

CENTER FOR ENERGY EFFICIENCY AND RENEWABLE TECHNOLOGIES
QUARTERLY STAFF REPORT
SEPTEMBER – DECEMBER, 2012

THE PAST THREE MONTHS AT A GLANCE

Advocacy at the California Public Utilities Commission (CPUC)

Legislation that seeks a less polluting, low-carbon electricity grid is just a starting point. State administrative agencies make critical decisions on implementing newly enacted policies. California's Public Utilities Commission (CPUC), the regulator for investor-owned utilities, applies the laws through a semi-judicial public process in which CEERT has, since 1990, played a leading role as renewable energy advocate and intervenor.

The CPUC recently issued a Proposed Decision on Southern California Edison's (SCE) Long Term Procurement Plan (LTPP) component of its rate case, which concerns local capacity requirements (LCR) and procurement. *In a significant win for CEERT's advocacy*, the Commission adopted our recommendation that the *CPUC follow the state's established Loading Order and limit the amount of gas-fired generation* that can be used to meet LCR needs.

The decision also requires SCE to consider *procurement of up to 450 MW of preferred resources* (energy efficiency, demand response, and renewable generation) to meet its LCR. We urged that at least 150 MW of this 450 MW of procurement be mandated to come from *demand response (reduced energy demand) resources*. In the intelligent grid of the future, shifting the time of some electricity use (rather than building new fossil power plants) will be a key strategy in efficiently integrating all power sources.

A CPUC Final Decision committed to continued monitoring of *Imperial Valley project development*, and required the investor-owned utilities (IOUs) to provide assessments of offers and contracted projects in their future plans. CEERT had urged the CPUC to consider remedial action to ensure Imperial Valley renewables procurement.

CEERT *opposed SCE's request to forgo an RPS Solicitation* in 2012 and a CPUC Proposed Decision upholding that request.

We pressed the CPUC to undertake a general overhaul of the IOUs' *least-cost/best-fit criteria* to take into account local and system needs, renewable integration, and changes in the demand curve.

CEERT filed comments objecting to a Joint Parties' Proposal on *Resource Adequacy (RA) Flexible Capacity Procurement* that would have ensured that the only resources available for meeting RA needs are conventional thermal generation.

CEERT became a party of record in the CPUC Order Instituting Investigation of the *San Onofre nuclear plant outage* so we could advocate for consideration of lower-cost preferred resources as replacement power.

Desert Renewable Energy Conservation Plan (DRECP)

CEERT continues to engage as an advocate and active participant in the *Desert Renewable Energy Conservation Plan (DRECP)*, which is the interagency and stakeholder planning process to advance environmentally conscious renewable energy development in California's Mojave Desert region. The

DRECP is entering a critical phase. In December the Renewable Energy Action Team agencies released a 1,500-page working draft of six alternatives, each including a renewable energy development plan, a conservation strategy, and a transmission plan. The renewable energy industry has several significant concerns about the alternatives.

CEERT's Anne Baker is the coordinator of *monthly sessions* that bring together federal and state officials with a small group of industry and conservation representatives. The most recent of these meetings was held in January and focused on how to get to a *workable and effective DRECP*.

We continue to work on the *land-use amendment* that the Bureau of Land Management (BLM) is preparing for the DRECP (and that will supplement the BLM Programmatic Environmental Impact Statement (PEIS)), and we continue to take part in national-level work on PEIS standards. The goal is to make sure that our important species and habitat protection policies stay effective, but do not block our climate-protection interest in developing California's unique renewable energy resources.

Low-Carbon Electricity Grid and Renewables Integration

CEERT is strongly opposing as unnecessary a proposal on the California Independent System Operator's (CAISO's) *flexible ramping procurement target*. The proposal would count toward the target only those resources that can continuously ramp over a 3-hour period and offer bids into the market for at least 17 hours per day. We believe that preferred resources could supply the flexible ramping capacity that the CAISO requires, and that those resources would minimize the need for building new gas-fired generation, and provide a lower-cost solution.

The CAISO is suspending implementation of its *Flexible Ramping Product* for 18 – 24 months, until after the launch of its proposed new *15-minute market*. This new sub-hourly scheduling market should enable a more cost-efficient use of variable-generation resources.

Rule 21 (on distribution-level interconnection cost allocation) is entering Phase 2, with the CPUC looking for ways of allocating costs that are equitable to all generators, do not cause rate increases, and do not burden early developers with the majority of interconnection costs that will advantage subsequent developers. CEERT has offered preliminary suggestions and will be active in this proceeding.

The CPUC is examining the *potential role of storage technologies* in meeting reliability and renewable integration needs, and ways to create financial incentives for storage solutions.

The CPUC is considering changes to its *residential rate design*. Key questions include how much usage will be affected by changing rates; how to provide customers with a simple, understandable price signal; and how to modify usage patterns to support renewable integration goals.

Southern California Activities

The Los Angeles Department of Water and Power (LADWP) has approved a *100 MW Feed-In Tariff Program* and established a fixed price of 17 cents/kWh.

Interior Secretary Ken Salazar pledged to work with local agencies on *Salton Sea restoration*. With new leadership in place, the Salton Sea Authority is calling on the Interior Secretary and the state Natural Resources Agency Secretary to help tackle economic and biological problems posed by the receding sea.

The sixth annual *Imperial Valley Renewable Energy Summit and Expo* will be held on March 13 – 15. CEERT Board Chair Jonathan Weisgall has again been invited to be the opening speaker. CEERT's Nicole Ochoa is on the planning committee, and CEERT's Rhonda Mills will be a panelist.

