

California Energy Commission
RENEWABLE ENERGY PROGRAM
Summary of Activities
July 1, 2007 – September 30, 2007

RENEWABLE ENERGY PROGRAM

❖ **Goal: To achieve a self-sustaining renewable energy supply for California**

Renewables Portfolio Standard Program

California RPS statutes require retail sellers to increase the renewable content of their electricity sales by at least 1 percent per year, with a goal of serving 20 percent of the state's retail electricity sales with renewables by 2010, made law in September 2006 with the enactment of Senate Bill 107 (Simitian), Chapter 464. California's energy policy, set by Governor Schwarzenegger, expanded the goal to achieve 33 percent renewables by 2020 for the state as a whole. The RPS program sets goals that help inform the policies of the other programs in the Renewable Energy Program.

The Energy Commission and the California Public Utilities Commission (CPUC) jointly implement the RPS. The Energy Commission's roles are to certify renewable facilities as eligible for the RPS, distribute supplemental energy payments (SEPs) to cover above-market costs,* and design and implement an accounting system to track and verify RPS compliance. The CPUC develops rules for and provides oversight of procurement activities.

Renewable generators that win a contract through an investor-owned utility's competitive solicitation may be eligible for SEPs from the Energy Commission. Eligible new or repowered facilities priced above the market price referent (MPR) may apply for SEPs from the Energy Commission to pay the difference between the contract price and the MPR. The Energy Commission may set a cap on the amount of SEPs it issues.

Following are RPS activities through September 2007:

Since the RPS policy was established in 2002, the state's investor-owned utilities — Pacific Gas and Electric (PG&E), Southern California Edison (SCE), and San Diego Gas & Electric (SDG&E) — have conducted a number of renewable energy solicitations. From these competitive solicitations (including an all-source solicitation), and also through bilateral negotiations, the investor-owned utilities have signed 77 contracts for 5,198 to 6,836 megawatts (MW) of new and existing renewable energy projects to date (range reflects build-out options). This includes 12 contracts with projects currently online for 334 MW of capacity (379 MW of max capacity from projects only partially online) and 65 contracts representing 4,637 to 6,276 MW of new, repowered, or restarted renewable facilities. Online facilities account for 7 percent of the total minimum contracted capacity for new, repowered, or restarted renewable facilities. (Data updated October 22, 2007.)

- The Energy Commission released a staff draft of the revised *Renewables Portfolio Standard Eligibility Guidebook* on September 14, 2007, in response to changes in law and regulatory and market developments. The Renewables Committee held a workshop on September 26, 2007, and plans to release a *Committee Draft RPS Eligibility Guidebook* in December that incorporates written and

*Senate Bill 1036 (Perata, Chapter 685, Statutes of 2007), enacted in October 2007 and effective January 1, 2008, eliminates supplemental energy payments and makes significant changes to the Renewable Energy Program.

verbal public comments received during and in response to the workshop. The Committee then plans to propose Energy Commission adoption of the *Committee Draft Guidebook* later in December 2007.

- As part of implementing a tracking and accounting system for RPS-eligible procurement, the Energy Commission developed the *Renewables Portfolio Standard Procurement Verification Report* (*Verification Report*). On March 5, 2007, the staff draft *Verification Report* was publicly released. This report verifies RPS procurement for the 2005 calendar year and includes data from 2001 through 2005, when applicable, and provides data on the IOUs' progress toward the RPS procurement goals. Following a Renewables Committee workshop on March 15, 2007, a second draft *Verification Report* was released for public comment on May 11, 2007. The Energy Commission adopted the *Verification Report* at the August 1, 2007, business meeting and transmitted the report to the CPUC¹ to help the CPUC determine the IOUs' compliance with the RPS. The Energy Commission intends to develop the *Verification Report* annually using data from its RPS accounting system.
- On September 5-7, 2007, the CPUC conducted a workshop to consider authorizing tradable RECs (TRECs) for RPS compliance, as provided under Public Utilities Code Section 399.16(a). Some of the topics explored included whether TRECs would promote renewable development, decrease compliance costs, increase RPS market efficiency, and facilitate compliance with the 20 percent RPS goal while being consistent with the legislative goals of the RPS program. Post-workshop comments were to be filed by November 13, 2007.
- On July 27, 2007, the CPUC adopted Decision D.07-07-027 (Rulemaking 06-05-027) to implement Assembly Bill 1969 (Yee, statutes 2006), which added Section 399.20 to the Public Utilities Code. The CPUC decision adopted tariffs and standard contracts for the purchase of electricity from water, wastewater, and other customers generating RPS-eligible electricity. These tariffs and standard contracts provide a simple and streamlined mechanism for certain generators to sell electricity to a utility without complex negotiations and delays. The Energy Commission will incorporate the CPUC's decision in its next revision of the *RPS Eligibility Guidebook*.

