

California Energy Commission
RENEWABLE ENERGY PROGRAM
Summary of Activities
July 1, 2010 – September 30, 2010



ACCOMPLISHMENTS

Renewables Portfolio Standard Program

Under California's current Renewables Portfolio Standard (RPS) law, retail sellers are required 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. In November 2008, Governor Schwarzenegger set into motion higher RPS goals by signing Executive Order S-14-08, which calls on California to raise its renewable energy targets to 33 percent by 2020 and expedite development of renewable energy sites. This more aggressive goal reinforces the importance of renewable energy as a component of the state's greenhouse gas reduction goals codified in Assembly Bill 32 (Núñez, Chapter 488, Statutes of 2006).

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 and to design and implement an accounting system to track and verify RPS compliance. The CPUC is responsible for developing the rules for RPS procurement and providing oversight of contract activities.

On September 15, 2009, Governor Schwarzenegger signed Executive Order S-21-09, which directed the California Air Resources Board (ARB) to adopt a regulation by July 31, 2010, requiring the state's load serving entities to meet a 33 percent renewable energy target by 2020. On September 23, 2010, ARB staff proposed modifications to and the board adopted the Renewable Electricity Standard (RES) regulation. The RES directs all load serving entities, including publicly owned electric utilities, to meet the 33 percent target via multi-year compliance intervals. ARB staff is expected to finalize the regulations and submit them to the Office of Administrative Law by the end of 2010.

In December 2009, the CPUC released a revised proposed decision authorizing the use of tradable renewable energy credits (TRECs) for compliance with the California RPS.¹ After considering stakeholder comments, the CPUC adopted a TRECs decision on March 11, 2010. The decision distinguishes between bundled transactions and TREC (or REC-only) transactions used for RPS compliance by defining a bundled transaction as one that serves California customer load; it classifies all other RPS-eligible transactions as REC-only. On April 12, 2010,

¹ A REC represents the environmental and renewable attributes of renewable electricity. A REC can be sold either "bundled" with the underlying energy or "unbundled" as a separate commodity from the energy itself, into a separate REC trading market. California law defines a REC as a certificate of proof that one unit of renewable energy has been generated. RECs are also the accounting tool used to prove that electricity sellers have complied with the RPS program.

the three large IOUs filed a joint petition for modification of the TRECs decision, and on April 15, the Independent Energy Producers Association filed a similar petition.² In response to these petitions, on May 6, the CPUC voted to stay its TRECs decision and placed a temporary moratorium on CPUC approval of RPS contracts. On August 25, the CPUC issued a proposed decision to modify the March decision on TRECs and to lift the moratorium imposed by the May decision.

On August 24, 2010, the CPUC issued a proposed decision to adopt a renewable auction mechanism to determine prices for standardized renewable energy contracts up to 20 MW.

Investor-Owned Utilities' Renewables Portfolio Standard Procurement

RPS Solicitations and Bilateral Negotiations

Since the RPS policy was established in 2002, the state's investor-owned utilities (IOUs) — Pacific Gas & Electric, Southern California Edison, and San Diego Gas & Electric — have conducted a number of renewable energy solicitations. From these competitive solicitations (including an all-source solicitation), and also through bilateral negotiations, the IOUs have signed 209 contracts for 17,407 to 19,356 megawatts (MW) of new and existing renewable energy projects to date (range in capacity reflects RPS developers' build-out options). This includes 178 contracts representing 16,000 to 18,069 MW of new, repowered, or restarted renewable facilities. Of these, 59 contracts are with projects that are currently online for 2,502 MW of capacity (2,767 MW is the maximum capacity; some of these projects are only partially online). Online facilities account for 16 percent of the total minimum capacity for new, repowered, or restarted renewable facilities under contracts for the RPS program. (Source: Database of Investor-Owned Utilities' Contracts for Renewable Generation, Contracts Signed towards Meeting the California RPS Targets; updated August 2010, www.energy.ca.gov/portfolio/contracts_database.html).

