CENTER FOR ENERGY EFFICIENCY AND RENEWABLE TECHNOLOGIES
CEERT POLICY UPDATE, JANUARY 2011: THE PAST FOUR MONTHS AT A GLANCE:

Big Solar Permitting and Planning
By year-end, the California Energy Commission (CEC) approved eight Big Solar projects representing 3,528 MW of capacity, and the federal Bureau of Land Management (BLM) approved five projects totaling 2,374 MW. CEERT played a critical, behind-the-scenes role in expediting these project approvals. For 2011, nine more projects with 3,705 MW of capacity are eligible for ARRA financing.

The incoming Brown Administration sent a welcome signal that it recognized the need to continue the high-level push from the Governor's office to expedite renewable projects by retaining Michael Picker and Manal Yamout in their key roles as Special Advisors to the Governor. Picker and Yamout have accumulated a deep understanding of the state permitting process, the unique sitting paradigm in the Mojave desert, and they will provide essential continuity throughout the critical transition from one administration to the next.

CEERT's Anne Baker is Co-Chair of the Desert Renewable Energy Conservation Plan (DRECP) Mapping Workgroup. We are working to expedite planning for the plant surveys to be carried out in the spring.

CEERT, the Nature Conservancy, and the Governor's office have started meeting with local government officials to find ways to improve the siting of local renewable projects.

Advocacy at the CPUC (California Public Utilities Commission)
The CPUC finally issued a decision authorizing the use of tradable renewable energy credits (TRECs) for compliance with the state's Renewable Portfolio Standard (RPS). CEERT continued to urge the CPUC to recognize that its definitions on TRECs and delivery are at odds with CEC RPS eligibility rules, and we continued to ask the CPUC to work with the CEC and the California Air Resources Board (CARB) to adopt uniform rules.

CEERT asked for corrections to the proposed Renewable Auction Mechanism (RAM) that would make it consistent with the RPS law and Senate Bill 32. In December the CPUC published a significantly revised Proposed Decision adopting a RAM corrected to reflect the input of CEERT and other parties.

We expressed concern about shortcomings in the California Independent System Operator's (CAISO's) and PG&E's integration models used in the Long-Term Procurement Planning (LTPP) proceeding, especially overestimations of system resources required to integrate renewables.

CEERT filed comments on Smart Grid data access and privacy, urging that all customers have broad access to their consumption data to achieve the expected efficiencies of smart meter deployment.

We supported requests to designate stand-alone energy storage systems as currently eligible for the CPUC's Self-Generation Incentive Program.

Climate Advocacy
CEERT views as a positive step CARB's resolution to open a new rulemaking on harmonization of TRECs policies between the 20% RPS and 33% Renewable Energy Standard (RES).

In CARB's recently adopted Cap-and-Trade Program, CEERT is seeking more assurance that each utility will invest the full value of free allowances it receives in AB-32-related programs.

Renewable Energy Transmission Initiative (RETI)
In light of the withdrawal of PIER funding support and the state budget problems, the RETI Coordinating Committee recently decided it had no choice but to put further RETI activities on hold. The committee appreciates RETI's accomplishments, but believes the momentum underway at various agencies will be sufficient for further assessment of, and decisions on, renewables transmission.

CEERT believes that, while the formal RETI process is now dormant, broad stakeholder involvement and agency coordination remain critical to sustaining the current momentum for successful project completion, and that renewables transmission planning goals need to be steadily reviewed and updated. CEERT staff will continue to participate in agency processes, and to help ensure that key renewables transmission projects are realized and that future transmission needs do not become roadblocks to renewables development.

Low-Carbon Grid and Renewables Integration
The Federal Energy Regulatory Commission (FERC) accepted the CAISO's Generator Interconnection Proposal, which may solve the excessively long waiting periods for interconnection that currently inhibit planning for renewables integration onto the system.

The CAISO's Transmission Planning Process concluded that enough transmission is being built or in the pipeline to reach 33% renewable energy by 2020. Given that and a favorable 20% renewables study, CEERT will recommend a go-slow approach to procuring of costly system integration measures. We commented that such studies can overestimate the resources needed for system balance and reliability.

CEERT is following a CAISO initiative that would force variable energy resources to become more dispatchable by limiting their amount of allowed self-scheduling.

We 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, and improved energy efficiency and demand response.

Southern California Activities
CEERT will monitor and work to influence the State Water Resource Control Board's implementation of its new Once-Through-Cooling policy that will strongly affect the state's 19 ocean-cooled power plants.

CEERT has been presenting our survey of job creation at 16 proposed renewables plants to state agencies, community colleges, training programs, and labor groups. We also began work on a renewables supply-line manufacturing study.

Transportation Advocacy
CEERT collaborated with the Plug-in Electric Vehicle Collaborative to produce a strategic plan for EVs in California. We helped draft language on using renewable energy for electric transportation.

CEERT launched NGO discussions with German auto manufacturers on a 1mg/mile limit on particulate matter. CEERT and NRDC are leading discussions on CARB instituting a GHG metric for black carbon.

We are working to ensure that the LEV III – GHG standards expand vehicle electrification as an enabler for the entire fleet to eventually migrate toward pure ZEV technologies.

CEERT argued against the oil industry's request that CARB delay making 2011 a compliance year for the carbon content of crude oil imported into California, and advocated that CARB continue to send a clear, consistent signal to the industry and the investment community about advancing low-carbon fuels.

CEERT's John Shears was appointed to the Advisory Panel that will review implementation of the Low-Carbon Fuel Standard program.