Transportation Advocacy

CEERT participated in August meetings on the Governor's goal of *having 1.5 million zero-emission vehicles on California's roads by 2025*.

We have drafted a proposal for California establishing regional readiness councils to implement a deployment strategy for *fuel-cell vehicles and hydrogen fueling infrastructure*.

We are discussing with California Air Resources Board staff our research that indicates there are challenges in meeting *emissions targets for particulate matter* when using new fuel formulations containing higher ethanol levels.

We continued to monitor ongoing work to refine the state's *Low Carbon Fuel Standard*.

We are helping develop the *AB 118 2013 – 2014 Investment Plan*, which at this point includes \$20 million for hydrogen fueling infrastructure and \$12 million for electric vehicle incentives and charging infrastructure.

Advocacy at the California Public Utilities Commission (CPUC)

General

CEERT has participated in meetings with CPUC Commissioners, their offices, Commission management, and staff on pending and planned CPUC issues that will directly affect clean energy procurement and programs. On October 17, John White and Sara Myers met with CPUC Deputy Executive Director Nancy Ryan to discuss renewable procurement and related costs, and on November 5, in coordination with Steven Kelly of Independent Energy Producers (IEP), both met with Commissioner advisers and Energy Division staff to seek changes to the Proposed Decision on the investor-owned utilities' (IOUs') 2012 Renewable Portfolio Standard (RPS) Procurement Plans.

Renewable Portfolio Standard (RPS) Program - R.11-05-005

1. Renewable Feed-In Tariff

Issues related to the CPUC's implementation of Senate Bill (SB) 1X 2 (33% RPS), including expansion of the Renewable Feed-In Tariff (FIT), have moved further toward resolution.

In May, the Commission signed out Decision 12-05-035, adopting a newly created Renewable Market Adjusting Tariff ("Re-MAT") pricing mechanism. Re-MAT's principle components call for a starting price based on the weighted average contract price of PG&E's, SCE's, and SDG&E's highest-priced executed contract resulting from the CPUC's Renewable Auction Mechanism (RAM) auction held in November 2011, applied to three FIT product types (baseload, peaking as-available, and non-peaking as-available), with a monthly price adjustment mechanism that increases or decreases the starting price for each product type based on the market response.

As noted previously, on June 20 CEERT filed an Application for Rehearing of D.12-05-035, challenging the legal flaws of the "payment" method the CPUC created and adopted in the decision that, in particular, conflicted with the statutory requirements for the expanded FIT. Placer County Air Pollution Control District, Sustainable Conservation, and Clean Coalition/Sierra Club California also filed Applications for Rehearing, making similar challenges.

The CPUC's Closed Session Agenda for its last 2012 meeting on December 20 included consideration of these applications for rehearing; however, no action was taken at that time. CEERT could continue the challenge by petition for writ of review to a California appellate court.

For the RE-MAT to take effect, the CPUC must still approve the accompanying standard power purchase agreement (PPA). Comments on the Joint IOU FIT PPA were received in August and September, but Proposed and Final Decisions are still required to adopt this language. According to a Second Amended Scoping Ruling issued in R.11-05-005 on January 9, that decision is expected in the first quarter of 2013.

2. 2012 RPS Procurement Plans and Solicitations

CEERT actively participated in the CPUC's consideration of the IOUs' 2012 RPS Procurement Plans/Solicitations in R.11-05-005. CEERT's advocacy and filed comments addressed, and sought corrections to, broad deficiencies in the investor-owned utilities' (IOUs') Plans, including the IOUs' failure to address "remedial measures" to ensure renewables procurement in the Imperial Valley, their failure to resolve differences among themselves in interpreting the new 33% RPS law, and their imposing inappropriate limitations on procurement.

Despite these deficiencies, CEERT continued to advocate for the Commission resolving all issues quickly in order to permit an RPS solicitation by the end of 2012 by *all* of the IOUs and promote regular solicitations thereafter. SCE had requested leave to hold no solicitation based on claims that any need could be met by its smaller RPS-eligible procurement programs and tariffs. In late August, the CPUC issued an Administrative Law Judge's (ALJ's) Ruling seeking further information from SCE on its proposal not to

hold an RPS Solicitation in 2012. CEERT reviewed, and opposed, the very tenuous “grounds” SCE claimed in support of its proposal in comments we filed on September 10.

On October 9, a Proposed Decision was issued authorizing RPS solicitations for PG&E and SDG&E, but permitting SCE to forgo a 2012 RPS solicitation. The Proposed Decision also addressed certain other RPS implementation issues and deferred most “procurement reforms” initially posed by an April 5 ACR.

On October 29, CEERT filed our Comments on the Proposed Decision, objecting, in particular, to the decision allowing SCE to dispense with a 2012 RPS solicitation. In addition, we objected to other directives of the Proposed Decision that were not well connected to the CPUC’s Loading Order policy or its ongoing work on long-term procurement planning (LTPP) in R.12-03-014.

John White and Sara Myers, in cooperation with IEP’s Steven Kelly, met with Commissioner advisors and Energy Division staff on November 5 to discuss CEERT’s and IEP’s objections to the Proposed Decision. CEERT shared IEP’s concern with the disconnect between the CPUC’s adopted RPS procurement schedule and the interconnection process and schedule that the California Independent System Operator (CAISO) uses. CEERT also objected to the failure of the Proposed Decision to adequately address or consider remedial action on the Imperial Valley resources.

