

**CENTER FOR ENERGY EFFICIENCY AND RENEWABLE TECHNOLOGIES**  
**QUARTERLY STAFF REPORT**  
**JANUARY – APRIL 2014**

**EXECUTIVE SUMMARY: THE PAST THREE MONTHS AT A GLANCE** (pages 1–2):

**Modeling the Decarbonized Grid past 2030** (full report on pages 3 – 4)

The way we have promoted clean energy resources has worked well in many ways and is getting us to our initial RPS goal of 33% renewables by 2020. We have learned how renewables perform in real time, what they cost, and how they fit on the electric grid of the past. The challenge we now face is how to continue eliminating carbon from the electricity grid of the future.

To help answer that big question, CEERT’s Jim Caldwell and Ali Ehlen are leading an *in-depth study of the California grid in 2030* as a benchmark for the state’s ambitious greenhouse-gas (GHG) reduction goals. Once that benchmark is established, the second phase of the study will be to project the best way to add more preferred low-carbon resources to build an optimally efficient and cost-effective grid. The target is a grid in 2030 that has half its current level of GHG emissions, integrates expanding quantity of variable resources, and that supports aggressive electrification of the transportation and building energy sectors.

At the California Independent System Operator (CAISO) CEERT advocated that the proposed *Flexible Resource Adequacy Criteria/Must-Offer Obligation (FRACMOO) tariff* would result in an overdependence on natural gas generation. CEERT argued that the tariff should be interim and limited to procuring 25 – 50% of CAISO’s projected ramping requirement while we rely on the market to provide the remainder.

CEERT also urged the CAISO to recognize the Salton Sea Authority Plan for *Sea restoration*, which calls for development of *1,400 MW of geothermal resources*, as a key element of state policy that should guide the CAISO Transmission Plan, in addition to consideration of Renewable Portfolio Standard (RPS) policy.

**Advocacy at the California Air Resources Board (CARB)** (full report on pages 4 – 5)

CARB released its final *Update of the AB 32 Scoping Plan*, which we believe was greatly improved by our suggestions, and states that meeting the necessary 2050 GHG reductions will require a strong clean energy component. The *energy sector* will have an integrated plan by 2016 that will likely identify how to go beyond the current RPS, and include means for implementation.

**Advocacy at the California Energy Commission (CEC)** (full report on page 5)

CEERT is actively taking part in the CEC’s *2014 Integrated Energy Policy Report (IEPR)*, which is focusing on transportation issues and on transmission, the impacts of land-use planning efforts, the use of environmental screens in energy procurement, and renewable energy penetration beyond 33%.

The IEPR’s *transportation issues* range from changing trends in the makeup of California’s crude oil mix to development of an infrastructure plan for the state’s electric-vehicle charging infrastructure.

**Advocacy at the California Public Utilities Commission (CPUC)** (full report on pages 6 – 13)

Working with our affiliates, CEERT filed Comments reflecting our concerns about any *renewable net short methodology* that would effectively create a ceiling on renewables procurement.

We continued to advocate for reform of the *RPS Calculator* and the *least-cost best-fit (LCBF) criteria*.

The *Long-Term Procurement Planning (LTPP) Track 4 decision* adopted several *key positions that CEERT had advocated*: ensuring continued commitment to the “clarified” *Loading Order* of preferred resources, including *large-scale pumped storage* in authorized Track 4 procurement, recognizing reductions in local capacity requirements from *transmission solutions* and *preferred resources*, and encouraging San Diego Gas & Electric (SDG&E) to conduct a *Living Pilot* to better define the attributes of preferred resources for meeting local needs.

We filed Comments on proposed methodologies for calculating the *flexible and qualifying capacity* for storage and preferred resources, and called for needed revisions in order to fairly value those resources.

In Comments on the proposed *CPUC/CAISO Joint Reliability Plan*, CEERT identified the need for evidentiary hearings to resolve the new concepts being explored in that rulemaking. Of key importance is how resolution of long-term reliability planning assessment issues may be incorporated into both the current annual Resource Adequacy (RA) proceeding and the LTPP rulemakings.