Big Solar Permitting and Planning

Project Development

Throughout 2010, CEERT helped expand coordination among state and federal agencies to hasten the permitting process for large-scale projects applying for federal ARRA (stimulus) financing.

By year-end, the CEC approved eight Big Solar projects representing 3,528 MW of new capacity, and BLM approved five projects representing 2,374 MW. The La Cuna de Aztlan Sacred Sites Protection Circle Advisory Committee, Californians for Renewable Energy, and five individuals have filed suit to halt six of these projects: Ivanpah, Calico, Genesis, Blythe, Lucerne Valley, and Imperial Valley.

For 2011, nine more projects are sufficiently far along in the process to be eligible for ARRA monetized credits. These projects would contribute an additional 3,705 MW of generating capacity. ARRA cash grants have been extended through 2011, and loan guarantees through 2012.

The ARRA projects cover a wide range of siting strategies, business models, and technologies, and will provide experience and momentum for the additional projects California will need to achieve its RPS and AB 32 goals.

CEERT played a critical, behind-the-scenes role in expediting renewable project approvals, and met regularly with Steve Black at the U.S. Department of Interior and with Michael Picker and Manal Yamout, special advisors to Governor Schwarzenegger. Michael and Manal will keep their positions in the Governor's office through the transition to the Brown administration. This is a very positive signal of a continued commitment to ushering renewable projects through the state permitting process.

Some of the key developments that CEERT helped broker over the past year were: encouraging solar thermal projects' early adoption of dry cooling technologies, providing for project developers' coordinated wildlife habitat acquisitions, encouraging the participation and engagement of independent labor unions, and helping overcome delays and inconsistent policies on transmission interconnection.

In December the CEC adopted Best Management Practices for renewable energy project development.

BLM released its Solar PEIS on December 17. CEERT plans to file comments by the March 17 due date.

The Desert Renewable Energy Conservation Plan (DRECP)

CEERT's Anne Baker is Co-Chair of the Mapping Workgroup. We are working to secure funding for necessary plant surveys to be carried out in the spring, which will allow the mapping for the conservation framework to continue to progress along with other parts of the conservation plan. Approximately $1 million is needed to make a maximum number of qualified staff available.

The recent stakeholder meeting on January 12 – 13 sought to clarify what each stakeholder segment's priorities are for the DRECP. Discussions also focused on project guidelines to be used during the DRECP's development, which activities and species will be covered by the Plan, and the outline of a conservation framework.

Working with Stakeholders
CEERT staff continues to reach out to various stakeholders in the ongoing Big Solar discussion. CEERT, the Nature Conservancy, and the Governor's office have started meeting with local government officials to find ways to improve the siting of local renewable projects that are not under the jurisdiction of the CEC. Review of possible projects indicates local governments will approve a large number this year.

CEERT continues to participate in the California Desert and Renewable Energy Working Group, which is encouraging environmental organizations and solar and wind developers to work together to resolve renewables development issues in the desert. The group recently sent a letter to the Department of the Interior (DOI) outlining improvements for the project review process on BLM land.

In February DOI will be hosting a Lessons Learned Conference in Washington, D.C. CEERT is involved in the conference planning, and John White has been invited to be a major presenter.

Advocacy at the CPUC
Renewable Portfolio Standard (RPS) Program Implementation
1. *Tradable Renewable Energy Credits (TRECs) for RPS Compliance*

In the last quarter of 2010, the CPUC continued to struggle to resolve whether and how TRECs should be authorized for RPS compliance by investor-owned utilities (IOUs) and energy service providers.

In late September, CEERT filed comments on a Proposed Decision (PD) issued in late August lifting the moratorium on D.10-03-021, which had authorized REC transactions, but limited and redefined them. The PD, although maintaining the definitions of REC-only transactions adopted in D.10-03-021, raised that decision's "temporary" limit on the use of TRECs for IOUs to 40% of their RPS annual procurement targets, and grandfathered previous approval of RPS contracts as bundled, even if by the terms of the PD those contracts would be considered RECs procurement.

In our September 27 comments, CEERT supported the long-awaited authorization of TRECs, but once again urged the CPUC to recognize that its adopted definitions on RECs and delivery were at odds with the law and the CEC's RPS eligibility rules. CEERT asked that the CPUC work with the CEC and CARB to adopt uniform rules on both RECs and delivery to avoid confusion in the industry to the detriment of the RPS Program.

This PD was never issued by the CPUC, but instead was the subject of a significant revision to reduce TRECs use from 40% to 30% and to extend the sunset date on TRECs price and usage limits for two years. However, in late October, Commissioner Grueneich issued an Alternate PD that reinstated D.10-03-021 as originally written, including limiting TRECs usage to 25%, subjecting contracts previously approved as bundled to the TREC limit if their terms met the definition of REC-only contracts, and eliminating any sunset date on the limitations, indicating that an Energy Division study or legislation would inform the CPUC whether those limitations should be changed.

On November 15, CEERT filed comments indicating that the changes the Alternate PD adopted only exacerbated the errors of the PD, and would still not resolve the core deficiencies of D.10-03-021 related to its definitions of what constitutes a "REC-only" transaction. As a result, the Alternate PD, if adopted, would only continue to create conflict and confusion between CPUC, CEC, and CARB RPS rules.

After repeated "holds" on both the Peevey PD and the Grueneich Alternate PD through year-end, a fifth revision of the PD was published on January 9, followed by a "non-substantive" sixth revision that was in fact voted out by the three Commissioners attending the January 13 CPUC meeting.