On November 8, the Commission issued its final decision, continuing to authorize RPS solicitations only for PG&E and SDG&E, in Decision 12-11-016. A link to that decision can be found at: <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M033/K783/33783021.PDF> . While SCE was permitted to forgo a solicitation for 2012, requirements adopted for the other IOUs’ solicitations, power purchase agreements (PPAs), and schedules were also imposed on SCE for any future procurement, and SCE was foreclosed from entering bilateral contracts during this period when it will not hold a solicitation. The final decision did commit to continued monitoring of Imperial Valley project development, and required the IOUs to provide specific assessments of the offers and contracted projects in this area in their future plans.

On November 29 and December 13, PG&E and SDG&E formally filed their 2012 RPS Procurement Plans, with solicitation information, schedules, and contract terms. These filings, which include multiple pleadings, can be found on the Docket Card for R.11-05-005 at <http://delaps1.cpuc.ca.gov/CPUCProceedingLookup/f?p=401:57:1489862031074301::NO> .

3. RPS Procurement Reforms and Other RPS Issues (e.g., SB 1122 Implementation) and Schedule for Resolution

As noted above, the CPUC’s decision on the 2012 RPS Procurement Plan also considered several RPS procurement “reforms” that were proposed in an April 5 Assigned Commissioner Ruling (ACR). On October 5, the Commission issued a Second ACR on RPS Procurement Reforms. CEERT discussed the issues posed by this Second ACR in November 13 and December 7 conference calls with our affiliates that were very productive and informative in helping shape our comments.

On November 20, CEERT filed our Opening Comments on the Second ACR, which can be found at: <http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M031/K736/31736103.PDF> . In those Comments, we again urged that the CPUC connect the dots with long-term procurement planning (LTPP), especially to foster — rather than foreclose — renewable resources being able to meet local and system needs and profiles, consistent with the CPUC’s own Loading Order of preferred resources (energy efficiency and demand response, followed by renewable generation).

We further emphasized in both Opening and Reply Comments the need for a general overhaul of the IOUs’ least-cost/best-fit criteria to better align that evaluation with expected local and system needs,

renewable integration, and expected changes in the demand curve. In particular, we objected to those “procurement reforms” that would have the effect of placing a ceiling on RPS procurement and that would unnecessarily burden or confuse, rather than “streamline,” RPS procurement.

On December 12, CEERT filed our Reply Comments on the Second ACR, which can be found at: <http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M039/K596/39596136.PDF>. As those Comments indicate, our views were widely shared by a broad and diverse group of other parties — from environmentalists to renewable developers (including CEERT affiliates) to utility workers and even IOUs (i.e., SCE). Along with CEERT, these parties pointed out the many instances in which the “streamlining” that the Second ACR proposed would only serve to simplify the CPUC’s administration of the RPS program, but would not advance or simplify RPS procurement or account for the realities and dynamic nature of the renewable development and procurement process.

CEERT and other parties also emphasized the manner in which the Second ACR’s proposed “standards of review,” while ostensibly adapting review to transaction type and length, would actually have the impact of unnecessarily restricting the amount and type of resources that IOUs could procure in the first place.

On January 9, a Second Amended Scoping Ruling was issued in R.11-05-005. According to this Ruling, in the first quarter of 2013, the CPUC plans to address the following: refinement to confidentiality rules applied to the RPS, enforcement issues, FIT standard contracts, initial procurement process improvements, procurement expenditure limitations, and initiation of SB 1122 implementation.

SB 1122 directs the CPUC, by June 1, to order the IOUs to collectively procure at least 250 MW of generating capacity from bioenergy projects through a tariff mechanism. A Proposed Decision on SB 1122 and related bioenergy issues is scheduled for second quarter 2013. To date, however, no ruling has been issued to initiate this process, which is to begin with a staff proposal and ALJ Ruling seeking comment.

Long-Term Procurement Plan (LTPP) Rulemaking (R.12-03-014)

The CPUC’s LTPP rulemaking was the focus of significant CEERT advocacy throughout 2012. In its Local Reliability Track 1, the LTPP rulemaking addressed the need to consider authorizing procurement for IOUs to meet local capacity requirements (LCRs) over a long-term, ten-year period, and not just the annual year-ahead determination made in the CPUC’s Resource Adequacy (RA) rulemaking.

This consideration was fostered, in particular, by the CAISO’s studies of integration of renewable power plants into local transmission-constrained areas and local capacity needs related to expected retirements of once-through-cooling (OTC) plants through 2021 (with State Water Resources Control Board regulations generally targeting such retirements for 2018). On May 23, the CAISO served its testimony in Track 1, inclusive of the relevant studies, identifying at least a 2,400 MW LCR need within certain local areas in Southern California Edison’s (SCE’s) service territory, and an additional 1,200 MW “residual system need.”

From June through August, CEERT served and offered Opening Testimony, Reply Testimony, and Supplemental Testimony of our expert witness, James H. Caldwell, Jr., responding to the CAISO’s proposals and offering CEERT’s own recommendations. We also actively participated in Evidentiary Hearings held in Track 1 in August. We strongly advocated that the Commission not authorize the gas-fired generation the CAISO sought, but instead rely on other means to reduce or meet this local need (i.e., transmission solutions and Loading Order “preferred” resources like energy efficiency and demand response).