RPS CONTRACTS

This quarter, the investor-owned utilities executed contracts as a result of continuing negotiations from their 2006 and 2007 RPS solicitations, and also executed various bilateral contracts.

2005

RPS

- On July 6, 2007, SCE submitted an application for a 2005 RPS contract for a new 1,500 to 1,550 MW wind facility.
- On July 25, 2007 PG&E filed an advice letter (3092-E) for approval of a 2005 RPS contract with a new 553.5 MW solar thermal facility.

2006

All Source Solicitation

- On September 26, 2007, SDG&E filed an advice letter (U902E) for approval of an All Source contract with a new 1.5 MW biomass facility.

Bilateral

No bilateral contracts were executed during this period.

IOU RPS Solicitation

- On July 13, 2007, SCE filed an advice letter (2137-E) for approval of an RPS contract with a new 50 to 100 MW geothermal facility.

¹ California Energy Commission, August 2007, *Renewables Portfolio Standard Procurement Verification Report*, CEC-300-2007-001-CMF, www.energy.ca.gov/2007publications/CEC-300-2007-001/CEC-300-2007-001-CMF.PDF.

- On July 20, 2007, PG&E filed an advice letter (3090-E) for approval of an RPS contract with a new 85 MW wind facility.
- On July 27, 2007 SCE filed an advice letter (2143-E) for approval of RPS contracts with the following four facilities:
 - A new 200 to 250 MW wind facility
 - A new 42 to 81 MW wind facility
 - A new 0.99 MW solar photovoltaic facility
 - A repowered 1.6 MW biogas facility

2007

IOU RPS Solicitation

No RPS contracts executed during this period.

Bilateral

- On August 13, 2007, CPUC resolution 17-08-028 was issued for a bilateral contract between SCE and a re-started 15 MW biomass facility.
- On August 23, 2007, CPUC resolution E-4083 was issued for a bilateral contract between PG&E and a new 44.38 MW biogas facility.

Western Renewable Energy Generation Information System (WREGIS)

The Energy Commission, in conjunction with the Western Governors' Association, state and provincial representatives, and renewable energy market stakeholders, designed and implemented an accounting system to verify compliance with California's RPS by retail sellers. The Western Renewable Energy Generation Information System (WREGIS), a regional renewable energy tracking and registry system, will provide WREGIS Certificates to support verification of compliance with regulatory and voluntary renewable energy programs in the Western Interconnect.

- APX, Inc., the Software Development & Technical Operations Contractor, modified an existing generation tracking system for the purposes of WREGIS.
 - The system was released on June 25, 2007.
 - A 90-day acceptance period for WREGIS was held to test the working of the system. Final acceptance of the system is scheduled for October 7, 2007.
- WREGIS Administration
 - 49 companies had registered to be Account Holders in WREGIS by September 27, 2007.
 - It is expected that all CA RPS-obligated entities will become full WREGIS Account Holders by the CA RPS-obligated date of January 1, 2008.
- The WREGIS Committee held regularly scheduled conference calls to discuss policy issues related to WREGIS, including an in-person meeting at WECC headquarters in Salt Lake City, UT on September 24 – 25, 2007. This meeting was an opportunity for staff members from APX, Inc., WREGIS administrative staff at WECC and the WREGIS Committee to meet in person and develop WREGIS policy for the Operational Phase of the program.
- WREGIS expenditures this quarter:
 - Visionary Integration Professionals contract for \$238,000 (\$198,000 from Consumer Education RRTF; \$40,000 from ERPA) for the services of a Program Development Project Manager consultant for WREGIS. Expended \$6,585 from Consumer Education RRTF; \$40,000 from ERPA