Investor-Owned Utilities' Feed-In Tariffs for Renewable Generation

The Legislature passed Assembly Bill 1969 in 2006, authorizing tariffs³ and standard contracts for the purchase of eligible renewable generation from public water and wastewater agencies. The CPUC had originally expanded feed-in tariff eligibility to all RPS-eligible renewable resources in only PG&E and SCE territories. However, in Decision 07-07-027, the CPUC extended the tariffs to include renewable facilities other than the public water and wastewater facilities. With the passage of SB 380 in 2008, the Legislature consolidated these two tariffs into a single program that applies to renewable facilities with a capacity of not more than 1.5 MW and increased the statewide generating capacity limit from 250 MW to 500 MW. On September 18, 2008, in accordance with the changes mandated by SB 380, the CPUC approved an extension of feed-in tariffs in SDG&E territory to all renewable generators, bringing the scope of SDG&E's feed-in tariff in line with that of PG&E and SCE.⁴ Participating utilities now

2 For further information on the filed petitions for modification of the TRECs decision, refer to the CPUC's website, "Decision to Stay the Tradable Renewable Energy Credits Decision," located at www.cpuc.ca.gov/PUC/energy/Renewables/hot/070824recworkshop.htm.

3 A *renewable feed-in tariff* is a renewable energy procurement mechanism that requires an electric utility to purchase renewable energy at a fixed price using a standard contract.

4 CPUC Decision 08-09-033, September 18, 2008, R.08-08-009.

include California's investor-owned and small and multijurisdictional utilities. As of August 2010, the three large IOUs have entered into a total of 35 feed-in-tariff agreements representing 35 MW of capacity and 186 GWh of annual generation.

Southern California Edison's Renewables Standard Contracts Program

Through its Renewables Standard Contracts Program, SCE is offering to purchase energy and its associated green attributes from eligible renewable resource generating facilities with capacities not greater than 20 MW. This program is available until December 31, 2009, or until 250 MW in contracts have been executed, whichever occurs first. Two different standard contracts are offered depending on the generating facility's capacity: (1) greater than 1.5 MW but not greater than 5 MW, and (2) greater than 5 MW but not greater than 20 MW. Facilities with capacities that exceed 20 MW are not eligible for a renewables standard contract but may submit a proposal in SCE's annual RPS solicitation. By August 2010, SCE signed 18 standard contracts with a total capacity of 196 to 210 MW and deliveries of 494 to 572 GWh of generation annually.

Investor-Owned Utility Solar Photovoltaic Programs

During 2009 and 2010, the CPUC authorized SCE, PG&E, and SDG&E to own and operate solar photovoltaic (PV) facilities, and execute solar PV power purchase agreements with independent power producers through a competitive solicitation process. These programs are intended to yield up to a total of 1,100 MW of new solar PV capacity in California over the next five years. All energy produced under the Solar PV Programs is potentially RPS-eligible procurement on the utility-side of the meter that contributes to the state's RPS goals.⁵

During this reporting period, SCE awarded 36 contracts to independent power producers for a total of nearly 60 MW from PV solar panels. The panels will be installed on 31 unused rooftops and five ground-mount sites in SCE's service territory.

RPS Activities through September 2010

- As of September 30, 2010, the Energy Commission has certified or precertified 972 facilities as eligible for the RPS, representing 38,284 MW of renewable capacity.⁶ Of that generating capacity, 22,719 MW is proposed new capacity from 297 planned facilities that have been conditionally precertified; however not all are yet under contract. These numbers do not reflect activity in the application queue. The Energy Commission certified its first out-of-country facility as RPS-eligible in September. TransAlta provided staff with the necessary information to verify that its Blue Trail Wind Farm, a 66 MW facility located in Alberta, Canada, was constructed and is operated in a manner as protective of the environment as a similar facility located in California, as required by the RPS Eligibility Guidebook.
- At its July 28 Business Meeting, the Energy Commission adopted the *2006 Renewables Portfolio Standard Procurement Verification Report*, which analyzes renewable energy claims toward the RPS program. Previous years' reports compared procurement claims

5 CPUC website at www.cpuc.ca.gov/PUC/energy/Renewables/hot/Utility+PV+Programs.htm.

6 RPS certified or precertified renewable facility capacities do not take into account multi-fuel status.

made by IOUs with generation data submitted to various programs by generating facilities. In addition to claims from the large IOUs, the *2006 Verification Report* also includes an analysis of RPS claims made by electric service providers and the small and multi-jurisdictional utilities between 2004 and 2006.