This decision incorporates aspects of the Peevey Revised PD and the Alternate PD by placing a 25% limit on REC usage and a $50 cap on REC pricing, but maintaining both limits as temporary, with a sunset date of December 31, 2013.

The definitions of what constitute "REC only" and "Bundled Transactions" have not changed, but the Commissioners made a commitment to examine whether "firm transmission" might be included within the definition of "Bundled Transaction," following an Energy Division examination of that issue. In addition, contracts that were approved as bundled before March 11, 2010, even though they would now be considered "REC-only" after the issuance of this decision, remain categorized as bundled. Only if one of two possible modifications to these contracts are made (the delivery is extended or the contract deliveries are increased) will the "incremental change" be considered REC-only.

Commissioner Ryan made clear that these limits and rules apply only to a 20% RPS, and change would be needed, and likely required in any legislation, if a 33% RPS is authorized.

As stated above, this newly issued PD still does not resolve the conflicts between the CPUC and CEC, particularly on delivery eligibility rules. Nor does it address or resolve the multiple applications for rehearing of D.10-03-021, including one CEERT filed challenging the legality of D.10-03-021, the grounds for which are unchanged by the issuance of the PD. CEERT will continue to advocate for a joint hearing by the CPUC, CEC, and CARB to achieve uniformity in these important rules.

2. 2010 RPS Procurement Plans

The CPUC has not issued a decision on the IOUs' 2010 RPS Procurement Plans filed a year ago in the R.08-08-009 rulemaking. As a result, there was no resolution adopting a "market price referent" for 2010 at the end of the year. The current MPR remains that adopted in 2009 in Resolution E-4298, which can be found at http://docs.cpuc.ca.gov/word_pdf/FINAL_RESOLUTION/111386.pdf .

However, CEERT continued our support of CalWEA/IEP's challenge to inappropriate curtailment language in SCE's amended RPS procurement plan/contract. We filed reply comments in late September asking that SCE's proposed amendment, which would exclude otherwise RPS eligible energy-only resources from consideration in the RPS context, be rejected as discriminatory and in conflict with the RPS eligibility rules. SCE's proposed change would require that "[g]oing forward, all Commission-jurisdictional entities should require that their resources be connected via fully deliverable arrangements." Such a requirement would have the effect of inappropriately distinguishing between "fully deliverable" and "energy-only" interconnected resources for purposes of RPS eligibility.

3. Renewable Auction Mechanism

In late August, the CPUC issued a Proposed Decision adopting a Renewable Auction Mechanism (RAM) for RPS Compliance in the R.08-08-009 RPS Rulemaking. The RAM ostensibly arose from workshops, comments, and staff white papers or proposals aimed at expanding the CPUC's current feed-in tariff (FIT). The RAM that the PD proposed, however, was not a FIT at all, but rather a mechanism for the IOUs to hold special auctions for renewable transactions up to 20 MWs. By its terms, the PD was also not offered as implementation of Senate Bill 32, which was a legislative prescription for expanding the CPUC's RPS FIT. In fact, the PD did not commit to any specific date for implementation of that law.

In our comments on the PD filed in late September, CEERT supported the immediate implementation of SB 32, and asked for corrections to the proposed RAM that would make it consistent with the RPS law and SB 32. CEERT was particularly concerned with the RAM's proposed "transactional," as opposed to "project," size limit, which would not foster increased system-side distributed generation projects, and a novel price mechanism at odds with the RPS program law and its implementation to date.

The PD appeared on the CPUC's meeting agendas throughout the fall, but it was never voted on and its text was never changed. However, on December 16, the CPUC published a significantly revised PD adopting a RAM corrected to reflect the input of CEERT and many other parties.

While the PD still defers implementation of SB 32, it makes clear that the RAM is not a FIT or an expansion of the current FIT, and it revises the RAM to bring it into compliance with the RPS Program law to date, including eliminating the previously proposed novel price structure. The PD also clarifies that the RAM is to target viable renewable distributed generation that can interconnect quickly, including changing its eligibility limit to a project (not transaction) size of 20MW. This much-revised Decision 10-12-048 was signed out on December 16 and can be found at:
http://docs.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/128432.pdf .

4. *Feed-In Tariffs (FITs)*

As noted above, the CPUC still has taken no action to expand its current FIT, and has not provided any timetable for implementing SB 32. CEERT remains committed to working with the CPUC, its staff, and other parties to ensure that this implementation is not delayed further. Of particular significance, the Federal Energy Regulatory Commission issued an important order (133 FERC ¶61,059) providing support for state FITs, including pricing that could include a value for RECs as an adder to the avoided-cost benchmark and a recognition of the propriety of reflecting environmental costs in that benchmark.

Long-Term Procurement Plan Proceeding

1. *Renewables Integration Modeling*

Through the fall, the CPUC staff continued to seek comments on renewable integration models that the CAISO and PG&E have proposed. Both models are designed to examine operational requirements and market impacts under a 33% renewables penetration, and under a selection of other scenarios (six in all).

CEERT participated in workshops on this topic, and filed comments in late September and late November on these models and questions resulting from the workshops. In our comments, CEERT expressed 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. The CPUC has requested a further round of comments in January.

2. *LTPP Scoping Memo, Prehearing Conference, and Next Steps*

In December the CPUC finally issued the long-awaited and -delayed Scoping Memo for its LTPP rulemaking (R.10-05-006). However, the Scoping Memo failed to resolve confusion about how the multiple tracks to be used in the rulemaking for addressing procurement policies and plans are to work together, and that confusion spilled over into the first Prehearing Conference held after many months, and with a new ALJ, on December 20.