- Personal Enterprises, Inc. contract for \$155,200 (\$115,200 from Consumer Education RRTF; \$40,000 from ERPA) for the services of a Quality Assurance/ Configuration Management Consultant for WREGIS. The QACM ensures APX performs the appropriate quality assurance and user acceptance testing, and all WREGIS documentation undergoes version control and adequate storage. Expended \$25,840 from Consumer Education RRTF; \$22,320 from ERPA
- Public Sector Consultants, Inc. contract for \$55,100 for the services of an Independent Project Oversight Consultant for WREGIS. The IPOC is required by the Department of Finance for the WREGIS Project in order to evaluate project risks. Expended \$13,050
- APX, Inc. contract for \$3,277,702 for the services of a Software Development and Technical Operations Contractor for WREGIS. The SD&TO modifies an existing generation registry and tracking system to serve the needs of WREGIS. Expended \$389,102
- Western Electricity Coordinating Council contract for \$2,202,750 for the services of an Administrative home for WREGIS. The WREGIS Administration staff runs the day-to-day operations of WREGIS. Expended \$209,272

New Renewable Facilities Program (NRFP)

The NRFP fosters the development of new in-state renewable electricity generation facilities by providing financial support. The program consists of two parts:

1. Production incentives (cents per kWh payments for renewable energy generated) for proposed projects were allocated to the lowest bidders during three competitive solicitation processes, per SB 90. Production incentives are paid over a five-year period once a project begins electricity generation.
 - During this quarter, the NRFP has paid approximately \$1.61 million in production incentives to seventeen facilities for 307 gigawatt-hours of renewable generation.
 - Approximately \$78.8 million is encumbered for participating auction winners.
 - Forty-seven² projects are currently online and producing electricity, representing 488 megawatts of new renewable energy capacity.
 - Since its inception in June 1998, the NRFP has paid approximately \$71 million in production incentives to forty-seven new renewable generating facilities for 7,851 gigawatt-hours of generation.
 - During this quarter, one project funded by the NRFP was fully paid, and the project account was closed:

CEC ID #	FAA#	Name
50005	REN-98-049	City of Sunnyvale

- During this quarter, one project funded by the NRFP reached the end of its five-year collection period, and the project account was closed:

CEC ID #	FAA#	Name
50023	REN-98-015	Wheelabrator Shasta Energy Company

² The Wintec #2 wind project was split into two projects, but in order to maintain consistency with previous years, it will continue to be reported as one project.

2. Financial production incentives, referred to as SEPs, have been available to cover above-market costs of meeting the RPS, subject to certain cost constraints. Eligible facilities that secure power purchase agreements with retail sellers through competitive solicitation have been eligible to apply for SEPs.*

All applications filed to date have either included confidentiality requests or have been incomplete, failing to provide required data necessary for application evaluation. There have been no applications filed that have been complete and have also filed complete confidentiality requests. As of September 30, 2007, the Energy Commission had notified applicants of deficiencies in their applications and/or confidentiality requests, and was awaiting responses.

Emerging Renewables Program (ERP)

The ERP provides consumers of electricity in investor-owned utility service territories with a rebate incentive to offset the cost of purchasing and installing new renewable energy systems at their homes and businesses. Reduced purchase costs encourage manufacturers and retailers to expand operations and reduce costs to consumers. Incentive payments are based on the rated electrical capacity of the system.

Through 2006, eligible technologies were solar photovoltaic (PV), small wind, fuel cells using renewable fuels, and solar thermal electric. Effective 2007, only small wind systems (rated output of 50kW or less) and fuel cells (using a renewable fuel) are eligible. The California Solar Initiative, discussed below, has replaced the solar components of both the Energy Commission's ERP and the CPUC's Self-Generation Incentive Program.