CEERT’s advocacy saw initial success in the CPUC holding a post-hearing Workshop on September 7 to further explore the ability of preferred resources to meet local capacity needs (including defining the “flexible” attributes and location required to meet such a need). We participated in this Workshop and

filed subsequent Workshop Comments on October 9. These Comments can be found at: <http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M030/K325/30325674.PDF> .

During this same time period, CEERT prepared and filed Opening and Reply Briefs on Track 1 evidentiary hearing and LCR issues on September 24 and October 12. The briefs can be found at <http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M028/K946/28946653.PDF> and <http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M030/K327/30327221.PDF>. These briefs emphasized the need for the Commission to follow its Loading Order of preferred resources and reduce and meet LCR need in consideration and accordance with that Loading Order.

The issue of “system needs” through 2021 (“Track 2”) was also being considered largely in parallel with Track 1 issues. The CPUC’s Energy Division released a Straw Proposal for the 2012 LTPP Planning Scenarios in early August, then followed with Standardized Planning Scenarios attached to, and made the subject of comment by, a Revised ACR issued on September 25. On October 5 and October 19, CEERT served and filed Opening and Reply comments on these Standardized Planning Assumptions, which can be found at: <http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M030/K324/30324244.PDF> and <http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M031/K745/31745060.PDF>.

CEERT, along with other parties, objected to the fact that these scenarios were “simple variations on one theme – an ‘all gas’ forecast and future.” We urged corrections be made to avoid these scenarios identifying a need that could only be met by gas, at odds with the CPUC’s Loading Order, which requires need to be met first by energy efficiency and demand response, then renewable generation.

On December 21, the Commission issued its Proposed Decision on Track 1 LCR needs and procurement, which can be found at: <http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M039/K597/39597025.PDF> .

The Proposed Decision (PD) represents a significant win for CEERT’s advocacy in Track 1, particularly on policy issues. The PD adopts and follows many of the recommendations we made, especially on the Commission actually following and implementing its Loading Order of preferred resources.

The PD adopts less than half of CAISO’s recommended LCR authorization for SCE, limits the amount of gas-fired generation that can be used to meet that need, rejects adoption now of the CAISO’s definitions or eligibility requirements (“flexibility attributes”) for these resources (deferring that determination to the appropriate CPUC proceeding), and requires SCE to consider procurement of up to 450 MW of preferred resources to meet its local capacity requirements.

On January 14, CEERT filed Opening Comments on the Proposed Decision, which can be found at: <http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M042/K157/42157792.PDF> . While these Comments were largely very supportive, we recommended certain changes to ensure that the PD’s policy pronouncements become reality. For example, we urged that the PD be modified to mandate that at least 150 MW of the 450 MW preferred resource procurement come from demand response resources. Following the filing of these comments, we met with advisors to Commissioners Florio (the assigned Commissioner on R.12-03-014), Ferron, and Peevey.

CEERT has found this to be a productive and meaningful engagement at the CPUC, aided by the dedicated attention of Commissioner Florio and his staff. They appear to be committed to continuing that involvement, especially to resolve any outstanding issues between the CPUC and CAISO on significant energy procurement.

Resource Adequacy (RA) Rulemaking (R.11-10-023)

Simultaneous with the consideration of local capacity needs and flexible resources in the LTPP, this RA rulemaking has similarly been reviewing CAISO and Energy Division proposals on flexible capacity needs and local capacity requirements for the next several years. While the CPUC declined to adopt either of those proposals in June, it has continued Workshops and a comment process on these topics.

Notably, on December 6, the CPUC issued a Phase 2 Scoping Memo in R.11-10-023, to which a Resource Adequacy Flexible Capacity Procurement Joint Parties' Proposal was attached for comment. The "Joint Parties" include the CAISO, SCE, and SDG&E. The Phase 2 Scoping Memo posed numerous questions for comment on this proposal.

On December 20, just prior to the due date for Comments, the CAISO held a Workshop on this proposal. On December 26, CEERT filed our Comments on the Joint Parties' Proposal, which can be found at: <http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M039/K598/39598909.PDF>. Our central concern is that this Joint Parties' Proposal, as further described at the CAISO Workshop, has been specifically written to exclude preferred resources and "ensure that the only resources available for meeting LSE RA showings are in fact conventional thermal generation." CEERT's Comments provide our analysis and objections to the Joint Parties' Proposal, and our recommendations for avoiding this outcome.

San Onofre Nuclear Generating Station (SONGS) I. 12-10-013

Local reliability needs are a high-priority issue in California due to the outage at the San Onofre Nuclear Generating Station (SONGS), which is offline because of premature cracks and leaks in several hundred critical stainless steel cooling tubes. The unit's steam turbine was recently replaced, but apparently not vibrationally isolated from these tubes in an adequate fashion. SONGS Units 2 and 3 remain out of service.

On October 25, the CPUC issued Order Instituting Investigation 12-10-013 into the rates, operations, practices, services and facilities of SONGS Units 2 and 3 (with SCE and SDG&E named respondents). California statute specifies that an IOU must notify the CPUC if a plant is out of service for 9 months or more, and that rates are subject to refund while a determination is made regarding future service.

On January 8, the first Prehearing Conference was held in this investigation. CEERT attended and now is a party of record. We took this step largely because of ongoing confusion about where and when the issue of replacement power will be considered. While the first Scoping Memo has not yet been released, it appears that if SCE elects not to request funding to return either unit to service, any replacement power issues will be addressed in the LTPP rulemaking.