The result has been a halt in the planned schedule for the IOUs to file their procurement plans or submit planning scenarios, and parties are awaiting a further ruling or Scoping Memo by the ALJ to address how the planning policies being considered in Track I (33% RPS procurement and renewables integration) will factor, if at all, in the "bundled" procurement plans the IOUs are to file in 2011.

Smart Grid Rulemaking

During the fall, the CPUC continued its work on issues that will impact the Smart Grid deployment plans the IOUs will file later this year. These issues include metrics for tracking the deployment of smart-grid equipment, investments, and improvements in operational and environmental performance, interoperability standards, and data access and security.

In response to an Assigned Commissioner's Ruling, CEERT filed Reply Comments in early November on questions about Smart Grid data access and privacy. In our comments, we supported the many parties urging that all customers have broad access to their consumption data to achieve the expected efficiencies of smart meter deployment. CEERT also urged the CPUC to implement SB 1476, which was enacted specifically to address, and provide rules for, smart-meter customers' privacy and data access. No CPUC Proposed Decision has been issued yet on these issues, including a separate CPUC inquiry into its jurisdiction to regulate third parties that customers authorize to have access to their data.

Self-Generation Incentive Program (SGIP) and Energy Storage Rulemaking
In the fall, the CPUC began considering modifications to its Self-Generation Incentive Program (SGIP) (R.10-05-004). In early December, CEERT filed Reply Comments in support of requests by the California Energy Storage Alliance and Ice Energy to designate stand-alone energy storage systems as SGIP-eligible now, and not delay that decision to an uncertain future evaluation of permanent load-shifting pilot programs or issuance of an energy storage rulemaking. CEERT also supported the request by certain IOUs, FuelCell Energy, and Bloom Energy that SGIP-eligible technologies not just be GHG emission-neutral, but rather make a positive contribution to reducing GHG emissions. No Proposed Decision has been issued on this topic.

However, on December 16, the CPUC did issue its Order Instituting Rulemaking 10-12-007, aimed at considering the adoption of procurement targets for viable and cost-effective energy storage systems, as required by Assembly Bill 2514. The rulemaking can be found at:
http://docs.cpuc.ca.gov/PUBLISHED/FINAL_DECISION/128658.htm .

Climate Advocacy

33% Renewable Electricity Standard (RES)
The California Air Resources Board (CARB) adopted the 33% Renewable Energy Standard on September 23. The adoption of the regulation included a resolution that committed CARB to opening a new rulemaking on tradable renewable energy credits (TRECs) within 30 days of the CPUC issuing its final decision on the use of TRECs for compliance with the 20% RPS. We expect to see this rulemaking begin in the coming month.

Through written comments and informal conversations with CARB staff in the days before the Board hearing, CEERT expressed disappointment in the level of interagency coordination on TRECs and out-of-state electricity deliveries, and warned that CARB's proposed regulation, which would allow 100% unbundled RECs to count for compliance, would have exacerbated the sustained confusion about these issues. We noted that such a policy would ignore the benefits of developing renewable facilities in California, such as reduced criteria pollutants, job creation and economic growth, reduced fossil fuel price volatility, and energy diversity and independence. Therefore, we view as a positive step CARB's resolution to open a new rulemaking on harmonization of TRECs policies between the 20% RPS and 33% RES.

CARB also committed to working with utilities and other interested parties to clarify aspects of the enforcement language, and is adding detail on the assessment of penalties and the use of TRECs generated prior to 2010. CEERT's Danielle Osborn Mills has participated in both of the informal workgroup meetings on these topics.

California Cap-and-Trade
On December 16 the CARB Board adopted a Regulation to Implement a California Cap-and-Trade Program by a vote of 9-1, with Dr. Telles as the sole dissenter.

CEERT signed on to a number of letters drafted by the Global Warming Action Coalition (GWAC), and Danielle Osborn Mills provided testimony at the Board meeting, covering the following key points:

- CEERT has a number of concerns that need to be addressed before we can fully support a California Cap-and-Trade program.
- This is a complex program with a lot of missing detail, and CARB should proceed with caution.
- CEERT is 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. CARB should also provide specific, uniform reporting requirements and guaranteed oversight for all utilities receiving these free allowances.
- CEERT has concerns about the exclusion of biomass and biofuels emissions under the cap.
- CEERT supports the placeholder language for a set-aside of allowances on behalf of voluntary purchases of renewable energy.

CARB staff did propose "that the Board directs the Executive Officer to work with the CPUC and POUs to ensure that the proposed allowance value directed to the electric distribution utilities is used for the benefit of residential, commercial, and industrial ratepayers that might otherwise face indirect costs from implementation of this regulation, and for the purposes of AB 32." However, CEERT is seeking more detail than this language provides, and is working with GWAC and CARB staff to find an opportunity to formally clarify this language.

Another outstanding issue is the treatment of TRECs and null power under a cap-and-trade program. CEERT plans to convene interested stakeholders and CARB staff who work on cap-and-trade and the 33% RES to discuss ways to ensure clean accounting within each program.

Western Climate Initiative and Implementation of AB 32

The Western Climate Initiative (WCI) Partners held a brief stakeholder meeting on November 17, and indicated a shifting focus toward complementary policies. They did not share any details about next steps for the Complementary Policies Committee, except to say they will be releasing a document in January that provides more direction to stakeholders. CEERT is waiting to see this document and continue discussions with the Western Climate Advocates Network and the WCI Partners.

The WCI Partners also indicated they are still working on the details of tracking power flows between states and jurisdictions, and sorting out issues related to the first jurisdictional deliverer and unbundled RECs. CEERT is reaching out to members of the WCI Electricity Subcommittee and other interested stakeholders to ensure proper accounting and fair treatment of renewable generators.