- During this quarter, payments totaling \$12.2 million were made for 996 installed systems, representing 4.7 MW of capacity, covering both solar and wind projects.
- Approximately 16 reservation requests were received for about 108 kW of wind capacity.
- Payments to date total \$387 million for 27,117 systems representing approximately 119 MW of distributed generation capacity.
- Funds encumbered for 3,221 systems total \$43 million, representing 15.8 MW of capacity.

Updated public information concerning the ERP continued to be made available on the Energy Commission's website.

– California Solar Initiative/New Solar Homes Partnership

The California Solar Initiative (CSI) is a \$3.35 billion solar incentive program administered by the CPUC, Energy Commission, and publicly-owned utilities from 2007 through 2016. The CPUC is responsible for providing incentives to the nonresidential and existing residential markets, and the Energy Commission's New Solar Homes Partnership (NSHP) program offers incentives to encourage solar installations, with high levels of energy efficiency, in the residential new construction market for investor-owned electric utility service areas.

- The NSHP program was launched on January 2, 2007.
- A total of 57 reservation requests for 1021 solar systems were received during this quarter. These requests were for \$1.5 million, for approximately 435kW of solar capacity. Of the 57 reservations, 12 were approved (encumbered).

*Senate Bill 1036 (Perata, Chapter 685, Statutes of 2007), enacted in October 2007 and effective January 1, 2008, eliminates supplemental energy payments and makes significant changes to the Renewable Energy Program.

- Since the program inception, there have been a total of 94 applications received for 1253 solar systems through September 30, 2007. This totals requests for approximately 2.5 MW of solar capacity.

Expenditures for the NSHP support contracts are reported under their funding source, the Consumer Education Program.

– **Pilot Performance-Based Incentive Program**

This pilot program began in January 2005 as a possible long-term option for building the PV market in California. With a budget of \$10 million, the program offered a rebate level of \$0.50 per kWh based on the energy production of the installed solar PV system. The initial reservation period was one year to install the system with quarterly performance payments made over a three-year period. The Pilot Performance-Based Incentive (PBI) Program received a total of 55 applications and closed December 31, 2006 with commencement of the California Solar Initiative.

- During the quarter payments of \$136,115 were made.
- A total of 19 systems, representing 1 MW of capacity, are installed and receiving quarterly payments.
- As of September 30, 2007, funds encumbered for 4 approved applications represent \$798,200 and 286 kW of additional potential capacity.
- As described in the ERP Guidebook, the Energy Commission evaluated the pilot program to determine if program objectives were met, and program design and incentive levels were adequate. In June and July of 2006, a survey was conducted to gather data from applicants of the Pilot Performance-Based Incentive program. In addition, staff also surveyed PV customers of the CPUC's Self-Generation Incentive Program in order to compare the two programs. Survey results were analyzed and published September 2007 in the Preliminary Evaluation of Pilot Performance-Based Incentive Program Staff Report.

– **Affordable Housing Program**

Solar PV systems installed on affordable housing projects and meeting defined criteria are offered rebates 25 percent higher than the standard ERP rebate, not to exceed 75 percent of the system cost.

- During this quarter, payments of \$1.2 million were made to 133 affordable housing projects representing 350 kW.
- \$1.8 million remains reserved for 151 projects pending completion representing 561 kW.
- The Affordable Housing Program represents 1.3 MW of installed renewable electrical capacity for 447 systems as of September 30, 2007.

– **Solar Schools Program**

In May 2004, the Solar Schools Program offered \$4.5 million in incentives to eligible public and charter schools for the installation of solar PV systems. Over thirty schools have been selected to receive the higher rebate – participants receive double the current ERP rebate – and awardees claim their rebate when their PV system is fully installed and operational. The Solar Schools Program is now closed to new applicants. The program was funded equally by the Energy Commission's Emerging Renewables Program (\$2.25 million) and the California Attorney General's Alternative Energy Retrofit Account (\$2.25 million).

- During this quarter, the program paid \$161,662 to one school resulting in 28.9 kW of installed solar capacity. Nine remaining schools are in various stages of completing their PV projects.
- Total program payments at the end of the quarter total \$3.3 million for 24 schools, resulting in more than 529 kW of added solar capacity.