- Staff hosted a workshop on August 30 to solicit stakeholder input on proposed revisions to the *Renewables Portfolio Standard Eligibility Guidebook* and the *Overall Program Guidebook for the Renewable Energy Program*. Proposed revisions include incorporating recent changes in law and providing instructions for using the Western Renewable Energy Generation Information System (WREGIS) for RPS tracking, verification and reporting. The Energy Commission is expected to adopt the guidebooks before the end of 2010.
- At its July 28 Business Meeting, the Energy Commission adopted an Order Instituting Rulemaking to modify existing regulations that govern the requirements of the Power Source Disclosure Program. The new regulations will ultimately allow for necessary formatting changes to clarify Power Content Labels that retail sellers of electricity must disclose to their customers.
- Staff assisted in updating the database summarizing available data on the local publicly owned electric utilities' progress toward implementing California's Renewables Portfolio Standards. The database includes information from the years 2003-2009 on the POU's RPS targets, deliveries, renewable energy solicitations, and new renewable energy contracts. The updated database is available on the Energy Commission's website at www.energy.ca.gov/2008publications/CEC-300-2008-005/index.html.

RPS Contracts

RPS contract activities for the quarter are detailed in the table, *Renewable Portfolio Standard Contract Activity by Utility, July through September 2010*, located on the Energy Commission's website at www.energy.ca.gov/renewables/quarterly_updates/index.html.

Western Renewable Energy Generation Information System

The Energy Commission, in conjunction with the Western Governors' Association and renewable energy market stakeholders, designed an accounting system to verify that renewable energy output is counted only once for the purposes of California's Renewables Portfolio Standard and other regulatory or voluntary programs related to renewable energy throughout the west. With the subsequent addition of efforts by the Western Electricity Coordinating Council, these organizations implemented the WREGIS, a regional renewable energy certificate tracking and registry system, which provides WREGIS Certificates to support verification of compliance with regulatory and voluntary renewable energy programs in the Western Interconnect. The Energy Commission provided the startup funding for WREGIS and serves as the financial backstop for the program during operations.

- The WREGIS Committee held monthly conference calls to discuss and review policy issues related to WREGIS, such as minor changes to system functionality and program documents, the WREGIS program's current status and plans for the future of the program. Additionally, WECC began contract negotiations with APX, Inc. for a

WREGIS system operations and maintenance contract that would begin October 6, 2010, after the expiration of the Energy Commission/APX contract.

- Following are WREGIS expenditures for the first quarter of fiscal year 2010-2011 (from the Consumer Education account unless noted otherwise):
 - APX, Inc. contract for \$3,277,702 for the services of a System Development and Technical Operations (SD&TO) Contractor for WREGIS. The SD&TO Contractor modified an existing generation registry and tracking system to serve the needs of WREGIS and continued to perform operations and maintenance for the system through the end of the Energy Commission/APX contract on October 5, 2010.
Expended \$67,706
 - WECC contract for \$2,202,750 for the administration of WREGIS. The WREGIS Administration staff runs the day-to-day operations of WREGIS.
Expended \$0 (since February 2009 through September 30, 2010, all WREGIS at WECC expenses have been met with user fees).

Emerging Renewables Program

Since 1998, the Emerging Renewables Program has provided nearly \$407 million in rebates and production incentives to customers who have purchased and installed 28,568 renewable energy systems, representing 126 MW of capacity, to offset part or all of their electricity needs at their homes or businesses.

On December 31, 2006, the solar portion of the Emerging Renewables Program ended and was replaced on January 1, 2007, with the Energy Commission's New Solar Homes Partnership (NSHP) and the CPUC's California Solar Initiative. Fuel cells using renewable fuel and small wind turbines are still eligible for rebates under the Energy Commission's Emerging Renewables Program.