Renewable Energy Transmission Initiative (RETI)

In light of the withdrawal of PIER funding support and the state budget problems, the RETI Coordinating Committee recently decided to put further RETI activities on hold. RETI has been active in an advisory capacity on a number of issues that influence the development of new transmission to access new renewable energy facilities. The agencies that make up the committee appreciate RETI's accomplishments, but believe that the momentum underway at the CPUC, CEC, CAISO, DRECP, and publicly owned utilities will be sufficient for further assessment of — and decisions on — transmission for renewables.

RETI has never had any decision-making authority; its findings are strictly advisory. Moreover, agency decisions are required to be based on a record developed in their proceedings. Since RETI was never intended to be a party to any proceeding, its advice cannot formally be used as the basis for agency decisions that are expected in the near future.

The California Transmission Planning Group (CTPG) continues to assess future transmission needs using a scenario approach similar to RETI's, though with a more sophisticated methodology. A draft CTPG statewide transmission plan was posted on its website in early January. Participation in CTPG decisions, however, is limited to utilities and transmission operators, and therefore lacks broad stakeholder consensus. CTPG also acts in a strictly advisory role, so it remains to be seen how its results will be used.

CEERT believes that, while the formal RETI process is now dormant, broad stakeholder involvement and agency coordination remain critical to sustaining the current momentum for successful project completion, and that renewables transmission planning goals need to be steadily reviewed and updated. CEERT staff is participating in all the agency processes now underway. We continue our active work to influence and help resolve key renewables transmission issues, and to ensure that the planning processes have such essentials as broad stakeholder input, a mechanism for public accountability, and a means of reconciling differences among the various parties.

Low-Carbon Grid and Renewables Integration Program

FERC and CAISO

FERC recently accepted the CAISO's Revised Transmission Planning Process (RTPP), which distinguishes between reliability, economic, and policy-driven transmission projects. (Economic projects deliver cheaper energy or capacity; policy projects help the system reach statewide renewable goals.) The CAISO's RTPP gives Participating Transmission Owners right of first refusal to build projects needed for reliability, projects under the location-constrained resource interconnection tariffs, and projects related to long-term congestion revenue rights. Merchant developers can now compete to build projects identified as economic or policy-driven.

FERC also accepted the CAISO's Generator Interconnection Proposal (GIP), which combines the small and large generator interconnection processes into a single cluster study process. Key modifications to the GIP include a single application regardless of the generator's size; a single three-month submission window each year, which should expedite analysis and processing; and authorization for generators of any size to apply for full deliverability (i.e., the ability to bid in the Ancillary Services markets). The revised GIP should streamline the interconnection process for all generators, and may solve the excessively long waiting periods for interconnection that currently plague the system.

CAISO Transmission Planning Process (TPP)

The CAISO's annual TPP recently concluded that sufficient transmission is either being built or is now in the pipeline to reach 33% by 2020. This conclusion is based on analysis of a range of resource scenarios (base case, high distributed generation (DG), high out-of-state generation, and high in-state generation).

The TPP also found that existing interstate transmission will have more capacity available as renewable resources displace energy from traditional resources. The CAISO is concerned that approving more transmission now will increase the risk of stranded costs. It is stressing that the TPP conclusions are tentative, and that it plans to revisit them as conditions change (e.g., if new RPS legislation passes). Also, justification for new transmission to support out-of-state procurement needs to come from the CPUC.

The TPP is working from CTPG Phase 2 numbers for the net short, with the CAISO's net short obligation proportionate to its share of statewide load (83%), so a statewide net short of 53 TWh means the CAISO's share would be 44 TWh.

CAISO Renewable Integration: Market and Product Review

The CAISO is proposing reforms to its energy market rules: lowering the energy bid floor and eliminating elements of the Participating Intermittent Resources Program (PIRP). The energy bid floor will be lowered incrementally from the current value of -$30/MWh to -$500/MWh in 2012, -$750/MWh in 2013, and -$1,000/MWh in 2014. The final value will be symmetrical with the prevailing bid cap at that time. The objective is to foster additional dispatch flexibility from both thermal and renewable resources.

The CAISO is also proposing to eliminate PIRP over time in order to settle variable energy resources (VERs) in the same manner as conventional supply resources. VERs will pay and be paid actual Locational Marginal Prices for their scheduled output and uninstructed imbalance energy for deviations from their day-ahead schedule, rather than an averaged financial settlement as under current PIRP rules. Existing PIRP contracts will be grandfathered. The goal is to force VERs to become more dispatchable by limiting the amount of allowed self-scheduling.

Currently, over 80% of energy supplied to CAISO grid is self-scheduled (i.e., does not bid economically). Pumped hydro facilities, which are of incredible value for renewable integration, are typically qualifying facilities (QFs) that self-schedule and do provide flexibility to the grid. Many other QFs, including thermal resources, typically self-schedule as well. The CAISO is exploring the contractual obligations of such QFs to participate in economic bidding, which would dramatically increase the flexibility of conventional resources on the grid, without necessarily needing to rely on VERs to bid economically. While increasing flexibility of grid resources is vital to the cost-effective integration of VERs, PIRP is currently providing some protection to VERs against energy imbalance charges, which would otherwise limit their financial viability. CEERT is following this initiative closely.

CAISO 20% Model
The CAISO recently released its 20% renewable integration model results, which demonstrate that the system has sufficient capacity to handle 20% renewables by 2012 with no additional system upgrades. While derived from extremely conservative assumptions, these results are consistent with common sense.

