER)
 - Funding of \$62 million/year for a range of energy-related research
 - renewable energy applications and renewable combined with fossil fuel-fired energy to provide peak capacity and increased reliability, expand renewable distributed generation technologies, and more affordable electricity.
- <http://www.energy.ca.gov/pier/renewable/index.html>

California Energy Commission

- Energy Innovations Small Grant (EISG) Program provides up to \$75,000 to small businesses, non-profits, individuals and academic institutions to conduct research that establishes the feasibility of new, innovative energy concepts.
- 4 yearly solicitations, current: 02/01/05 deadline for July 2005 award
- <http://www.energy.ca.gov/research/innovations/index.html>

California Energy Commission

- Agricultural Biomass to Energy Program
 - awards grants for one year at a level of \$10 per ton of qualified agricultural biomass converted to energy by biomass facilities that were operational as of July, 2003.
 - \$6,000,000 was allocated to fund the program. When the \$1,480,000 encumbered in the third quarter of 2004 is paid out, the allocation will be fully expended.

<http://www.energy.ca.gov/renewables/overview.html>

California Energy Commission

- Dairy Power Production Program - funds development of anaerobic digestion or gasification projects generating electricity on dairies that use either digester or covered-lagoon technologies
- Awarded either as grants covering up to 50% of the capital costs of a biogas system or as electricity generation incentive payments of 5.7 cents per kWh
- As of May 2004, 14 projects with potential generation of 3.5 MW had been approved for \$5,792,370

<http://www.wurdco.com/DPPPbackgrounder.htm>

Department of Food & Agriculture

- Rice Straw Utilization Grant Program - provides grants of up to \$20/ton for agricultural biomass for rice straw used for:
 - processing, feeding,
 - generating energy,
 - Manufacturing,
 - controlling erosion and
 - other environmentally sound purposes other than open-field burning
- maximum award of \$300,000. Program funding with \$2,000,000 in the Agricultural Biomass Utilization Account.

http://www.cdfa.ca.gov/exec/aep/aes/rs_grant_program/

Department of Food & Agriculture

- Rice Straw Tax Credit Program - encourages off-field uses of rice straw as alternatives to field burning or disposal. Up to \$400,000 in credit is awarded each calendar year through 2007 to entities that purchase California rice straw for uses such as biomass energy, construction materials, or compost. The credit is against the “net tax” in an amount equal to \$15 per ton of rice straw.

California Pollution Control Financing Authority

- The Small Business Pollution Control Tax-Exempt Bond Financing Program provides low-interest rate loans to small businesses from a minimum \$1,000,000 up to \$20,000,000 for pollution control projects including:
 - waste-to-energy,
 - resource recovery,
 - landfill gas, and
 - dairy manure projects
- through Small Business Assistance Fund Tax-Exempt Bonds

www.treasurer.ca.gov/cpcf/smallbusiness.htm

California Integrated Waste Management Board

- State Agency Buy Recycled Campaign
- Environmentally Preferable Purchasing Program - the Board oversees State requirements that state agencies and contractors purchase recycled content products including paper, cellulose insulation, fire logs, and compost.
- Maintains a directory of SABRC certified products

<http://ciwmb.ca.gov/BuyRecycled/StateAgency/>

California Public Utilities Commission

- SELFGEN program encourages customer-owned grid-connected renewable and distributed generation systems.
- Incentive payments of \$1.00 to \$4.50 per watt depending upon technology.
- Available for fuel cells, microturbines, small gas turbines, and IC engines operating on renewable fuels up to a capacity of 1.5 MW
- <http://www.cpuc.ca.gov/static/industry/electric/distributed+generation/index.htm>

California Public Utilities Commission

- Net Metering
 - Available for dairy biogas system (anaerobic digesters) until January 2006
 - Credits customer-owned generation capacity at the retail electricity price up to of 0.5% of electric service provider's aggregate peak demand

In Summary

- Current incentives take the form of:
 - Research support – *PIER, EISG*
 - Capital grants/loans/rebates – *Emerging Renewables, Dairy Power, CPCFA loans*
 - Fuel purchase – *Rice straw, agricultural fuel*
 - Energy payments – *Existing Renewables, New Renewables, Dairy Power, SELFGEN*
 - Purchase requirements – *RPS, net metering, SABRC*
 - Tax Credits – *rice straw*

What's needed?

- Feedstock processing research (broaden focus from power generation)
- Long term commitments (sunset dates too often on one to five year horizon)
- Funding levels need to match costs (feedstock, equipment, and operations)
- Other – please provide your ideas in Collaborative Survey