



**2010
Annual Report**



**Center for Energy Efficiency and
Renewable Technologies**



Crossing the Clean Energy Divide

In 2010, California made landmark progress toward a clean energy economy, even as the fight for action on climate change stalled at the federal level. California residents ratified the state's path-breaking energy and climate goals. Important, hard-won pieces of climate policy moved into place. And unprecedented success in permitting major projects set the stage for a full-scale renewable energy build-out.

California needs 15,000 – 20,000 megawatts (MW) of additional renewable generating capacity to meet its 33% Renewable Portfolio Standard (RPS) goal. New wind, photovoltaic, and solar thermal plants now under development could supply as much as 7,500 MW of this amount in the near term, putting the state on track to reach its 33% RPS target by 2020 – and in the years that follow, to achieve larger, more ambitious renewables goals that will transform our energy system.

CEERT's 2010 activities were instrumental in advancing this forward movement. Our programs played a lead role in speeding up permitting and interconnection for major new renewable projects, in mitigating those projects' environmental impacts, in publicizing renewable energy's job-creating potential, in building consensus in land-use and transmission planning processes on access to prime renewable resources, and in ensuring that the price of clean-power generation reflects its full value to society.

But the dawning of a new energy future still faces many daunting obstacles. For prime example, the California Public Utilities Commission's planning processes isolate renewables in a separate framework, and allow more fossil-fired project development because of erroneous claims that this capacity is needed as a hedge against the supposed risks or costs of integrating intermittent renewable resources. CEERT is helping lead the fight for procurement that reflects the true value, costs, and benefits of renewables and energy efficiency.

In the coming year we will continue working to overcome the barriers that hinder renewable generation, and to clear the way for exponential growth in clean energy investment.



This Year's Key Accomplishments

In 2010, CEERT:

- Helped resolve critical problems for individual shovel-ready Big Solar projects, and expedited California Energy Commission approval of eight such projects representing 3,528 MW of new capacity and Bureau of Land Management approval of five projects totaling 2,374 MW.
- Collaborated with wind industry leaders on strategies for mitigating wind projects' potential impacts on golden eagles and California condors in the all-important Tehachapi region, an area that could ultimately add 4,500 MW of new wind capacity.
- Researched, published, and distributed Workforce Needs for Renewable Energy Power Plants, a survey of direct employment for the construction and operations of 14 major renewable energy projects proposed for Southern California.
- Advocated for an expanded value-based feed-in tariff structure to provide market certainty and equality for distributed generation technologies like photovoltaic solar systems and stationary fuel cells.
- Worked to improve and broaden support for the Desert Renewable Energy Conservation Plan, which will guide long-term energy and conservation planning for 25 million acres of California desert.
- Advocated for the California Public Utilities Commission (CPUC) authorizing tradable renewable energy credits (TREC)s consistent with Renewable Portfolio Standard (RPS) Program law, especially to ensure consistent rules on TREC)s and RPS-eligible energy delivery between the CPUC, the California Energy Commission, and the California Air Resources Board.
- Helped establish the Plug-in Electric Vehicle Collaborative, collaborated with PEVC staff to produce a strategic plan for electric vehicles in California, and led an ongoing effort to link California's revised Zero Emission Vehicle regulations to expanded electrification of the fleet.
- Provided leadership and coordination for the Renewable Energy Transmission Initiative, whose Phase 2B report updated estimates of renewable development costs, with special consideration of the cost of importing renewable energy from other Western states.
- Advocated for all customers having broad access to their consumption data to achieve the expected efficiencies of smart meter deployment.
- Worked with developers, trade groups, and the California Independent System Operator (CAISO) to resolve critical issues in transmission interconnection standards, and encouraged the CAISO to examine low-cost alternatives that will help integrate renewable energy onto the grid.
- Advocated for removal of language from pro forma RPS power purchase agreements that would disadvantage otherwise RPS-eligible energy-only resources.



From the Executive Director

2010 marked the end of a tumultuous decade that began with the meltdown of California's electricity market and the horror of 9/11, and ended with the Wall Street crash and the deepest recession in two generations.

As a creative growth engine, California suffered disproportionately from the collapse of the financial and housing sectors, and still endures double-digit unemployment in the state's interior. Amid reports of manufacturing jobs being shipped offshore and two-thirds of our automobile industry in bankruptcy, many citizens began to doubt whether the United States had seen its best days.

But not in California. After a decade of hard work and painful trials and errors, in 2010 California began to see the payoff from its policies and investments in fostering green energy. With a boost from the Obama Administration's green finance initiatives, the state saw the first evidence of a renewable revival. Billions of dollars of investments began to flow, aided by unprecedented state and federal agency cooperation. Photovoltaic projects in the Central Valley, vast new wind projects in Kern County, and the largest solar fields ever imagined in the Mojave and Colorado deserts all broke ground. Thousands of new construction jobs brought hope to hard-hit inland counties. New transmission lines to bring green electricity from wind and solar farms to urban load centers started construction, signaling that the transformation of the state's electricity system had begun.

The election of a pro-renewables governor in 2010 and the voters' rejection of Prop. 23, which would have rolled back our commitment to reducing greenhouse gases, ensured California's continued leadership in the clean technologies of the future.

Just as a prior generation of Californians met their challenges with marvels of engineering – the first superhighway system, a monumental and visionary aqueduct, and the largest and greatest public university system the world has ever known – we have struggled and overcome doubt and detours that slowed progress.

As the new decade begins, the new clean energy economy is unfolding in California for all the world to see. We are crossing the clean energy divide.

V. John White
Executive Director



V. John White



John at a CEERT Board meeting with Ralph Cavanagh, Jonathan Weisgall, Tom Starrs and Darren Bouton.



John with Rainer Aringhoff (left) of Solar Millennium and Arnold Goldman, a pioneer of solar thermal-electric technology, founder of Luz International and founding chairman of BrightSource Energy.





CEERT and Our Programs

The Center for Energy Efficiency and Renewable Technologies (CEERT) is a partnership of major environmental groups and clean energy companies that has been working behind the scenes for 20 years to build the renewable energy economy in California and the West.

We carry out this work through a comprehensive set of advocacy programs.