However, we have some concerns with the model:

- The CAISO model relies on day-ahead markets and regulation to manage overgeneration conditions. Day-ahead markets lack accuracy that shorter-timeframe markets could provide. Relying on regulation to manage variability, as opposed to load following (a new product based on five-minute economic dispatch of committed generation), will cost more and will not use generation already committed in the day-ahead markets.

- The CAISO is relying excessively on internal resources for balancing the grid. This will clearly increase integration costs.

Given the favorable results of this study, CEERT will be recommending a go-slow approach to procuring costly system integration measures in the near term.

The CAISO has used results from its 20% model and the yet-to-be-released 33% study in support of the CPUC's LTPP proceedings. CEERT has submitted comments pointing out systemic issues within these models that will tend to overestimate the amount of resources required for system balance and reliability. A recent study by Lawrence Berkeley National Lab has also concluded that significant systemic biases in the CAISO and PG&E models used in the LTPP proceedings may tend to overestimate renewable integration charges and system balancing resources.

CAISO Dynamic Transfer (DT) Initiative
The CAISO recently presented results of a General Electric study on the impacts of Dynamic Transfers on interfaces in the CAISO balancing area. The study only included effects from wind and PV variability, and not hourly or sub-hourly schedule changes. The study concluded that the expected variability from wind and solar PV generation when dynamically scheduled up to maximum interface limits will typically not result in large voltage fluctuations or excessive duty on voltage regulation devices. Therefore, the analysis shows that no additional limits on dynamically scheduled variable generation are required.

CAISO Regulation Energy Management (REM)

REM is an enhancement of the current CAISO regulation and real-time energy market rules, and will remove barriers that limit the full participation of limited-energy resources in the CAISO regulation markets. Without REM, limited-energy resources can participate in the regulation market, but only for a portion of their capacity. For example, energy storage resources that are typically unable to supply regulation management for the full hour required by existing CAISO market rules will now be able to provide regulation up to the limits of their capacity.

CEC Integrated Energy Policy Report (IEPR) Workshop on Electricity Infrastructure Needs Assessment
The biggest issue raised in this proceeding was potential duplication of efforts with other state agencies. Despite the "Clean Energy Future" document released by a host of state agencies (CPUC, CEC, CARB, CAISO) earlier this year, there seems to be little real coordination among agencies on establishing consistent modeling input assumptions and scenarios. Such lack of coordination is harmful to the development of California businesses that rely on a manageable, predictable economic environment.

In its infrastructure needs assessment, the current CEC IEPR draft fails to recognize the importance of out-of-state resources for balancing the California grid. CEERT has submitted comments to the CEC emphasizing the value of considering low-cost renewable integration options, such as balancing area coordination and consolidation, and improved energy efficiency and demand response.

CEC Workshop on Automated Demand Response
This workshop focused on technologies to support renewable integration, primarily storage and demand response (DR), with special emphasis on automated DR. The CAISO has significant concerns about how consumers (residential or commercial) will actually show up in the DR market, and whether contracted DR can in fact be relied upon. If adopted by consumers, Auto DR may be a technology that ameliorates some of these concerns.

CAISO Reliability Must-Run
Certain pumping facilities deliver water vital to the health and welfare of California residents. Existing transmission contracts for these facilities, some of which expire soon, provide that the pumps may be interrupted without priority consideration. The CAISO has started a Regulatory Must-Take stakeholder process to address this concern, and proposes to create a new scheduling priority in the Integrated Forward Market to protect pump loads that have a must-run requirement. Problems with such an initiative include decreased flexibility in load management.

CAISO Annual Stakeholder Meeting
The CAISO held its second annual stakeholder meeting on October 19 – 20 in Sacramento. Two key issues emerged from this meeting.

- Demand response may be a critical tool for integrating renewables, but the CAISO is not yet willing to entrust it with its reliability needs. DR programs to date seem to indicate reasonable opt-in levels, especially when financial incentives exist, but the ability to actually deliver capacity at crucial times has thus far been less than adequate. Consumer choice is a political third rail, and unless managed with intelligent and well-designed programs that have a strong, trustworthy consumer focus, DR may not yet be available to deliver on its full potential.

- An increasing number of stakeholders are calling for the creation of a three-year forward capacity market within the CAISO. Such a market solves the so-called missing money problem by providing incentives for developing generation (as well as DSM projects) in resource-limited regions. At the stakeholder meeting, Commissioner Simon agreed that the CPUC would reconsider its recent decision to postpone creation of a capacity market. A forward capacity market would have significant potential benefits, most notably that it would greatly aid in financing DR and EE, and in creating more flexible market mechanisms that could promote renewable integration.

Consumer advocate groups such as TURN oppose such measures, pointing out that a wholesale capacity market, while creating incentives for new generation and DSM, would also be paying existing generation a premium for services that in many cases have already been amortized. This could increase overall capacity prices that consumers would ultimately pay for.

Southern California Activities

Once-Through-Cooling (OTC) Plants

On December 14, the State Water Resources Control Board (SWRCB) rejected requests to modify its recently adopted Once-Through-Cooling (OTC) policy that affects ocean-cooled power plants. The policy became effective on October 1. Some plant operators said they could not meet the standard, and others sued. The Los Angeles Department of Water and Power (LADWP) said it would be infeasible.

The OTC policy establishes technology-based standards to implement federal Clean Water Act section 316(b) and reduce the harmful effects of cooling-water intake structures on marine and estuarine life. The policy applies to the 19 ocean-cooled power plants in California (including two nuclear plants). These plants currently can withdraw over 15 billion gallons per day using a single-pass (OTC) system.