Existing Renewable Facilities Program (ERFP)

This program provides production incentives of up to 1.5 cents per kilowatt-hour to biomass, solar thermal, and wind facilities. Incentive payments are tied to market prices, with no payments made if the market price is above a predetermined target price.

Beginning 2007, under Senate Bill 1250's program structure, facilities must reapply for funding. Applications must include a project-specific target price request and cent/kWh cap on funding for energy produced in calendar year 2007.

- During this period, Funding Award Notices were issued to the following facilities: Sierra Power, Dinuba, Madera, Colmac Energy, Sierra Pacific Industries-Loyalton, Sunray Energy- SEGS I and II, Chowchilla II, and El Nido.

During this period, about \$2.2 million in payments were made for 145 GW-hrs of January to July 2007 generation. The payments in the third quarter were distributed to the Sierra Power, Dinuba, and Madera facilities. It is expected that in the fourth quarter, payments will be made to additional facilities for generation from the months of January through July 2007.

- To date, cumulative payments totaling \$251 million have been made to existing facilities for generation.
- ERFP rollover funds — those remaining after payments have been made and rolled over to the next payment cycle as available funds — total \$18.5 million.
- 609 facilities are certified as RPS renewable suppliers, with 143 eligible for funding from the ERFP.

Consumer Education Program

This program awards grants and contracts to increase public awareness of renewable energy and its benefits, and to help build a consumer market for renewable energy and small-scale emerging renewable technologies.

- **New Solar Homes Partnership** contract activities:
 - ProProse contract for \$105,000 to assist the NSHP campaign in attracting participation of partners at all levels to encourage the purchase of new energy efficient solar homes. Partnerships are an effective way to increase the visibility of the campaign and consumer involvement in the messages by leveraging the widespread support in the business community for sustainable energy technology. Primary partners are production home builders. The Energy Commission will also benefit from other businesses and organizations as partners that include, financial institutions, utilities, product manufacturers and various other stakeholders.

Activities conducted by the contractor include: initial meetings held and discussions with Energy Commission staff, financial institutions, and a media network regarding possible partnership activities; reviewed and provided feedback on the Builder Outreach Kit outline and telephone survey questionnaire submitted under the Edelman contract; attended the Pacific Coast Builders conference to meet with builders and scope out other potential partners; held discussions with appraisers to research incremental value of solar PV systems on homes; submitted recommendations for a press event to announce the first builders to participate in the program and highlight the market research results, and attended status meetings with Energy Commission and Edelman staff. Expended \$22,511

- Edelman contract for \$4.3 million (over three years) to provide an array of marketing and communication services and outreach that will support the NSHP, encourage the purchase of new energy-efficient solar homes and help establish a self-sustaining energy-efficient solar home market. Activities conducted by the contractor include: submitted a draft top line report summarizing the results of the six focus groups held in the previous quarter and presented the results to the Energy Commission staff, Chairman and California Building Industry Association; brainstormed ideas for messaging, communications tactics and garnering added value media

attention for the campaign kick-off; conducted a telephone survey among 600 new and potential home buyers throughout California; analyzed and presented the results of the telephone survey to the Energy Commission; submitted a draft market research report; coordinated various partnership development activities and Builder Outreach Kit outline with ProProse and Energy Commission staff; submitted an outreach and communications plan that focuses on environmental and municipalities organizations; monitored participation of businesses and organizations in the "green" or solar movement; attended the 2007 Pacific Coast Builders conference and provided recommendations for NSHP participation in the 2008 conference; submitted recommendations for improvements to make the GoSolarCalifornia website more effective and user-friendly; began drafting the 2007 Marketing and Media Plan and began coordinating efforts for a builder announcement event. Encumbered \$1.5 million (the second year of funding) for this three-year contract. Expended \$192,275