Read about CEERT's 2010 work in the following pages:

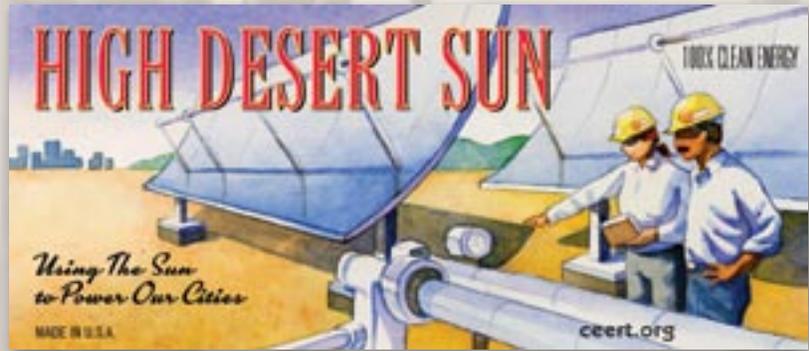
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Keep up-to-date on our work by visiting ceert.org.





The Desert Renewable Energy Conservation Plan planning area and renewable energy project sites.



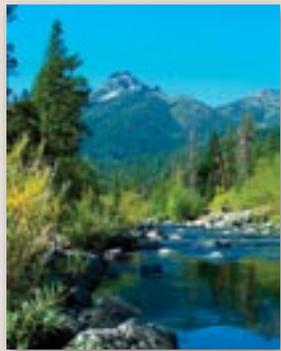
Big Solar Power

Throughout 2010, CEERT helped expedite the permitting process for solar thermal-electric and photovoltaic projects applying for federal ARRA (stimulus) financing. By year-end, the California Energy Commission approved eight Big Solar projects representing 3,528 MW of new capacity, and the Bureau of Land Management approved five projects representing 2,374 MW. These projects will provide experience and momentum for the additional large solar plants California will need to achieve its clean-energy and climate goals.

In 2010, CEERT:

- Helped resolve critical problems for individual shovel-ready Big Solar projects by encouraging early adoption of dry cooling technologies, enabling project developers to make coordinated wildlife habitat acquisitions, fostering the participation of independent labor unions, and helping overcome delays and inconsistent policies on transmission interconnection.
- Played a critical, behind-the-scenes role in the appointment of people in the Secretary of the Interior's office and the California Governor's office to coordinate timely permitting for shovel-ready solar projects. We acted as intermediary between project developers and the state/federal agency team, helped facilitate cooperative discussions between the Governor's office, utilities, and the California Independent System Operator, and helped resolve misunderstandings between developers, labor unions, and environmentalists.
- Worked to broaden support for the Desert Renewable Energy Conservation Plan (DRECP) through improvements in the planning process, including the addition of a timetable and milestones. The DRECP will guide long-term energy and conservation planning for 25 million acres of California desert. We co-chair DRECP's Mapping Working Group, and are helping to secure funding for necessary plant surveys that will allow the Plan's conservation framework to continue to progress.
- Met with industry and desert-protection advocates to identify permitting and planning reforms. Among the ideas we developed that show promise for broad agreement are: providing CEC funding to local governments for model ordinances and general-plan renewables elements; mapping disturbed agricultural lands that no longer have access to water and are thus suitable for solar development; and initiating a Central Valley habitat-conservation planning effort to enable faster approval of renewables projects.
- Submitted comments with the Large-Scale Solar Association to the Bureau of Land Management on its Solar Programmatic Environmental Impact Statement. Among the suggestions we made were to include additional Solar Energy Study Areas in the high-radiation West Mojave area, and to urge greater cooperation between BLM and state agencies.
- Continued our participation in the California Desert and Solar Working Group, which we worked with Michael Mantell to organize, and which is providing a forum for informal communication and building of relationships between environmental groups and solar developers to help resolve solar development conflicts and desert conservation and planning issues.





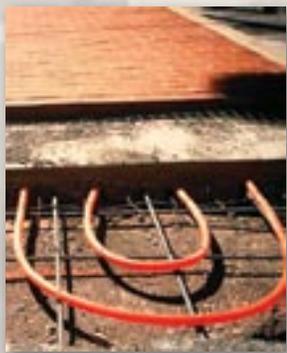
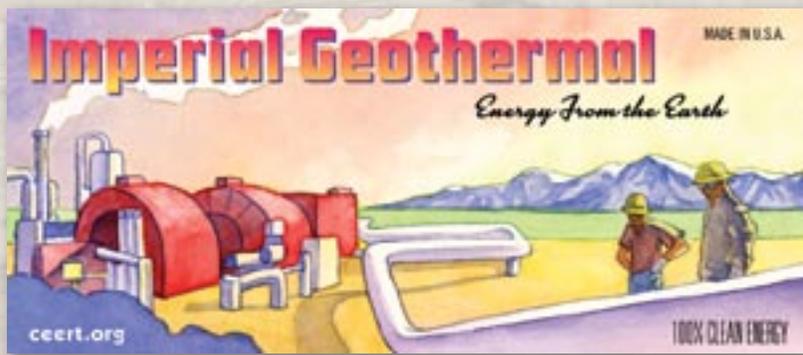
Wind Power

In recent years wind power projects have supplied 40% of all new capacity on the U.S. grid. The Department of Energy estimates that by 2030, wind turbines could deliver 20% of the country's electricity – which would enable wind companies to directly employ 150,000 workers and would support 100,000 more jobs in associated industries. But significant barriers still stand in the way of these goals, including limited transmission capacity and confusion about how to integrate wind's variable output onto the grid.

In 2010, CEERT:

- Worked with wind industry leaders on strategies for mitigating wind projects' potential impacts on golden eagles and California condors in the all-important Tehachapi region, an area that could ultimately add 4,500 MW of new wind power capacity. This major planned expansion could be severely delayed or restricted unless critical protection issues for these species are resolved. CEERT worked with the wind industry to understand the underlying biological issues and possible strategies for mitigation, and developed good relationships with key officials of the U.S. Fish and Wildlife Service and the California Department of Fish and Game.
- Arranged talks between wind companies and wildlife protection groups that will be crucial to overcoming conflicts and preventing an escalation of litigation that could block new wind development.
- Held discussions with local government planning officials in Kern County to encourage their support and participation in the Desert Renewable Energy Conservation Plan, identify creative approaches to wildlife-impact mitigation, and ensure recognition of both the wind industry's and local officials' concerns about the direction of state renewables planning.
- Submitted comments pointing out systemic biases within the California Independent System Operator's 20% model and 33% study that tend to overestimate the amount of resources required for system balance, reliability, and integration of wind power and other variable energy resources.
- Continued our work before the California Public Utilities Commission and the California Independent System Operator to ensure the cost-effective integration of variable wind and solar resources.