CEERT put forward two candidates to advise the SWRCB review panel that is tasked with evaluating plant operators' extension requests (especially the complications and estimated costs of retrofitting the nuclear plants).

It is generally expected that most, if not all, of the power plant operators will submit requests for extensions on the dates in the Implementation Schedule for at least for some of their units.

SWRCB has outlined a two-track approach to implementation and compliance:

1. Track One is an option for owner/operators to install wet cooling towers by a date set for each power plant in the Implementation Schedule that is part of the adopted policy.

2. Track Two is an alternative that allows owners to request an extension of their compliance date. It also allows alternative technologies or practices that meet 90% of the reduction in entrainment/impingement — but only after an owner/operator has shown that Track One is not feasible. "Feasible" generally does not include cost factors; however, nuclear plants were allowed to include cost factors in their feasibility argument when applying for a Track Two exception.

The extension review process will most likely have three stages:

1. Within the next two months, SWRCB will organize a review panel of representatives from the energy agencies (CEC, CPUC, CAISO) and perhaps other agencies (Coastal Commission, Department of Fish & Game, etc.) to review Track Two requests for extensions.

2. The review panel will evaluate the merit of each request as well as the cumulative impact of reorganizing the Implementation Schedule and potential impacts on grid reliability. The panel will submit its recommendations to the State Board, whereupon the SWRCB will hold a public hearing to take comments before voting on the recommendations.

3. All owner/operators have to submit their extension requests by April. At the request of LADWP, the SWRCB will hold two public comment and hearing processes. The State Board hopes to resolve the requests from LADWP in July. The rest of the fleet that is managed by CAISO (including the two nuclear plants) will get a hearing in October.

CEERT will continue to monitor the process. We will also continue to coordinate with environmental groups, CEERT affiliates, and other stakeholders to understand positions, find areas of agreement, and offer public comment as appropriate.

Jobs Report

By invitation, CEERT has been presenting findings of our research report *Workforce Needs for Renewable Energy Power Plants* in various 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.

The audiences included government agencies that must understand workforce needs and colleges that are creating training programs for students looking at careers in the clean-energy sector. Labor organizations have also benefitted from learning the results: almost 200 representatives of the building trades unions attended the California Apprenticeship Training Standards Board meeting, and the presentation drew many questions and considerable interest.

Most people are surprised to see the number of skilled and non-skilled jobs that large renewable projects require. Our research has helped several colleges rethink how they deploy their ARRA grants in workforce training, and spurred them to work with clean-power developers on setting up training programs.

Manufacturing Study

From October through December, CEERT's Rhonda Mills 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 more about the supply-line needs and procurement practices of renewable developers in California. The project has had several fronts: a survey of developers' supply lines, discussions with developers and manufactures 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.

LADWP

New General Manager and Board President

The Mayor tapped Ron Nichols to be his candidate for LADWP General Manager. Nichols is a Navigant Consulting executive, and was an advisor to the Department of Water Resources, which oversaw energy procurement for IOUs following the energy crisis of 2001- 02. He was part of a team that evaluated the effects of energy efficiency and renewable energy on carbon levels and electricity costs in California.

In addition, LADWP Commissioners elected Thomas Sayles as President. Sayles is a vice president of USC, and previously worked for Rentech, an alternative fuels company based in LA, and for Sempra Energy and its predecessors. He has served as California Commissioner of Corporations and as California Secretary of Business, Transportation and Housing.

Integrated Resource Plan (IRP)

The LADWP has not yet adopted its proposed IRP (described in our last Quarterly Report.) Questions remain about the recommendations, and the budgetary and rate-increase needs for the options presented.

Transportation Advocacy

Electrifying Transportation

Largely through CEERT's efforts, the Plug-in Electric Vehicle Collaborative (PEVC) was established in July. John White represents CEERT on the PEVC Council. The PEVC worked intensively through the fall to produce a strategic plan for EVs entitled *Taking Charge: Establishing California Leadership in the Plug-In Electric Vehicle Marketplace;* http://www.evcollaborative.org/strategic-plan. CEERT collaborated with PEVC staff on the drafting of the plan, which the Governor released on December 13. We played a key role in helping develop consensus language on decarbonizing the grid and using renewable energy to power electric transportation that can meet California's goals for 2020 and beyond.

CEERT is working closely with staff and PEVC Council members on defining the PEVC's role in implementing the strategic plan, and collaborating effectively with the considerable EV deployment efforts underway throughout the state.

CEERT has secured funding from the Reformulated Gasoline Settlement Fund to do extensive work on EV implementation during the next two years, as well as work on hydrogen fuel-cell vehicle deployment.

Low-Emission Vehicle Regulations

CEERT continues to serve as technical lead for California and national NGOs on criteria emissions performance standards that the California Air Resources Board (CARB) is developing for its revisions to the Low Emission Vehicle (LEV III) regulations, which set performance standards for typical passenger vehicles sold in California. These regulations will form the basis for the Federal Tier III emissions standards.

John White and John Shears served in this capacity as part of a delegation of U.S. NGOs that traveled to Germany in early October and met with leading engineers from BMW, Mercedes Benz, Volkswagen-Audi, and Bosch to discuss the new California and federal standards that are under development.

While a consensus has emerged among the parties (automobile manufacturers, engine equipment manufacturers, California NGOs, and CARB) on the NMOG+NOx standards, discussions are just beginning on CARB's further reducing emissions limits for particulate matter below 3mg/mile in 2017 to 1mg/mile by 2025. While CEERT and a few other NGOs encouraged CARB to consider adopting a 1mg standard, CARB has only had initial discussions with manufacturers about the feasibility of this benchmark. During our visit to Germany, CEERT launched NGO discussions with manufacturers on the 1mg limit.