During this quarter, the Energy Commission paid \$783,804 to 32 rebate applicants for completed projects located in investor-owned utility service areas. These completed projects represent 289 kW of generating capacity from photovoltaic and wind systems.⁷ Customers planning to install additional systems held approved rebate reservations totaling 1.3 MW of solar and wind capacity, encumbering about \$3 million.

One of the most common challenges to small wind installations is not cost, but rather inadequate or overly burdensome permitting processes. In response to these permitting issues, Governor Schwarzenegger signed Assembly Bill 45 (Blakeslee, Chapter 404, Statutes of 2009), which requires California counties to adopt ordinances by January 1, 2011, governing the installation of small wind turbines. AB 45 outlines basic criteria that wind ordinances would address. Specifically, this bill states that if a local agency has not already adopted an ordinance to regulate the installation of small wind energy systems in the jurisdiction outside of

⁷ Due to the length of the Emerging Renewables Program's reservation period, the program is still paying rebates to solar system applicants who submitted their reservation requests before January 1, 2007.

"urbanized areas," it must adopt an ordinance in order to ensure that local agencies are not applying overly restrictive or burdensome permitting requirements on small wind energy system installations. Counties do not have to follow the procedures in AB 45 if they already have an ordinance adopted.

A workshop on AB 45 was conducted by Energy Commission staff on August 16, 2010. Invitees included California counties, wind turbine manufacturers, contractors, retailers, and the public. The purpose of the workshop was to discuss permitting ordinances related to the installation of small wind energy systems in California within the context of AB 45. Energy Commission staff gave an overview of AB 45 requirements that apply to the counties and the Energy Commission.

Energy Commission staff also invited representatives of county planning and building departments to discuss and share best practices and experiences with permitting small wind energy systems. One of the goals of the workshop was to discuss and find viable solutions to mitigate local small wind permitting regulatory obstacles in an effort to ease barriers towards wider adoption of small wind technology throughout the state.

AB 45 also requires the Energy Commission to report to the Legislature on or before January 1, 2016, on the status of small wind in California. In order to complete its report, the Energy Commission must collect annual data from each California county regarding small wind installations. The report must include the following: 1) number of ordinances adopted on or after January 1, 2011, by county; 2) number of applications received and approved during that period; 3) tower heights, system heights, parcel sizes, and generating capacities approved during that period; and 4) Energy Commission recommendations for continuation, modification, or termination of the requirements in AB 45.

New Solar Homes Partnership

The Energy Commission's NSHP, a \$400 million 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 goal of the NSHP is to install 400 MW of capacity by 2016. The NSHP is a component of Senate Bill 1 (Murray, Chapter 132, Statutes of 2006), a \$3.35 billion statewide solar incentive program aiming to install 3,000 MW of capacity by 2016. Unlike the ERP, incentives under the NSHP are not capacity-based. Instead the actual incentive for a particular system and installation, which is paid up-front, is dependent on an Expected Performance-Based Incentive calculation of the system's performance compared to a reference system. Since mid-2008, program administration has been subsumed under the investor-owned utilities, with oversight from the Energy Commission. With coordinated IOU administration of both the NSHP and the IOU's new construction efficiency incentive programs, greater administrative efficiencies are being achieved, ultimately simplifying the application process for builders and retailers.

NSHP Program Activity (includes Energy Commission and IOU activities)

As of September 30, 2010, a total of 1,281 applications, representing 11,582 residential solar systems, were in various stages of applying to the program. Of those, 78 applications, representing 587 residential systems, were listed as "Pending." (Pending applications are

defined as applications in the initial stages of applying to the program and additional information is required before formally submitting the complete application package.)

The remaining 1,203 applications consisted of the following:

Custom Homes:	935 applications for 935 systems and 5.77 MW
Lg. Developments (solar standard):	156 applications for 9,648 systems and 19.45 MW
Other Developments:	112 applications for 412 systems and 2.6 MW
TOTAL:	1,203 applications for 10,995 systems and 27.8 MW

NSHP Disbursements⁸

- July to September 2010: Incentives totaling \$4.4 million were paid for 1.52 MW of solar capacity.
- Cumulative payments through September 30, 2010: Since the program's beginning in 2007, incentive payments total \$25.7 million. This represents 3,343 residential solar installations for 9.1 MW of renewable electricity capacity.