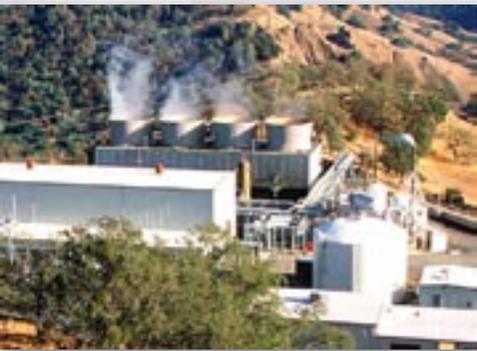


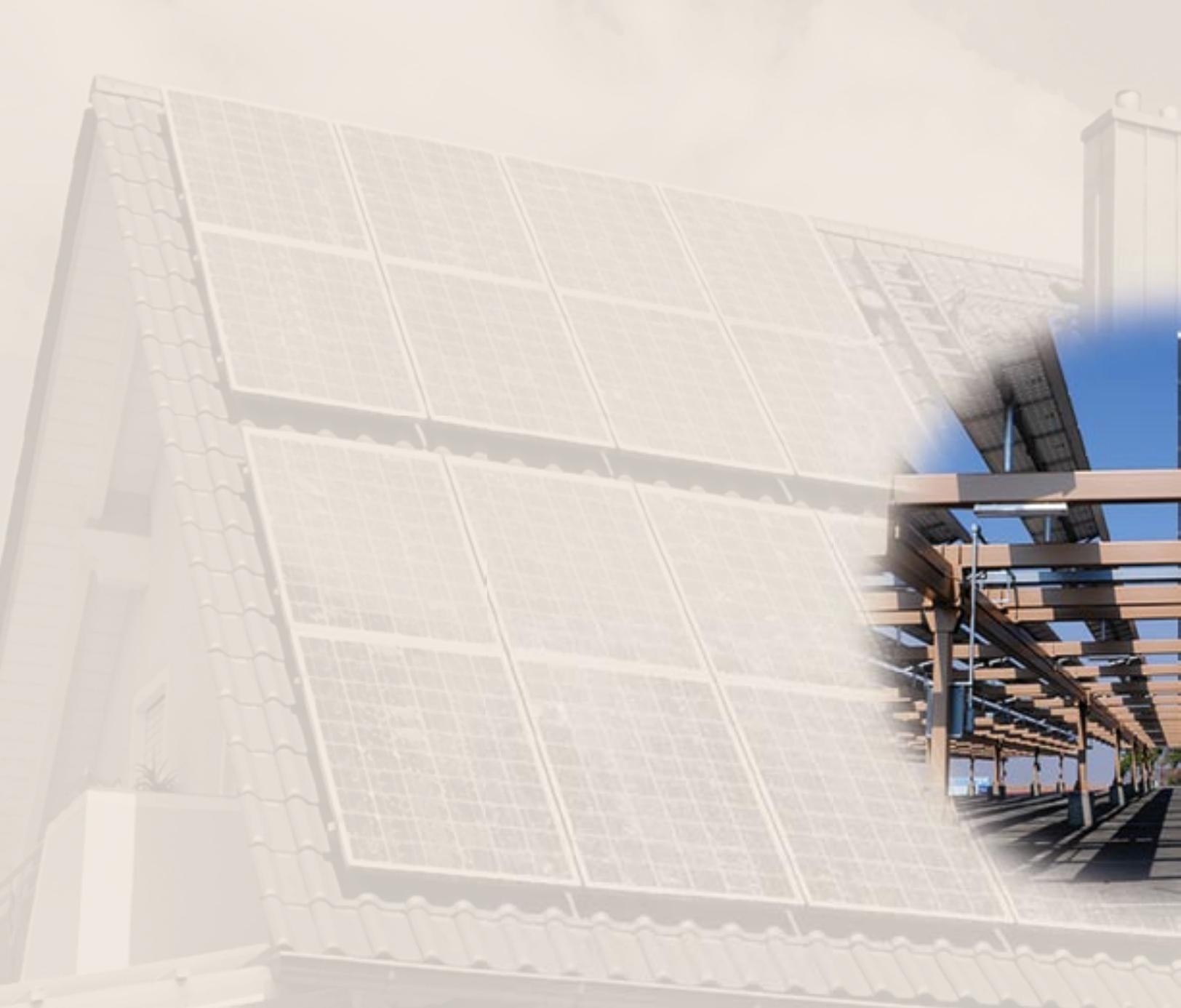
Geothermal Power

Some 3 million Americans use electricity from geothermal power plants in their homes, and another 3 million use geothermal heat pumps for heating and cooling. And according to a Western Governors Association study, development of the near-term 5,600 MW geothermal potential in the Western states would create almost 100,000 jobs. In California, geothermal production around the Imperial Valley's Salton Sea should ramp up considerably in the coming years as the Sunrise Powerlink transmission line begins operation.

In 2010, CEERT:

- Engaged with the Governor's office, the California Independent System Operator (CAISO), project developers, and the Imperial Irrigation District leadership to reduce the complexity and cost of geothermal plants securing transmission interconnections and upgrades.
- Advocated for decreasing or eliminating economic penalties that renewable generators in Imperial County face because they do not interconnect directly with the CAISO.
- Sought to include geothermal projects in permit-streamlining legislation and in wildlife-habitat management and planning efforts such as the DRECP.
- Continued discussions with the California Air Resources Board on the use of geothermal heat pumps for residential and commercial heating and cooling as a way to implement AB 32 and significantly reduce greenhouse gas emissions.





Tom Starrs, CEERT Board Member and Managing Director of Utility and Power Plants at SunPower Corporation, a leading photovoltaics developer, speaks at a Department of the Interior conference as Secretary of Agriculture Tom Vilsak, Secretary of the Interior Ken Salazar and Energy Secretary Stephen Chu look on.

A stationary fuel cell.

Distributed Generation: Photovoltaic and Fuel Cell Power

Distributed-generation technologies like solar photovoltaic (PV) systems and stationary fuel cells require no new transmission, have relatively fast licensing and construction times, and spark less environmentalist opposition than large plants. Smaller “infill” projects of 3 – 20 MW capacity have ample siting opportunities throughout the state. Stationary fuel cells emit almost no pollutants, and can be powered by methane from landfills and wastewater treatment plants. Prices of PV panels have declined 40% in the past two years, and a recent study concluded that 5,000 – 10,000 MW of new PV capacity could come online fairly quickly if grid constraints can be resolved.