Revised CPUC decisions on *demand response (DR) programs* recognized CEERT’s positions on avoiding segregation of DR resources or categorizing them before their attributes have been defined, and clarified that DR program bifurcation was only being adopted on a “conceptual” basis at this time.

CEERT is a party to or is tracking CPUC proceedings on *energy efficiency*, the *water-energy nexus*, *alternatively fueled vehicles*, and *net energy metering*.

#### **Solar Advocacy** (*full report on pages 13 – 14*)

CEERT continues to monitor the implementation of the *Desert Renewable Energy Conservation Plan (DRECP)* process. The draft Plan is expected to be released in July or August at which time there will be opportunity for analysis and comment.

Riverside, Imperial, and Kern counties received CEC funds to develop *local renewable energy and conservation elements* for their general plans.

At a meeting with significant industry and conservationist participation, the *California Desert Renewable Energy Working Group* formed a number of working bodies that will develop policies for the full group to sign onto.

The Governor’s Office and the Office of Planning and Research are talking with CEERT and other parties about a working group to plan for *solar development on retired farmland in the San Joaquin Valley*.

CEERT is working with the Nature Conservancy and Natural Resources Defense Council (NRDC) on convening a conversation about the *environmental screen at the CPUC and CEC for renewable energy project siting*.

#### **Southern California Activities** (*full report on pages 14 – 15*)

IID commissioned a study to assess the revenue potential of renewable energy development at the Salton Sea, and found that *geothermal development* could generate as much as \$2 billion over a 30-year period.

#### **Clean Transportation Advocacy** (*full report on pages 15 – 16*)

CEERT continues to be an active participant in defending the *Low-Carbon Fuel Standard (LCFS)*, which CARB staff are currently working to revise. We remain concerned that compliance in the later years of

the program might pose a challenge if sufficient cellulosic fuels are not available. CEERT has been invited to serve on the LCFS 2014 Review Committee.

We are helping develop the *AB 118/AB 8 Program's 2014 Investment Plan*, which is proposing \$20 million for EVs and charging infrastructure and \$20 million for hydrogen fueling infrastructure.

CEERT is active in a CPUC proceeding on vehicle-grid integration and *the use of vehicle batteries for demand response (DR) or energy storage*. We are meeting with auto manufacturers, DR companies, and other stakeholders to explore opportunities and barriers that should be addressed in this proceeding.

The California Fuel Cell Partnership is drafting a progress report on *hydrogen fueling station deployment*. CEERT is contributing to this effort, which will produce a final draft for release this spring or summer.

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## **The Low-Carbon Grid**

### *California 2030 Low-Carbon Grid Study*

CEERT's Jim Caldwell and Ali Ehlen are continuing to staff an in-depth study of the California grid in 2030 as a benchmark for the state's AB 32 greenhouse-gas (GHG) reduction goals. The target is a 2030 grid that has half its current level of GHG emissions, and that supports aggressive electrification of the transportation and building energy sectors.

A consortium of 21 companies and trade associations and two foundations make up the Steering Committee that governs the study and provides its funding. Jim and Ali expect more companies and trade associations to join over the next two months. CEERT is acting as fiscal sponsor. The Steering Committee represents all renewable technologies, gas-fired generation, energy storage, energy efficiency, and demand response, both within California and throughout the Western grid.

The study will adhere as closely as possible to the data sources and default assumptions in the CPUC's Long-Term Procurement Planning proceeding and the CEC Integrated Energy Policy Report and CARB Scoping Plan update, as well as the Western Electricity Coordinating Council (WECC) TEPPC "Common Case" for the rest of the West. The modeling team currently includes the National Renewable Energy Laboratory (NREL) and General Electric Consulting, using primarily the PLEXOS production cost model platform, and the WECC TEPPC group might join that team as part of their 2014 Study Plan.

The issues that the study will examine include:

- The costs and benefits of pursuing a diverse RPS portfolio, which may have a higher initial cost but a better "best fit," resulting in better overall value to the system and to ratepayers.
- The consequences and benefits of emerging cooperative efforts with other balancing authorities in the West that have their own RPS and GHG-reduction efforts, including the impact of the current Energy Imbalance Market initiative.
- The operational challenges and impact on the financial condition of the gas fleet under this scenario of cutting the gas burn in half over the next 15 years to meet the GHG target.
- The impact should Diablo Canyon not be relicensed in 2023.
- The opportunities and challenges of actively engaging the customer side of the equation in bending load to match generation constraints, rather than the traditional opposite construct.