However, should SCE elect to return a unit (likely Unit 2) to service, that would be addressed in I. 12-10-013 Phase 2 (Phase 1 focuses on immediate and longer-term ratemaking related to the plant's status), and parties may have the opportunity to offer alternatives to returning Unit 2 to service in order to meet customer demand. CEERT would advocate for consideration of preferred resources (energy efficiency, demand response, and renewable generation) being considered first in replacing this generation, rather than a return to service of Unit 2. Cost and safety will obviously be determinative in those next steps.

Big Solar Permitting and Planning

The Desert Renewable Energy Conservation Plan (DRECP)

CEERT continues to engage as an advocate and active participant in the DRECP, which will guide long-term energy and conservation planning for 25 million acres of California desert, and determine how much of that land will ultimately be available for solar and wind projects. *The assumed target for energy from all renewable sources is 20,324 MW over the DRECP Plan's 30-year timetable.*

The process is entering a critical phase. In December the Renewable Energy Action Team agencies released a 1,500-page working draft of six alternatives for the DRECP. Each alternative included a renewable energy development plan, a conservation strategy, and a transmission plan. Significant details are missing from each of the alternatives.

The conservation community is concerned about the lack of specifics in the biological goals and objectives, and the solar industry is deeply concerned about the lack of available land for development, the lack of implementation flexibility, the overdependence on private lands for development when county governments have not committed to the plan, and the lack of concrete permitting improvements or incentives for transmission to support renewable energy projects. Industry is apprehensive that the DRECP moving forward in the direction of these alternatives will be detrimental to renewables development.

In mid-January the Governor's office convened a series of meetings with industry and conservationists to discuss where we are and what we need to do to get a workable plan. Steve Black and Janea Scott of the Department of the Interior, Mike Frist of the Department of Fish and Wildlife, California Director of the Bureau of Land Management (BLM) Jim Kenna, CEC Commissioner Karen Douglas, Deputy Secretary Ann Chan of the Resources Agency, Michael Picker of the Governor's office, and Kevin Hunting of the California Department of Fish and Game participated in the meeting with industry. CEERT's Anne Baker played a critical role in working with Commissioner Douglas to set up that meeting.

There is a commitment to continue to meet with the industry and the conservation community over the next few months to see if we can come up with a more workable plan. Steve Black and Karen Douglas encouraged both sides to work together on joint recommendations. Steve Black reiterated the federal administration's commitment to the DRECP after Secretary Salazar retires.

The CEC held DRECP workshops on key issues. These workshops have focused on relatively narrow subjects, and replaced the larger stakeholder meetings that took place over the last two years. CEERT's Anne Baker serves on the planning group that guides the development of the workshops.

The first workshop was on the durability of mitigation on federal lands, which is an issue of concern for both the conservation and developer communities. The second workshop was on the DRECP's governance and finances. Participants continue to work on further refining recommendations on these issues. A workshop on local government and private lands is in the planning stages.

The Natural Community Conservation Planning (NCCP) law that governs the state's participation in the DRECP has strict requirements about plan development, including a mandatory review by an independent science panel. That review was released in September, and was highly critical of the biological work done to date, asserting that the analysis was not robust and had been rushed. The conservation community believes that this is a significant foundational flaw, and that the agencies need to make corrections if the plan is to be successful and comply with the law. The developer community is concerned that the development areas that the agencies have proposed do not meet the legal requirements.

Anne Baker has become the coordinator of monthly meetings that bring together Steve Black and Janea Scott of DOI, Jim Kenna of BLM, and Commissioner Karen Douglas with a small group of industry and conservation representatives. DOI Deputy Secretary David Hayes participated in the first of these meetings in July. The discussions allow agency personnel to provide status reports on the DRECP and highlight matters they would like guidance on, and give industry and conservation representatives the opportunity to raise issues of concern. The most recent of these meetings was held in January and focused on how to achieve a workable and effective DRECP.

CEERT hosted Jim Kenna and Karen Douglas at our annual board retreat in November. One important issue covered at the meeting was the relationship between the BLM Programmatic Environmental Impact Statement (PEIS) and the DRECP. The solar industry continues to be concerned that the DRECP might not identify new areas for development and an enhanced permitting process, and may make significant negative changes in policies recently adopted in the PEIS. This could undo the framework and collaboration between environmentalists and industry that created the good-faith compromises in the PEIS.

Also discussed was coordination with the Department of Defense, a local government solicitation in January for planning funds to encourage participation in NCCP planning efforts like the DRECP, and a definition of streamlining for renewable energy projects. Commissioner Douglas noted that the election results provided a more consistent political environment for this work to continue and for a plan to be developed.

On December 7, the BLM and California Department of Fish and Wildlife released an agreement covering durable conservation on public land. The consensus will allow for more robust conservation planning, and should prove quite attractive to local governments. The additional clarifying points that industry and environmental groups asked for in November were included in the final version that appears in the draft DRECP alternatives document.

CEERT continues to work on the land-use amendment that the BLM is preparing for the DRECP (and that will supplement the PEIS), and we continue to take part in national-level work on PEIS standards.

California Desert and Solar Working Group (CDREWG)

CDREWG had its final meeting in December. There are ongoing talks about if and how collaboration between industry and conservationists on the DRECP should continue. Industry has expressed interest in working through CEERT, while the conservationists have expressed interest in a neutral facilitator.