In 2010, CEERT:

- Continued our support for an expanded value-based, fixed-price feed-in tariff (FIT) structure to provide market certainty and equality for distributed generation (DG) technologies.
- Urged corrections to the California Public Utilities Commission’s (CPUC’s) proposed Renewable Auction Mechanism (RAM) to ensure its consistency with other RPS-eligible resource procurement, advocated for RAM eligibility to be limited to a project (rather than a transaction) size of 20 MW, and gained a commitment from the Commission to implement Senate Bill 32, which requires an expanded FIT and prescribes its primary features. These positions were reflected in the ultimate CPUC decision approving the RAM.
- Filed comments in support of designating stand-alone energy storage systems as eligible for the CPUC’s Self-Generation Incentive Program (SGIP). CEERT also supported requests that SGIP-eligible technologies not just be greenhouse gas (GHG) emission-neutral, but rather make a positive contribution to reducing GHG emissions.
- Continued to work with industry, environmental groups, and regulators on using fuel cells to convert renewable methane from dairies and feed lots to near-zero-emission electricity. The Central Valley contains a potential 3,500 MW of new generating capacity from fuel cells powered by agricultural-waste biogas, and as much as an additional 1,000 MW from landfill gas. Part of the challenge is to aggregate gas collection from multiple small sites to make the economics viable.





CEERT Senior Advisor Anne Baker, Renewable Energy Advisor to the California Governor Michael Picker, Kim Delfino of Defenders of Wildlife, and Arthur Haubenstock of BrightSource Energy at a Department of the Interior Renewable Energy conference.



*Policy Director
Danielle Osborn Mills*



*Regulatory Counsel
Sara Steck Myers*

Regulatory Advocacy

CEERT's Regulatory Counsel Sara Steck Myers and Policy Director Danielle Osborn Mills appear before the California Public Utilities Commission (CPUC), the California Energy Commission (CEC), the California Air Resources Board (CARB), and other regulatory agencies to ensure that clean power is fairly priced, improve renewable energy procurement planning, and strengthen implementation of the state's Renewable Portfolio Standard (RPS).

In 2010, CEERT:

- Advocated for the long-overdue authorization of tradable renewable energy credits (TRECs) for RPS compliance, and urged the CPUC to recognize that its adopted definitions on TRECs and delivery were at odds with the law and the CEC's RPS eligibility rules. We continue to advocate strongly for a joint CPUC, CEC, and CARB hearing to achieve uniformity in these important rules, and thereby avoid confusion in the industry and foster certainty and reliability in RPS procurement.
- Submitted comments on the CPUC's proposed Long Term Renewable Resource Planning Standards, requested an additional workshop to discuss stakeholder questions about the Staff Report, and argued that the Staff Report could better account for the full health, environmental, and economic value of renewables.
- Filed comments on the renewable integration models that the CAISO and PG&E have proposed, expressing concern with limitations on how the CPUC was permitting parties to address these models and shortcomings in the models themselves, especially overestimations of system resources required to integrate renewables.
- Submitted briefs at the CPUC advocating for the lawfulness of the Commission establishing prices for feed-in tariffs, ensuring appropriate cost-recovery and need assumptions for transmission projects required to access renewable resources, and encouraging renewables transmission planning that integrates distributed generation, energy efficiency, and demand-side resources.
- Filed comments supporting our allies' objections to inappropriate curtailment contract language contained in Southern California Edison's (SCE's) 2010 RPS Procurement Plan, and asked that SCE's proposed amendment be rejected as discriminatory and as inappropriately distinguishing between "fully deliverable" and "energy-only" interconnected resources for purposes of RPS eligibility.
- Filed comments recommending that all customers have broad access to their consumption data to achieve the expected efficiencies of smart meter deployment, and urging the CPUC to implement SB 1476, which was enacted specifically to provide rules for smart-meter customers' privacy and data access.





Assembly Bill No. 32
CHAPTER 488
Division 25.5 (commencing with Section 48800, relating to air pollution.
Approved by Governor September 27, 2006. Filed in the Office of the Secretary of State September 27, 2006.

Climate Action

California's recently upheld Global Warming Solutions Act (AB 32) calls for reducing the state's greenhouse gas (GHG) emissions to 1990 levels by 2020. CEERT is working hard to help implement this groundbreaking law and advance clean-energy development. If California succeeds in getting 33% of its electricity needs from renewable sources by 2020, about half of that power could displace fossil-fired generation that does not capture and store GHG emissions.

In 2010, CEERT:

- Worked with the Western Climate Advocates Network to develop an expanded list of key regulatory policies that will be crucial in shaping regional climate efforts, especially in the absence of a near-term federal climate program. These policies include energy efficiency and renewable energy standards, emissions performance standards, development of renewable energy zones, transmission development in renewables-rich areas, and procurement loading orders that emphasize low- and zero-GHG generating and energy efficiency resources.
- Actively participated in Western Climate Initiative (WCI) Electricity Committee stakeholder meetings, focusing especially on the treatment of imported renewable electricity and the interaction between tradable renewable energy credits (TRECs) and allowances. In their July 2010 design recommendations for a regional cap-and-trade program, the WCI Partners reached agreement on TRECs and null power, which we believe accomplishes the goals of fair treatment of renewable generators and proper accounting.
- Focused on developing a symbiotic relationship between a new California cap-and-trade program and renewable energy markets. We worked to ensure that under a cap-and-trade program, no renewable energy developer is faced with a compliance obligation associated with null power, or power that is no longer associated with its TREC. We also pushed for inclusion of a set-aside for voluntary purchases of renewable energy in the proposed program. We are seeking more assurance that every utility will invest the full value of free allowances it receives in AB-32-related programs, including energy efficiency, renewable energy, and rebates to low-income customers.
- Worked hard throughout the year to enlarge cooperation and integrated planning among the state agencies responsible for implementing AB 32, including the CPUC, CARB, CEC, and CAISO. In particular, we helped foster greater interagency coordination on CARB's 33% Renewable Electricity Standard, and we helped improve language on TRECs prior to the standard's final adoption.
- Furthered discussions between the clean-energy industry and regulators such as CARB. While renewable developers do not usually weigh in on climate policy, CEERT has highlighted their interests and created policies that will ensure the clean-energy industry will help the state move forward with its climate goals.