The study outputs will be capital expenditure requirements and production cost differentials along with California and WECC-wide GHG emissions. It will thus be able to calculate rate impacts and \$/ton of GHG reductions for comparison with other measures.

In early April, the study group constructed 70- and 100-TWh portfolios for incremental renewable energy between 2020 and 2030, and sent those portfolios to NREL. Those quantities bookend the likely range of new renewables required to achieve the stated GHG target of 50% reduction by 2030. Representatives from CARB and the Governor's Office visited the meeting at which the model portfolios were negotiated.

Results from the study's Phase I are expected by the end of June, with Phase II expected to wrap up with a Final Report by early October.

### *Work at the CAISO*

#### **FRACMOO (Flexible Resource Adequacy Criteria/Must Offer Obligation)**

In public comments at the March 21 CAISO Board Meeting when Staff was granted authorization to file a FRACMOO tariff at FERC, Jim Caldwell restated CEERT's long-standing positions on FRACMOO:

- The FERC tariff filing should be labeled interim and sunset at the end of 2016. Any subsequent tariff filing should capitalize on lessons learned from the "practice" procurements in 2014 and 2015 in advance of the real need for increased grid flexibility, which is projected to begin in earnest about 2017.
- Full price discovery of bilateral contracts executed in the forward procurement of FRACMOO resources must be mandated to judge the costs and benefits of the program.
- The forward procurement of 50% of required operating reserves along with daily ramping needs, both as part of FRACMOO, unnecessarily complicates the procurement since these two different "products" have very different triggers for when to call the resources, how often the resources will be called, and the duration and persistence of the actual resource deployment. CEERT does not oppose the forward procurement of 50% of required operating reserves, but believes such procurement should be a stand-alone effort under existing and well-understood metrics for operating reserves, and not under the untested and complicated FRACMOO rules.
- The CAISO should only procure 25 – 50% of the projected ramping requirement through FRACMOO and continue to rely on the "market" — including imports and exports, price-responsive demand, and resources that are not awarded FRACMOO contracts — to provide the remainder, as the grid has reliably done for at least 100 years. This recommendation is very similar to the objections voiced by the Market Surveillance Committee at the March 21 CAISO Board meeting.

CEERT reiterated these recommendations on a Staff conference call on March 31 and at a face-to-face meeting with senior CAISO Staff on April 14. The CAISO plans to file a FRACMOO tariff without modification at the Federal Energy Regulatory Commission (FERC) around the end of May. Meanwhile, we will assess other stakeholder support for CEERT's position and decide on a future course of action.

#### Deliverability of Imperial Irrigation District (IID) Resources

At the March 21 CAISO Board Meeting on adoption of the 2013-2014 Transmission Plan, Jim Caldwell made the following public comments on deliverability of new resources from the Imperial Irrigation District (IID) service territory (principally geothermal resources from the Salton Sea) as contained in the Transmission Plan:

Although CEERT recognizes that the closure of the San Onofre Nuclear Generating Station (SONGS) adversely impacted "deliverability" of imports from east of the CAISO boundary in Southern California (Arizona, Nevada, and IID), the CAISO erred by assessing *all* of the impact against resources within IID, and should have assessed the impact pro rata with out-of-state resources. Further, the CAISO needs to recognize the Salton Sea Authority Plan for Sea restoration, which calls for development of 1,400 MW of geothermal resources, as a key element of state policy that should guide the Transmission Plan, in addition to routine consideration of RPS policy.

In subsequent conference calls and a face-to-face meeting with senior CAISO Staff that CEERT held on April 14, Staff agreed to conduct a broad stakeholder process on the subject early this summer and invite the Salton Sea Authority to participate.

#### Climate Advocacy: California Air Resources Board's (CARB's) Update to the AB 32 Scoping Plan

In February CARB released its final draft Update of the AB 32 Scoping Plan. The Draft is accompanied by an environmental impact report, and is open for public comments until April 28. The CARB Board will hold a public hearing on the Update at its monthly meeting in May.