- **KEMA** technical assistance contract supported Consumer Education activities as follows:
 - Retention was paid for preliminary work done to assess the solar market. This Work Authorization was created to assess the solar market and develop a report on best options for creating a sustainable solar market. The work was suspended early on in the project, however, due to the anticipated contracts for the New Solar Homes Partnership public awareness campaign and partnership development. Expended \$677 on retention.
 - New Solar Homes Partnership technical support activities: discussed BIPV temperature issues with staff and manufacturers to better understand how the issue is affecting the equipment and calculations and suggest ways in which to resolve them. Expended \$14,431 which includes a retention amount of \$14,245.
 - Affordable housing technical support: assisted with subcommittee activities; met with staff, utilities, and other stakeholders. Expended \$6,373
 - Utility Allowance Model work include: collecting and reviewing stakeholder comments on the model; coordinating with the ACM vendors; collected input tables for utility rate schedules and end uses; and began programming for the conceptual design including input/output screens and building the calculations. Expended \$11,498
 - WREGIS development activities: Provided technical advice and assistance to staff in reviewing and drafting changes to WREGIS Operating Rules; provided management during the WREGIS committee election process; reviewed and revised state and provincial PowerPoint slides for and attended Webinar training; attended CPUC workshop on reporting and tracking green house gas emission under a load-based cap-portsions; submitted final comments on WREGIS Terms of Use documents; provided revisions on State/Provincial and Voluntary Program Relationship Management Protocol; researched using EIA database to verify generator characteristics; investigated how Green-e program will interface with WREGIS; held conversations with parties from Alberta and British Columbia regulatory authority and energy offices and Powerex to investigate how to verify Canadian generator characteristics; verified and investigated algorithm for allocating metered output to solar thermal multi-fuel applications; attended and provided support for WREGIS Committee and Subcommittee meetings; provided communications support; corresponded with stakeholders regarding questions about WREGIS; Expended \$8,058

Additional Renewable Energy Program Activities

- **Cost Benefit Study of Self-Generation Incentive Program**

Pursuant to Assembly Bill 2778 (Lieber, Chapter 617, Statutes of 2006), on or before November 1, 2008, the Energy Commission, in consultation with the CPUC and California Air Resources Board, must evaluate the costs and benefits, including air pollution, efficiency, and transmission and distribution system improvements, of providing ratepayer subsidies for renewable and fossil fuel "ultraclean and low-emission distributed generation," as part of the Energy Commission's *Integrated Energy Policy Report*. The Energy Commission must include recommendations for changes in the

eligibility of technologies and fuels under the program, and whether the level of subsidy should be adjusted after considering its conclusions on costs and benefits.

In response to this requirement, the Renewable Energy Program has allocated funding of up to \$500,000 to conduct an evaluation. A Request for Proposals was released in September 2007 to solicit proposals from qualified bidders. The winning bidder will be expected to provide a comprehensive cost-benefit analysis of electric generation technologies related to the Self-Generation Incentive Program. The selection of a contractor is expected to be approved by the Energy Commission in January 2008.

- **Guidelines for California's Solar Electric Incentive Programs**

Senate Bill 1 (Murray, Chapter 132, Statutes of 2006) requires the Energy Commission, in consultation with the CPUC, local publicly-owned electric utilities, and interested members of the public, to establish eligibility criteria for solar energy systems; conditions for incentives; rating standards for equipment, components, and systems for electric ratepayer-funded solar energy incentive programs in California by January 1, 2008.

The bill identifies the following conditions for receiving ratepayer funded incentives:

1. High quality solar energy systems with maximum system performance to promote the highest energy production per ratepayer dollar
2. Optimal system performance during periods of peak demand
3. Appropriate energy efficiency improvements in the new and existing home or commercial structure where the solar energy system is installed

To respond to this requirement, a staff report "*Eligibility Criteria and Conditions for Incentives for Solar Energy Systems, Senate Bill 1*" (publication #CEC-400-2007-014) was published in August 2007 which addresses these conditions. A Committee workshop was conducted to solicit comments from interested parties on the staff report. In addition to comments received at the workshop, written comments were received from 19 parties. Subsequently, staff prepared its draft, "*Guidelines for California's Solar Electric Incentive Programs Pursuant to Senate Bill*" (publication #CEC-300-2007-012-D) and was published in September 2007. The report was organized into sections addressing Senate Bill 1 mandates for solar energy component standards, solar energy system installation standards, energy efficiency, reporting requirements, proposed effective dates, and other eligibility criteria established in statute. A notice was released to conduct a Committee workshop in early October to receive comments on the draft guidelines.