RETI Coordinators Rich Ferguson (2007 – 2010) and Dave Olsen (2007 – 2009)

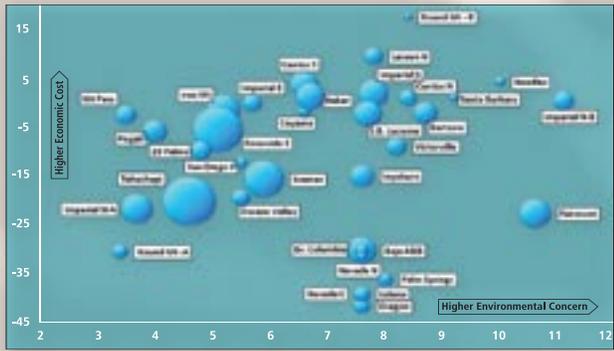


Chart summarizing RETI's economic and environmental assessment of California renewable-energy zones



RETI Phase 2A Final Report

Renewables Transmission

Through most of 2010, CEERT's Rich Ferguson supplied leadership and coordination for the Renewable Energy Transmission Initiative (RETI), a unique stakeholder collaborative that has helped plan new transmission lines to tap remote sources of clean power. RETI recently completed its activities after four years of focused work.

CEERT staff is leading a new, broad-based Renewable Energy Transmission Planning Collaborative that will provide linkages between the state planning processes now underway, and will identify consensus solutions to the challenges of accelerated renewable energy development.

In 2010, RETI:

- Released its draft Phase 2B report, which updated estimates of renewable development costs, with special consideration of the cost of importing renewable energy from other Western states.
- Worked closely with the California Transmission Planning Group (CTPG), which is performing detailed power-flow studies of renewable transmission needed to reach the state's 33% goal. CTPG studies examined a range of renewable development scenarios, some of which RETI supplied. CTPG also must consider scenarios in which fossil energy is removed from the system to accommodate increased renewable generation.
- Agreed to provide assistance to CTPG with modeling of out-of-state renewable generation and transmission development for its Phase 4 work. CTPG's Phase 3 Report was posted September 2, identifying several high-priority transmission upgrades needed to maintain reliability under multiple scenarios.
- Received one of seven national 2010 State Leadership in Clean Energy awards.



"RETI [has been] a successful venture that has led to improved understanding of environmental and project development issues, increased cooperation among interested parties, and cleared the path forward for California's renewable energy future . . . Not only has the RETI organization played an important role in current projects under development, but RETI's work products will continue to aid California in the future development of cost-effective, environmentally preferable renewable energy areas."

– 1/24/2011 letter from leaders of the CEC, CPUC, CAISO and public utility agencies



Low-Carbon Smart Grid: Renewables Integration

CEERT's Low-Carbon Smart Grid Program promotes the integration of renewable energy on the electric grid by working to influence relevant proceedings at the California Independent System Operator (CAISO), the California Public Utilities Commission (CPUC), and the California Energy Commission (CEC). We also seek to foster joint operating agreements between the CAISO and the state's municipal and investor-owned utilities, and promote coordination and consolidation of the Balancing Areas in our state and region as a low-cost means of integrating renewable power.

In 2010, CEERT:

- Engaged with the CAISO, developers, and trade groups to help resolve critical issues in the CAISO's modification of interconnection standards and revised tariff language. These issues include curtailment, equipment standards, and discriminatory practices. We also encouraged the CAISO to examine low-cost alternatives that will aid in renewables integration, such as real and virtual balancing area consolidation, shared balancing resources, and demand response.
- Urged the Federal Energy Regulatory Commission (FERC) to encourage sub-hourly transmission scheduling and economic dispatch in order to reduce renewables integration costs. We also urged FERC to review current market rules under which renewables face discriminatory practices compared with conventional generation.
- Reviewed and commented on the CAISO Transmission Planning Process's conclusion that enough transmission is being built or is in the permitting process to accommodate 33% renewable energy by 2020. Given this and a recent favorable 20% renewables CAISO study, CEERT is recommending a go-slow approach to procuring costly system integration measures in the near future. We have repeatedly argued for a careful reexamination of excessively conservative modeling that tends to overestimate the system resources needed for grid reliability and balance.
- Submitted comments to the CEC on its Integrated Energy Policy Report proceeding, emphasizing the value of considering low-cost renewable integration options, such as balancing area coordination and consolidation, sub-hourly scheduling, and improved energy efficiency and demand response.
- Monitored and sought to influence several other important grid-integration issues, including dynamic transfer, pseudo-ties, convergence bidding, forward-capacity markets, long-term procurement planning, grid storage, and renewable energy credits.





Clean Transportation

Air pollution, energy security, and climate change all underscore the urgent need to lessen our reliance on oil, and to deploy cleaner vehicles and fuels as quickly as possible. Vehicles account for almost 40% of greenhouse gas emissions in California, and 53% of Central Valley ozone. Top priorities for CEERT's Clean Transportation Program include accelerating the transition to low-carbon fuels and creating a viable charging infrastructure for electric vehicles.

In 2010, CEERT:

- Was instrumental in forming the Plug-in Electric Vehicle Collaborative (PEVC). The PEVC includes representatives of the utilities, car companies, charging equipment and services companies, regulatory agencies, consultants, researchers, and non-governmental organizations (NGOs). CEERT collaborated with PEVC staff to produce a strategic plan for electric vehicles in California that was released in December.
- Helped organize broad support for the Low Carbon Fuel Standard and its inclusion of direct and indirect land-use impacts in its profiles of all fuels. We helped secure backing for the LCFS from clean-energy companies, and from environmental justice organizations based in low-income communities. The LCFS is projected to save Californians as much as \$11 billion cumulatively between 2010 and 2020. CEERT's John Shears was appointed to the Advisory Panel that will review implementation of the LCFS program.
- Worked with CARB and vehicle manufacturers on the revisions to California's Zero Emission Vehicle (ZEV) regulations – a process linked with revisions to the Low Emission Vehicle (LEV III) and greenhouse gas (Pavley II/LEV III-GHG) regulations. CEERT is leading an ongoing effort to link the new ZEV regulations to expanded electrification of the fleet as a central goal for all the new passenger-vehicle standards.
- Took the role of technical lead on the LEV III criteria emissions for California's NGO community. We hosted numerous in-depth discussions with vehicle manufacturers' top engineers on the anticipated emissions performance of future vehicle technologies. We also worked to help resolve challenges facing the new California-compliant diesel cars and direct-injection gasoline engine technologies that vehicle manufacturers will need to employ to meet Pavley II/LEV III-GHG requirements in 2017 – 2025.
- Along with our allies, encouraged CARB to adopt a more stringent 1mg particulate-matter vehicle emissions target for 2025.
- Was an active intervenor in the CPUC's proceeding on Alternative Fueled Vehicle Tariffs, Infrastructure and Policies. We stressed that the key to maximizing environmental and grid benefits will be using tariff structures to shift electric vehicle charging to off-peak hours, and that such charging load management can result in increased integration of renewables and greater GHG reductions.
- Co-organized, co-sponsored and co-hosted the 2010 Advanced Automotive Technology Symposium with Audi, BMW, Daimler, Honda, Mazda, Mitsubishi, Volkswagen, Bosch, and the U.S. Coalition for Advanced Diesel Cars.