Low-Carbon Grid and Renewables Integration Program

CAISO Joint Parties Proposal on Flexible Resource Adequacy

The CPUC's RA and LTPP processes will need to evolve in conjunction with the CAISO's modeling efforts to ensure that an expanding generation stack with the appropriate characteristics is available to reliably meet net load in real time. (Net load is system load minus solar and wind generation). The CAISO has recently come out with a proposal that attempts to address this issue.

The "Joint Parties" (SCE and SDG&E, but not PG&E) have proposed a metric for defining which resources can provide flexible ramping capacity to the CAISO. The CAISO could call upon this flexible ramping capacity stack to meet the challenges being placed on the system by the addition of variable generation (VG) resources, such as wind and solar PV.

The Joint Parties are arguing that only resources that can continuously ramp over a 3-hour period and are able to offer bids into the market for at least 17 hours per day should be counted toward the flexible ramping procurement target the CAISO is proposing. Operationally, any resources (including those, such as demand response, that do not satisfy the 3-hour ramping screen) can and will be used to satisfy real-time ramping needs. However, the IOUs' excessively stringent flexible ramping requirement can only be satisfied by thermal resources — so additional thermal resources may be built in order to meet this "need."

CEERT is strongly opposing the Joint Parties proposal, as we believe it would crowd out the ability of other resources to provide valuable flexible ramping capacity to the CAISO. Though individual resources might not be able to ramp continuously for 3 hours, when aggregated, multiple resources, including demand response and the judicious use of curtailment, could provide a deep stack that the CAISO could

call upon to satisfy its flexible ramping needs. Such an inclusive approach would minimize the need for building new gas-fired generation — and would provide a lower-cost solution.

CAISO Flexible Ramping Product

The CAISO is suspending implementation of its Flexible Ramping Product (FRP) for 18 – 24 months, until after the launch of its proposed new 15-minute market. In addition, the CAISO is now planning to integrate the Day-Ahead Market (DAM) process with the Residual Unit Commitment (RUC) and Market Power Mitigation (MPM) processes, combining them into an Integrated Day-Ahead Market (IDAM).

MPM is currently run to identify and remove market power opportunities in the DAM, while DAM clears the subsequent energy markets subject to network constraints. RUC is run after MPM and DAM in order to true up any energy shortages resulting from clearing the market. Combining MPM, DAM, and RUC into IDAM will increase the efficiency of overall procurement.

Furthermore, observations by the Market Steering Committee have demonstrated that FRP procured in the real-time markets results in double payment to generators, since such procurements already include the provision that generators will be required to ramp to their dispatch points. Therefore, the CAISO will instead include FRP procurements within the new IDAM.

CAISO FERC Order 764 Compliance

FERC Order 764 requires all RTOs to offer 15-minute energy scheduling or an equivalent approach that has the same or better economic value for generators. Sub-hourly scheduling creates financial benefit from a more efficient use of VG resources, since the current hourly scheduling is not a good match for the output profiles of these resources. Furthermore, the potential to submit binding schedules closer to when power flows onto the grid reduces forecast errors, thereby allowing balancing resources to be more efficiently scheduled, and reducing system costs.

The CAISO has recently proposed a 15-minute scheduling approach that is actually more complex than that required by FERC. Under this approach, a 15-minute, financially binding energy scheduling market would be available to participants within the CAISO footprint and at the interties. Transmission is not explicitly scheduled for generation within the CAISO footprint, and this new market would replace the existing Hour-Ahead Scheduling Process (HASP), or the so-called real-time market.

Under the proposed 15-minute market, financially binding energy bids would be provided by scheduling coordinators 37.5 minutes before flow (as compared with the current hour schedule, which must be submitted 75 minutes before flow). The 37.5-minute window allows a 2.5-minute window for generators to respond to the CAISO market, while allowing sufficient time for the CAISO to run its normal clearing process. At the interties, the CAISO would allow continued coordination with the WECC's hourly scheduling process. Under 15-minute scheduling, the bias that had previously created a systematic price differential between CAISO system and intertie prices would presumably be reduced or eliminated, so the CAISO is planning to reinstate convergence bidding at the interties once this market is operational.

CAISO Transmission Planning Process / FERC Order 1000 Compliance

The CAISO has proposed a cost-sharing model based on deferred costs as the next stage of its FERC Order 1000 compliance, which involves interregional coordination. Cost would be allocated to individual regions based on a pro rata share of the costs deferred by the development of the interregional solution. Still to be determined is how those deferred costs should be calculated. For example, interregional transmission solutions may reduce integration costs based on the reduction in overall variability of VG resources due to increased geographical diversity (although the CAISO has not yet explicitly considered such an accounting).

CPUC Rule 21 Cost Responsibility

Rule 21 on distribution-level interconnection is entering Phase 2, which will deal with cost allocation issues. At this stage of the process, the CPUC is looking for ways of allocating interconnection and study costs to generation projects in a manner that is equitable to all generators, does not cause rate increases, and does not burden early developers with the majority of interconnection costs that will advantage subsequent developers. CEERT has offered preliminary suggestions, and will be active in this proceeding.

The CPUC recently held a workshop on the revamping of Rule 21. A key consideration is that projects that offer high value to the system, e.g., because of their ability to serve load or avoid transmission and distribution upgrades, are not the same as projects that are low-cost to the system, e.g., because they occur close to load centers where sufficient bandwidth exists to provide low-cost interconnection.