Additional NSHP Activities

- The on-line application web tool continues to be refined, allowing greater ease of use and also providing more information on program statistics.
- Staff began the process of amending the outsourcing contracts for program administration of the New Solar Homes Partnership (NSHP). The amendments need to be approved by June 30, 2011, to ensure seamless administration of the NSHP.
- A draft work authorization with KEMA is being developed to review and evaluate the NSHP program including: 1) NSHP achievements and progress-to-date, 2) main external and internal barriers to reaching NSHP program goals, and 3) key recommendations (policy, process, and program Guidelines) to increase NSHP participation and make the NSHP program as successful as possible. It is anticipated that a draft report will be completed in January 2011.

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

Existing Renewable Facilities Program

The Existing Renewable Facilities Program (ERFP) offers production incentives to biomass, solar thermal electric, and wind facilities that were operational as a renewable facility prior to September 25, 1996. Incentive payments are tied to market prices, with no payments made if

⁸ PG&E and SDG&E issue incentive payments directly to NSHP applicants and are later reimbursed by the Energy Commission upon request. Applicants to the SCE-administered NSHP are paid through the Energy Commission. Note that the Energy Commission's reported quarterly disbursements may not include all of PG&E's and SDG&E's incentive payments for the reporting quarter. This is due to the time lag between those utilities issuing a payment, submitting a reimbursement request, and subsequently being reimbursed by the Energy Commission. The Energy Commission expects to make a reimbursement payment to PG&E and SDG&E of \$1,015,004 for 0.36 MW in the next quarter for systems that were installed through September 2010. This expenditure will be captured in the October to December 2010 NSHP disbursements.

the market price is above a predetermined target price. Beginning 2007, under the Senate Bill 1250 program structure, each facility must apply for funding annually. Funding eligibility decisions are made on a facility-by-facility basis.

The program is designed to fully fund incentive payments (assured payments) to facilities with fixed-price contracts below five cents per kWh first; then the balance of remaining funds is allocated to the rest of the facilities. These payments are calculated and possibly adjusted based on estimated funds remaining during the calendar year. Total ERFP payments are capped at \$18 million per calendar year.

In 2010, the ERFP received and approved 35 applications for funding from 27 biomass facilities representing 680 MW and for eight solar thermal facilities representing 409 MW. Of these applications, eight facilities qualified to receive assured payments (seven biomass [153 MW] and one solar thermal [50 MW]).

In 2009, Short-Run Avoided Cost (SRAC) energy prices declined 50 percent compared to the same period in 2008. This decline has continued in 2010 with energy prices 2 to 5 percent lower than 2009. With SRAC energy prices at this level, the ERFP would need over \$26 million in 2010 to fund participating facilities in full. Reduced incentive payments for 2010 began in September, when invoices for July generation were being submitted.

A biomass facility under an SRAC contract informed staff that the facility might shut down commercial operations this year due to the low prices.

During this quarter, the following activities occurred:

- Two biomass facilities temporarily closed down due to financial reasons/low energy prices. The two closed biomass facilities represent 22 MW.
- The Energy Commission made \$6.4 million in payments to existing facilities for 1,209 gigawatt-hours generated during July 2010 through September 2010.
- Payments to 25 of the 34 participating facilities were reduced by \$1.6 million based on the amount of funds available in 2010. The total adjusted payout to these facilities was \$453,924.
 - Because of low SRAC prices during 2010, two facilities receiving variable market prices based on the SRAC formula received \$991,123 more compared to payments made during the same period in 2008. This resulted in the need to reduce payments to all but the eight facilities with assured payments.
- Since the program's inception in 1998, cumulative payments totaling \$315 million have been made to existing facilities for 84,521 GWh of generation.
- ERFP rollover funds from 2009--those remaining after payments have been made and rolled over to the 2010 payment cycle as available funds--totaled \$8.9 million.

Consumer Education Program

This program is designed 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.