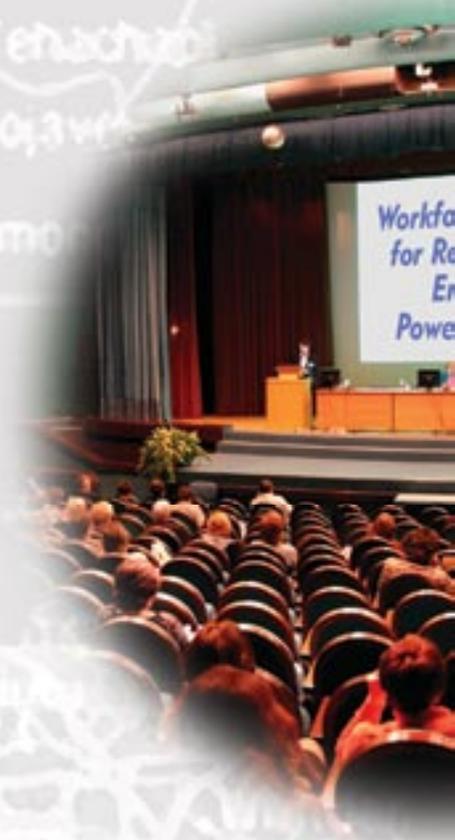


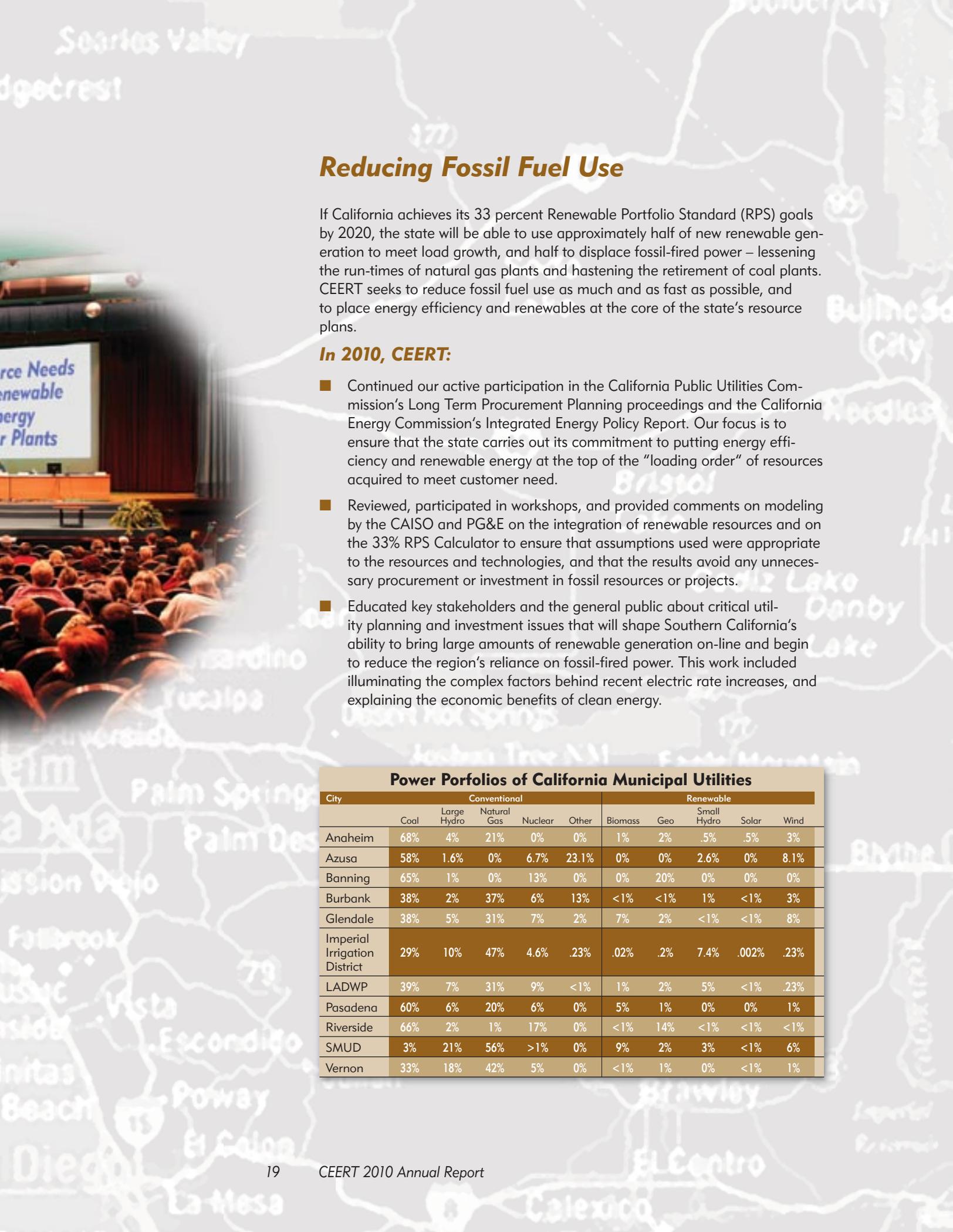
Southern California Activities

Los Angeles gets close to 40% of its power from out-of-state coal-fired generation. Many other Southern California cities rely on coal for most of their electricity, including Anaheim (68%), Riverside (68%), Banning (65%), Pasadena (60%), and Azusa (58%). CEERT's Southern California staff works to publicize the economic case for renewable energy in the region, and to help municipal utilities in the area wean themselves from polluting fossil fuels.