Several proposed solutions to the cost-responsibility issue centered on creating a balancing account that would average out the costs of interconnection among developers. However, objections to this proposal focused on the possibility that cost overruns might occur. Several developers stated that they would be willing to pay more to an averaging account in exchange for cost certainty. Another concern was with ways to differentiate high-cost interconnection projects and keep them from adversely affecting the balancing account. Ultimately, the resolution of the cost-responsibility issue will include examining if and when ratepayers should be saddled with interconnection costs; for example, it may be appropriate to allocate broadly the interconnection costs of projects that provide high value to the system.

CPUC Storage Workshop

The CPUC is still examining the potential role of storage in meeting reliability and renewable integration needs. There is some recognition of the high cost of storage, and the availability of lower-cost options such as demand response or judicious use of VG curtailment — but this proceeding is focusing on ways to create financial incentives for the development of storage solutions.

Permanent Load Shifting solutions monetize the differential between peak and off-peak pricing (energy arbitrage), but this may not be sufficient to support development of these resources. Key questions are whether storage solutions should be promoted through procurement mandates or market solutions. The levelized cost of a peaker is about \$300/kW-year, whereas current capacity prices are about \$30/kW-year, so financing storage solutions through capacity payments is not yet feasible.

Questions were raised about whether storage solutions should be considered a preferred resource, and if and how cost-effectiveness might be used as a criterion for creating procurement targets. Under AB 2514, all procured resources must be cost-effective; however, several competing models (KEMA, EPRI) exist for establishing cost-effectiveness. A key concern is determining the baseline of cost-effectiveness, and whether that calculation considers the levelized cost of gas over the project's lifetime, which could extend far beyond the time horizon under which gas contracts can currently be procured. Another key question is how to treat storage resources, since they can act as generation, load, deferred T&D, RA, and regulation. Which market products can be developed to effectively monetize these valuable services?

A growing number of utility-scale storage facilities have been developed throughout the continental U.S., Alaska, and Hawaii. Each project has unique circumstances that provide the financial basis for its development, in the complete absence of subsidies, explicit procurement targets, or markets for storage per se. The existence of such projects financed and developed through existing market structures should give pause to those who believe that we need new incentive mechanisms for storage solutions.

CPUC Residential Rate Design Workshop

The CPUC is considering changes to its residential rate design. A primary concern is continuing to protect low-income households, while also offering some degree of cushioning for high-use customers whose summertime consumption is dominated by air conditioning. Despite such protection mechanisms, almost all stakeholders claim to support the removal of cross-subsidization between usage classes.

All three California IOUs have their own bill models that simulate the effect of rate redesign on revenue sufficiency requirements. One common complaint among advocates is that the surfeit of dissimilar platforms makes it difficult to track work on these models or effectively use them for analysis.

A key input under examination is price elasticity — how much usage will be affected by changing rates. The data is limited and conflicting on whether rate structures affect usage patterns, and it may be that users respond more to monthly bill totals than to rate structure. Changing rates seem to have little impact on usage if monthly electricity bills are a small fraction of rent, but as the bills come to represent a larger such fraction, it becomes more likely that users will respond to price signals. Such effects are not currently reflected in any of the IOU bill calculator models.

Other central questions are the effect of time-of-use rates on usage patterns, and how to provide customers with a simple, understandable price signal, given that the structure of net load will change dramatically over the next 10 years. Several parties have expressed concern that excessively complex rate design structures will not have the desired effect on modifying usage to support renewable integration goals.

[Greg: please just omit these highlighted lines.]

Climate Advocacy

[No updated report.]

Distributed Generation (DG)

[No updated report.]

Southern California Activities

Los Angeles Feed-In Tariff Program

In January the Los Angeles Department of Water and Power (LADWP) Board of Commissioners approved a 100 MW Feed-In Tariff (FIT) program, and established a fixed price of 17 cents/kWh.

The Board authorized LADWP to open solicitations in February with the first of five 20-MW tranches. The program includes a set-aside for small projects (30 – 150kw) for local businesses, small warehouses, and multifamily residential buildings in each of the five 20-MW allocations. LADWP had let a pilot FIT in the summer of 2012 for 10 MW at 16 cents/kWh, but ultimately only 4 MW of projects were short-listed for that program. It is not clear how many of the 4 MW are currently installed. The unenthusiastic response was reportedly due to the business community's desire for a higher FIT rate than 16 cents.

Salton Sea Update

Three bills on Salton Sea restoration efforts were introduced in the Legislature, but none were enacted.

However, momentum in Washington toward restoration may be building after several Southern California residents complained of a foul odor, which reached as far as Ventura County, emanating from a recent die-off of fish in the sea. Interior Secretary Ken Salazar has pledged to work with local agencies to help restore the troubled body of water. Less than a month after Senator Barbara Boxer discussed with him the socioeconomic and public-health ramifications if the sea continues to recede, Secretary Salazar joined Senator Boxer, Congressman Raul Ruiz, and Assemblymember Manuel Perez on a tour of the area to assess environmental damage and discuss restoration with local officials and stakeholders.

At a December board of directors meeting, the Salton Sea Authority ratified the appointment of its new executive director Roger Shintaku, who is a civil engineer from Corona. He is expected to function as a lobbyist and fundraiser for restoration, and find ways to develop, sell, or finance the myriad of projects under consideration.

With new leadership in place, the Authority plans to invite representatives of local elected officials and possibly federal agencies such as the Bureau of Reclamation to sit on its board of directors. The goal is to build on the momentum generated by Secretary Salazar's pledge of support, and to cement a relationship between the Authority and federal agencies. The Authority is drafting a letter to Salazar that summarizes the setbacks to restoration of the sea, and calls on him and the state Natural Resources Agency Secretary to work with the Authority to tackle economic and biological problems posed by the receding sea.