Information, Integration, Innovation & Associates Inc.
CMAS #3-08-70-25094

This two-year contract for \$75,000, executed in October 2009, provides maintenance and support services for the NSHP program Web tool. Working with NSHP staff, I Cubed is completing work to streamline the online program application tool processes and develop new enhancements in response to stakeholders' feedback. The requirements for these enhancements have been created and the enhancements are currently being developed. A testing plan has been implemented for staff to use when testing the intermediate work products.

Expended: \$7,200

C&G Technology Services, Inc.
CMAS #3-08-70-2273C

This \$143,550 contract, executed in February 2010, creates a Web-based version of the California Utility Allowance Calculator (CUAC), which is currently a standalone Microsoft Access® database application. The CUAC is a tool designed to calculate project-specific utility allowances for low-income, multifamily housing projects. Energy Commission staff is working with the contractor on translating the current CUAC tool into a Web-based tool and making substantial upgrades. To date the contractor has delivered a software process map of the current CUAC and a diagram of the new online SQLServer database.

Expended: \$22,881

ADDITIONAL RENEWABLE ENERGY PROGRAM ACTIVITIES

Guidelines for California's Solar Electric Incentive Programs

Senate Bill 1 (Murray, Chapter 132, Statutes of 2006), an extensive and multi-faceted legislation, enacts Governor Schwarzenegger's Million Solar Roofs Initiative and is built upon the CPUC's [California Solar Initiative](#), the Energy Commission's NSHP, and the publicly owned utilities' existing solar energy incentive programs. With an emphasis on energy efficiency and high performance installations, this \$3.35 billion comprehensive statewide solar effort aims to install 3,000 MW of capacity by 2016. The CPUC's portion, the California Solar Initiative, provides incentives to existing and new nonresidential customers and to existing residential customers. The Energy Commission's NSHP offers incentives to encourage solar installations, with high levels of energy efficiency, in the residential new construction market. Publicly-owned utilities administer solar incentive programs for their individual service areas.

Among other directives, SB 1 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; and rating standards for equipment, components, and systems for electric ratepayer-funded solar energy incentive programs in California by January 1, 2008.

SB 1 required the Energy Commission to adopt eligibility guidelines for solar energy systems receiving ratepayer-funded incentives and identified the following conditions:

- High quality solar energy systems with maximum system performance to promote the highest energy production per ratepayer dollar.

- Optimal system performance during periods of peak demand.
- Appropriate energy efficiency improvements in the new and existing home or commercial structure where the solar energy system is installed.

The *Guidelines for California's Solar Electric Incentive Programs* can be found on the Energy Commission's website at

www.energy.ca.gov/2010publications/CEC-300-2010-004/CEC-300-2010-004-CMF.PDF.

Other SB 1 requirements to be completed by the Energy Commission include:

- Conduct annual random audits of solar energy systems to evaluate operational performance.
- Education and outreach by providing assistance to builders and contractors and publishing educational materials for consumers.
- Evaluate costs and benefits of solar energy systems.
- Conduct a study to determine whether solar should be required on new residential and new nonresidential buildings.
- Develop a solar offset program that would allow a developer or seller of production homes to forgo the "solar as an option" offer requirement by installing solar energy systems generating specified amounts of electricity on other projects including low income housing, multifamily, commercial, industrial, and institutional developments.
 - Staff developed prerulemaking draft regulations and posted them on the Energy Commission's website at: www.energy.ca.gov/2010publications/CEC-300-2010-009/CEC-300-2010-009-SF.PDF. Staff will review comments received on the draft regulations and will then develop proposed regulations, which will be submitted to the Office of Administrative Law in October 2010.
- Publicly owned electric utilities are required to report on the progress of their solar incentive programs to the Energy Commission on a yearly basis. Reporting data must be submitted to the Energy Commission by June 1 of each year (for the previous year).
 - Data for calendar year 2009 has been received from the publicly owned electric utilities and posted on the Energy Commission's website at www.energy.ca.gov/sb1/pou_reports/index.html.
 - Staff will conduct a workshop in fall 2010 with the publicly owned utilities to discuss Senate Bill 1 guidelines and the annual reporting requirements. Staff will be updating the annual reporting template and will develop a central location for the publicly owned electric utilities to submit their numerous annual reporting forms.