In 2010, CEERT:

- Researched, published, and distributed Workforce Needs for Renewable Energy Power Plants, a survey of construction and operations jobs for 14 major renewable energy projects proposed for Southern California. The case studies include geothermal, wind, parabolic trough, power tower, and photovoltaic power plants. Unlike most jobs reports that are based on computer modeling, CEERT obtained the information in the survey directly from project developers, or from public filings at permitting agencies.
- Presented findings of our jobs report by invitation at venues around the state, including the CPUC, CalEPA, the California Community Colleges Vocational Workforce Training Association, the California Apprenticeship Training Standards Board, and the California Labor and Workforce Investment Boards. In the surveyed counties, unemployment in the construction and utility sectors ranges from 15% to over 30%. Almost 200 representatives of the building trades unions attended the California Apprenticeship Training Standards Board meeting, and the presentation drew considerable interest.
- Worked with the California Secretary of Labor, the Governor's Office of Economic Development, and Senior Advisors to the Governor on Renewable Energy to learn about the supply-line needs and procurement practices of renewable developers in California. The project included a survey of developers' supply lines, meetings with developers and manufacturers on increasing new investments in the sector, and discussions on ways to help existing California companies participate in the renewables build-out. Discussions are ongoing between state officials and several companies as a result of this work.
- Educated marine protection groups and other stakeholders about the need for a flexible power system that can balance renewables during the period that California's 19 ocean-cooled power plants must be retrofitted to meet a new Once-Through-Cooling rule. We will continue to monitor the process, and to coordinate with environmental groups and other stakeholders to understand positions, find areas of agreement, and offer public comment as appropriate.





Reducing Fossil Fuel Use

If California achieves its 33 percent Renewable Portfolio Standard (RPS) goals by 2020, the state will be able to use approximately half of new renewable generation to meet load growth, and half to displace fossil-fired power – lessening the run-times of natural gas plants and hastening the retirement of coal plants. CEERT seeks to reduce fossil fuel use as much and as fast as possible, and to place energy efficiency and renewables at the core of the state’s resource plans.

In 2010, CEERT:

- Continued our active participation in the California Public Utilities Commission’s Long Term Procurement Planning proceedings and the California Energy Commission’s Integrated Energy Policy Report. Our focus is to ensure that the state carries out its commitment to putting energy efficiency and renewable energy at the top of the “loading order” of resources acquired to meet customer need.
- Reviewed, participated in workshops, and provided comments on modeling by the CAISO and PG&E on the integration of renewable resources and on the 33% RPS Calculator to ensure that assumptions used were appropriate to the resources and technologies, and that the results avoid any unnecessary procurement or investment in fossil resources or projects.
- Educated key stakeholders and the general public about critical utility planning and investment issues that will shape Southern California’s ability to bring large amounts of renewable generation on-line and begin to reduce the region’s reliance on fossil-fired power. This work included illuminating the complex factors behind recent electric rate increases, and explaining the economic benefits of clean energy.

Power Portfolios of California Municipal Utilities

City	Conventional					Renewable				
	Coal	Large Hydro	Natural Gas	Nuclear	Other	Biomass	Geo	Small Hydro	Solar	Wind
Anaheim	68%	4%	21%	0%	0%	1%	2%	.5%	.5%	3%
Azusa	58%	1.6%	0%	6.7%	23.1%	0%	0%	2.6%	0%	8.1%
Banning	65%	1%	0%	13%	0%	0%	20%	0%	0%	0%
Burbank	38%	2%	37%	6%	13%	<1%	<1%	1%	<1%	3%
Glendale	38%	5%	31%	7%	2%	7%	2%	<1%	<1%	8%
Imperial Irrigation District	29%	10%	47%	4.6%	.23%	.02%	.2%	7.4%	.002%	.23%
LADWP	39%	7%	31%	9%	<1%	1%	2%	5%	<1%	.23%
Pasadena	60%	6%	20%	6%	0%	5%	1%	0%	0%	1%
Riverside	66%	2%	1%	17%	0%	<1%	14%	<1%	<1%	<1%
SMUD	3%	21%	56%	>1%	0%	9%	2%	3%	<1%	6%
Vernon	33%	18%	42%	5%	0%	<1%	1%	0%	<1%	1%



*Dave Olsen
Managing Director
Western Grid Group*



Pacific DC Intertie transmission line and the Sierra Nevada

Western Grid Group

The Western Grid Group (WGG) works to expand access for low-carbon resources state by state across the Western region. Formed in 2003, WGG now operates as a fiscally sponsored project of CEERT. WGG principals include CEERT Board member Dave Olsen and former commissioners and chairmen of the public utility commissions in Colorado, Montana, New Mexico, Nevada, Oregon and Utah.

In 2010, WGG:

- Continued to host and direct the Western Clean Energy Advocates (WCEA) coalition, which is enabling a broader set of constituencies to participate in the Western Interconnection planning process. WCEA membership grew to more than twenty-four groups representing environmental advocates, clean energy businesses, energy officials, and consumer and clean energy advocates.
- Spearheaded WCEA coalition progress on its Clean Energy Vision report, which demonstrates how the West can meet electricity demand while reducing carbon emissions 80% below 1990 levels by 2050. The report is set for release in summer of 2011 with a major media rollout, and WCEA members will use it to advocate for clean energy policies throughout the West.
- Led wind, solar, and geothermal generator and environmental group participation in regional transmission expansion planning at the Western Electricity Coordinating Council (WECC). WGG successfully nominated its members and associates to key WECC committees, and worked with planners to increase the amount of energy efficiency and renewable energy assumed for proposed transmission projects in the Southwest, the Mountain West, the Pacific Northwest, and California.
- Developed a model for the WECC transmission planning process that identified coal plant retirements in the West in order of economic merit, and a portfolio case that demonstrated how such retirements could free transmission capacity for integrating new renewable energy resources.
- Submitted detailed comments for Federal Energy Regulatory Commission rulemakings on integration of variable energy resources and transmission planning and cost allocation; engaged in several key processes at the California Independent System Operator; and participated in the Wind Integration Study Team effort led by Columbia Grid.
- Provided essential technical support for the efforts of the Western Governors' Association, Western Interstate Energy Board, and Committee on Regional Electric Power Cooperation to make better use of existing grids and forecasting.
- Developed a package of regulatory incentives that could support utilities' transition away from fossil fuels, and began a dialogue with the CEOs of several major western utilities about moving their businesses from commodity kilowatt-hour sales to delivery of energy services.