2013 Imperial Valley Renewable Energy Summit & Expo

The sixth Annual Imperial Valley Renewable Energy Summit and Expo will be held on March 13 – 15 in Holtville, and will feature a business exposition, a tour of renewable energy facilities, and industry-specific break-out sessions. CEERT Board Chair Jonathan Weisgall has been invited to be the opening speaker for the fourth year in a row. As a member of the Summit's planning committee, CEERT's Nicole Ochoa helped arrange for our Southern California Program Director Rhonda Mills to be a panelist for the *New Renewables: Emerging Technologies* session. CPUC Commissioner Mark Ferron has been invited to speak on Resource Adequacy issues as they pertain to Imperial Valley.

Transportation Advocacy

ZEV Action Plan

CEERT participated in August meetings with staff from the Governor's office and various state agencies (notably CARB, CEC, and CPUC) that constitute the Interagency Workgroup on Zero-Emission Vehicles (ZEVs). These meetings provided input on plug-in electric vehicles (PEVs) and fuel-cell vehicles (FCVs) for a ZEV Action Plan that will further the Governor's March 23 Executive Order B-16-2012 goal of having 1.5 million ZEVs on California's roads by 2025.

The Action Plan will identify specific strategies and actions that state agencies will take to implement the Executive Order. A draft Plan was the focus of a September 28 invitation-only Governor's ZEV Summit. Input from key stakeholders during the summit and written submissions sent to the Interagency Workgroup on ZEVs during the fall are being incorporated into a final draft of the initial Plan, which will undergo constant revision and adjustment as all stakeholders gain greater experience and a deeper understanding of what needs to be done to achieve the Executive Order's goals.

Electrifying Transportation

During the fall and winter the Plug-in Electric Vehicle Collaborative's (PEVC's) efforts continued to focus on developing practical approaches for siting and permitting PEV charging stations at workplaces and multi-unit dwellings. The PEVC also selected a new Executive Director, former State Senator Christine Kehoe, to replace Diane Wittenberg.

Fuel-Cell Vehicles and Hydrogen Fueling Infrastructure

CEERT continues to work with members of the California Fuel Cell Partnership and other stakeholders on a deployment strategy for hydrogen fueling stations that could form an initial commercial market during 2015 – 2017, and on the financial modeling of cost-effective approaches to funding those stations. This work now includes developing a roadmap for fuel-cell buses.

CEERT has drafted a proposal for California establishing regional readiness councils to implement the deployment strategy for FCVs and hydrogen fueling infrastructure. We also worked with CEC staff on a

new solicitation under the Alternative and Renewable Fuel and Vehicle Technology (AB 118) Program to establish regional readiness councils for alternative fuels other than electricity and PEVs, which includes hydrogen and FCVs. This solicitation will be issued in the spring of 2013.

Low-Emission Vehicle Regulations

On August 28 the US EPA issued its final greenhouse gas (GHG) standards for model year 2017 – 2025 passenger vehicles. These regulations are designed to work synergistically with California's Advanced Clean Cars regulations that CARB adopted in January as part of a national program for vehicle GHGs. CARB adopted the federal provisions — along with minor revisions to the LEV III criteria pollutant regulations and the ZEV regulations — during its November 15 Board hearing.

CEERT is monitoring developments in advanced internal combustion engines (ICEs) and emissions control systems for passenger vehicles. Our review of the technical and academic literature indicates there are challenges in meeting emissions targets for particulate matter when using new fuel formulations containing higher ethanol levels (>10%). We continue to share and discuss this research with CARB staff.

CEERT hosted a December meeting of NGOs with the Manufacturers of Emissions Controls Association (MECA) to review the latest developments in performance and testing of advanced ICEs. MECA's own research and testing also highlights that fuels containing higher ethanol blends generate increased particulate-matter emissions. The automotive manufacturers claim that they will be able to resolve this issue, and that their new advanced cars will meet the increasingly stringent emission performance standards that the new regulations require.

Low-Carbon Fuel Standard (LCFS)

CEERT continues to monitor the ongoing work to refine the LCFS, and to actively meet with stakeholders representing all public and industry interests in the LCFS program. CARB is continuing to develop revisions to the way indirect land-use change affects the lifecycle assessment of biofuels.

Version 1 of the open-source Oil Production Greenhouse Gas Emissions Estimator (OPGEE) model was incorporated into the LCFS regulation in November. The OPGEE model tracks lifecycle emissions from the production of individual crude oils upstream from the oil refinery. All refiners now have a standardized way to calculate those emissions.

AB 118 Alternative and Renewable Fuel and Vehicle Technology Program

CEERT continues to serve on the AB 118 Advisory Committee. In preparation for the Program's 2013 – 14 Investment Plan, the CEC convened a September 19 meeting to review market conditions, technological progress and hurdles, and other issues that affect the development of alternative and renewable fuels and vehicle technologies.

CEC staff presented a first draft of the 2013 – 14 Investment Plan at a December 4 meeting of the Advisory Committee. A revised draft Investment Plan released on January 14 proposes \$100 million in total funding, with \$12 million for EV incentives and charging infrastructure and \$20 million for hydrogen fueling infrastructure. The revised Investment Plan will be the subject of an Advisory Committee meeting in February, with the CEC adopting a final version in the spring.