CARB is also considering a GHG metric for black carbon (BC) that would start to take effect in 2017 as an adjunct to the particulate-matter standards. CEERT is pleased to see CARB begin to move on regulating short-lived climate pollutants like BC — a step we have been advocating for many years.

However, given BC's complex role as a toxic air pollutant, a vector for other contaminants, and a global-warming pollutant, CEERT is advocating that CARB proceed cautiously in developing regulations for BC emissions from passenger vehicles.

CEERT will continue to collaborate with CARB on the ZEV and LEV III – GHG standards, and to advocate for a rigorous, technology-forcing ZEV program. Since all ZEV vehicles (including those powered by hydrogen) use electric drives, we will work to ensure that the LEV III – GHG standards expand vehicle electrification as an enabler for the entire fleet to eventually migrate toward pure ZEV technologies.

During the next 12 – 24 months, CEERT will continue our collaboration with CARB and state and national NGOs on advocacy and coordination between CARB and EPA/NHTSA on the new federal 2017 – 2025 passenger vehicle efficiency standards. CEERT was one of a group of 19 NGOs that submitted a letter to the White House advocating for Administration support of a 60 mpg (143 g/mile) target by 2025.

CEERT will continue to organize meetings with vehicle manufacturers to further our largely successful work in fostering stakeholder consensus on California and federal vehicle standards.

Low-Carbon Fuel Standard (LCFS)

CEERT is participating in the Sustainability, Electricity, and High Carbon Intensity Crude Oil (HCICO) Screening Workgroups (WGs) under the LCFS.

The Sustainability Workgroup is discussing background issues (http://www.arb.ca.gov/fuels/lcfs/workgroups/lcfssustain/lcfssustain_meetingarc.htm). To date it has reviewed soil ecology and hydrology data, and it is now reviewing air-quality data. It plans to review other issue areas in early 2011 and develop sustainability guidelines later in the year.

The Electricity Workgroup (http://www.arb.ca.gov/fuels/lcfs/lcfs_meetings/lcfs_meetings.htm) continues to focus on which parties will be allowed to earn LCFS credits. A new Electricity Metering Workgroup has begun to weigh approaches to estimating EV electricity use for LCFS credits. Direct measurement of transportation-electricity use will not be possible until all vehicle charging is metered beginning in 2015, as required under the LCFS regulation.

The HCICO-WG (http://www.arb.ca.gov/fuels/lcfs/workgroups/workgroups.htm) is helping CARB staff create an initial screen for crude oil imported into California that might exceed the carbon footprint of the state's baseline crude mix. CEERT participated in a subgroup that explored approaches to screening, and which types of data could be used in a screen. The challenge was to identify indicators of practices that would likely be associated with high production or pre-processing emissions. The subgroup was only able to locate a limited set of publicly available data, and despite requests for industry to provide CARB with supplemental data, none has been forthcoming.

Consequently CARB staff were not able to develop a set of screens by the fall, as they had intended. In November, the Western States Petroleum Association (WSPA), which predominantly represents California refiners, submitted a formal request that CARB delay making 2011 a compliance year, since the screens were not available and refinery managers were unable to determine which crudes qualify as non-HCICO when making purchasing decisions.

During the November 18 CARB Board hearing (http://www.arb.ca.gov/board/ma/2010/ma111810.htm), WSPA advocated for making 2011 only a reporting year and not a compliance year. CEERT argued against that position, noting that the industry has known since the LCFS regulation was adopted in April 2009 that 2011 would be a compliance year, and the industry has had the opportunity during much of 2010 to provide CARB staff with initial HCICO screening data. We also noted that the Board should continue to send a clear, consistent signal to the industry and the investment community about advancing low-carbon fuels. Todd Ellis of Imperium Renewables, one of the largest biofuel producers on the West Coast, supported CEERT's position.

To avoid risking any interruptions in supply, CARB as an interim measure decided to allow the state's refiners to assign the 2006 baseline carbon-intensity value to all crudes purchased for import into California during the first half of 2011. In the coming months the HCICO-WG and CARB staff will work to develop a set of screens for non-baseline crudes for the Board's consideration in the spring of 2011.

John Shears has been appointed to the Advisory Panel (http://www.arb.ca.gov/fuels/lcfs/workgroups/advisorypanel/advisorypanel.htm) that will review implementation of the LCFS program and report to the CARB Board by January 2012. The review will cover all facets of the program, including progress in achieving targets; any needed adjustments to the compliance schedule; advances in fuels and production technologies and their feasibility and cost-effectiveness; impacts on the state's fuel supplies, revenues, and economic growth; environmental or public health impacts; overall hurdles or barriers; and the advisability of harmonizing the LCFS with international, federal, regional, and state standards. The Advisory Panel will have its first meeting in early 2011.

AB 118 Alternative and Renewable Fuel & Vehicle Technology Program

John Shears has been reappointed to the AB 118 Advisory Committee, which will work with CEC staff on AB 118's 2011 – 2012 Investment Plan (http://www.energy.ca.gov/2010-ALT-1/index.html). The new Advisory Committee had its first public meeting on November 30, at which CEC staff provided an overview of projects funded to date and lessons learned during the first two rounds under the investment plans for 2008-2010 and 2010-2011. The Advisory Committee and CEC staff will refine the program to make it more administratively efficient, and will develop goals for the next round of program funding.