Proposed Projects Map

***The September 14, 2010
Clean Power Champion Awards Ceremony***



Clean Power Champions 2010

At our seventh annual Clean Power Champion Awards Ceremony on September 14, 2010, CEERT honored Hap Boyd, Ray Dracker, and Carl Zichella for their extraordinary contributions to the fight for clean energy.



Robert T. "Hap" Boyd

Co-Founding Board Member
and Former Chairman of the Board, CEERT
Board Member of The Wind Coalition, Wind on the Wires
and Interwest Energy Alliance
Manager of U.S. Government Relations,
GE Energy Renewables Segment

From the capitol halls of Sacramento, Springfield, Albany, and Austin, to the corridors of power in Washington, DC, Hap has been the smiling face of the wind industry. Through setbacks and triumphs, large and small, Hap's steady hand, patient cheerfulness, and ready smile made him, and the wind industry, many friends. He is an unsung but much beloved senior statesman of the wind industry, and a true clean power champion.



Raymond J. Dracker (1955 – 2010)

Director of Operations and Technology Transfer,
National Renewable Energy Laboratory
Technical Director,
Center for Resource Solutions
Senior Vice President of Project Development,
Solar Millennium

Ray's passion and infectious enthusiasm for advancing renewable energy, and his extraordinary talent, made him one of the wise men of his time. His quiet brilliance and gift of friendship created a deep well of appreciation and respect among his colleagues. He helped keep the dream alive, and was one of the architects of California's solar revival. Ray's extraordinary contributions will live on in the projects he helped realize. He will always be remembered as a clean power champion.



Carl A. Zichella

Director of Western U.S. Renewable Energy Projects,
Sierra Club
Environmental Representative,
Renewable Energy Transmission Initiative
Director of Western Transmission,
Natural Resources Defense Council

For more than three decades, Carl has worked his heart out to protect the planet and improve the lives of its people. His strength of purpose, his integrity, and his generous spirit helped guide and sustain the Sierra Club, its leaders, and its volunteers. His passion for renewable energy, his love of the land, and his faith in people working together, animated and sustained the Renewable Energy Transmission Initiative. He cared enough to make a difference, and had the courage to lead. He is a true clean power champion.

CEERT Financial Statements

CEERT Balance Sheet December 31, 2010

Assets

Current Assets	\$ 1,689,060	
Fixed Assets	\$ 26,314	
Other Assets	\$ 10,496	
Total Assets	\$ 1,725,870	100.00%

Liabilities & Equity

Current Liabilities	\$ 170,574	
Restricted Net Assets	\$ 1,384,230	
Fund Balance	\$ 171,066	
Total Liabilities & Equity	\$ 1,725,870	100.00%

CEERT Expenses by Program

Direct Programs

Renewable Energy Advocacy	\$ 423,289	18.23%
CPUK RPS Intervention	\$ 110,373	4.75%
Big Solar/CSP Planning	\$ 425,738	18.33%
Renewable Transmission (RETI)	\$ 229,534	9.88%
Low Carbon Grid Integration	\$ 218,121	9.39%
Climate/AB32 Advocacy	\$ 212,045	9.13%
Cleaner Transportation & Alternative Fuels	\$ 116,639	5.02%
Total CEERT Direct Program Expenses	\$ 1,735,739	74.74%

Sponsored Projects

Western Grid Group	\$ 567,579	24.44%
Latino Environmental Advancement	\$ 19,031	0.82%
Total Sponsored Project Expenses	\$ 586,610	25.26%

Total Program Expenses \$ 2,322,349 100.00%

CEERT Program & Administrative Expenses

Program Expenses	\$ 2,322,349	77.39%
Administrative & Fundraising	\$ 678,654	22.61%
Total Organizational Expenses	\$ 3,001,003	100.00%

CEERT Board Retreat Riverside, California, November 3-5, 2010

The 2010 CEERT Board Retreat brought together more than 50 CEERT Board members, affiliate representatives, and staff members to discuss recent progress, lessons learned, and prospects for the coming period.



A working session.



CEERT Board members, affiliate representatives, and staff members.

Board of Directors

Jonathan Weisgall, Chairman
MidAmerican Energy
Holdings Company

Ralph Cavanagh, Vice Chairman
Natural Resources Defense Council

Eric Miller, Secretary
Trilliant, Inc.

Darren Bouton
First Solar, Inc.

Robert "Hap" Boyd
GE Wind Energy

James Caldwell, Jr.
Solar Millennium

Jeff Cox
FuelCell Energy, Inc.

Diane Fellman
NRG Energy

Rich Ferguson
At Large

Julie Gill
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Anders Glader
Element Power

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Executive Assistant

Fran Prisco
Assistant Controller

Heather Taylor
Operations Assistant

Kimber West
Administrative Assistant

Dina Cervantes
Program Assistant



CEERT Board of Directors: (seated)
Bonnie Holmes-Gen, Diane Fellman, Ralph
Cavanagh, Roby Roberts, Carl Zichella, Jim
Caldwell; (standing) Matt Handel, Jan Mc-
Farland, Rich Ferguson, Laura Wisland, Jim
Walker, Darren Bouton, Dave Olsen, Rachel
Shimshak, Jeff Cox, Jonathan Weisgall,
V. John White

Affiliates

AES Seawest
American Wind Energy Association
Bergey Windpower Company
Bonneville Power Administration
BrightSource Energy, Inc.
California Center for Sustainable Energy
California Solar Energy Industries Association
Element Power
EnerNOC, Inc.
Environmental Defense Fund
EnXco
First Solar, Inc.
FuelCell Energy, Inc.
GE Wind Energy
Horizon Wind Energy LLC (EDP)
Iberdrola Renewables
Ice Energy

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Los Angeles Department of Water and Power
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Renewable Northwest Project
Sacramento Municipal Utility District
Solar Millennium LLC
SunPower Corporation
Terra-Gen Power
3Degrees, Inc.
Trilliant, Inc.
Union of Concerned Scientists
Vestas Wind Systems

Funders

Energy Foundation
Richard and Rhoda Goldman Fund
William and Flora Hewlett Foundation
Hexberg Family Foundation
Western Clean Energy Campaign



CEERT Staff: (seated) Rhonda Mills, Fran Prisco, Marilyn Hawes, Heather Taylor, Ryan Drobek, Alexandria Shahabian; (standing) Dina Cervantes, Anne Baker, John Shahabian, Danielle Osborn Mills, Rich Ferguson, V. John White, David Miller, John Shears, Sara Steck Myers, Merrisa Walker, Peter Stern, Kimber West



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Renewable Technologies**

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