The Update has improvements from the October draft, including a list of specific measures, identification of which agency is responsible for which measures, and a timeframe for the measures to be completed.

Of particular interest to CEERT:

- The energy sector will have an integrated plan by 2016 that will likely identify how to go beyond the current RPS, and means for implementation. Options include expanding the RPS, setting a new clean energy standard, using the Cap and Trade Program for implementation, or a combination of strategies.
- The water energy sector is linking actions to the state's drought plan and continuing work on a suite of strategies. As the water sector uses 20% of California's energy, this will be important.
- The short-lived climate pollutants section calls for an integrated set of measures by 2015.
- The building standards section calls for the identification of a new suite of measures that expands on California's already strong program.

Missing from the Update are metrics for measuring success at reducing GHG emissions, identification of a goal or implementation path beyond 2020, or specifics that ensure transparency in the process. The draft does state that meeting the 2050 GHG reductions targets that the International Panel on Climate Change has called for will require an increased level of actions beyond those underway to meet the 2020 goal. It is expected that this will involve direction from the legislature and getting past the 2014 election.

#### **Advocacy at the California Energy Commission (CEC): The 2014 Integrated Energy Policy Report**

In late March the CEC began its 2014 review of the Integrated Energy Policy Report (IEPR). Its main focus will be transportation programs, as Commissioner Janae Scott is chairing the 2014 IEPR, and she is responsible for transportation issues at the CEC. Commissioner Karen Douglas will concentrate on transmission, the impacts of land-use planning efforts such as the Desert Renewable Energy Conservation Plan (DRECP), the use of environmental screens in energy procurement, and renewable energy penetration beyond 33%. A workshop on those issues will be held in mid-summer. CEERT is actively taking part in this process.

On April 16 Commissioners Scott and Douglas met with stakeholders at CEERT's office to discuss their plans for the IEPR and to seek input on issues that should be considered. Of particular interest were:

- How to recreate a market for renewable energy in California beyond 33%;
- How to better integrate Western-region transmission issues;
- How to better use land-use issues for priority development and no-go zones in renewable energy project assessment;
- How to integrate work being done in the AB 32 Scoping Plan — most notably a 2030 GHG reduction goal — into this and next year's IEPR;
- How to get better coordination on future planning between the CEC, CPUC, CAISO, and CARB;
- How to put more emphasis on the water/energy nexus (especially in light of the drought) than is currently contained in the AB32 Scoping Plan;
- How to significantly revise the CPUC's RPS Calculator, with an emphasis on GHG reductions; and
- How to develop an expanded analytic tool that considers the costs and benefits of all energy supply and demand options in a careful manner, rather than keep those options within the traditional silos of fossil vs. renewables vs. efficiency vs. demand reduction.

Transportation issues range from changing trends in the makeup of California's crude oil mix to development of an infrastructure plan for the state's electric-vehicle charging infrastructure. The CEC held three workshops in March and April that reviewed the vision for future transportation that legislative leaders and the Governor's Office have, the technology potential for meeting California's transportation needs in new ways, and the potential of innovative financing strategies.

The 2014 IEPR Update will inform the transportation policy direction of the CEC and the AB 118/AB 8 Program for the next decade. CEERT is meeting with CEC staff and key stakeholders to explore the state's transportation issues in depth.

CEERT is also working with NRDC and the Nature Conservancy on a project that will focus on the environmental screen for renewable energy project siting at the CEC and CPUC.

### **Advocacy at the California Public Utilities Commission (CPUC)**

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

For renewables development (including transmission access) and procurement, the CPUC's implementation of the Renewable Portfolio Standard (RPS) Program in R.11-05-005 remains the focal point. With the resignation of Commissioner Ferron, this proceeding has been reassigned to Commissioner Peterman.

On January 13, just before Commissioner Ferron departed, he issued a Third Amended Scoping Memo that set forth a schedule for considering remaining tasks in R.11-05-005, including implementation of AB 327's amendment of PU Code Section 399.15(b)(3) to state that the "commission may [*"may" replaces "shall not"*] require the procurement of eligible renewable energy resources in excess" of the 33% RPS target. This language nullifies certain parties' arguments that a "ceiling" exists limiting RPS procurement to 33% by 2020. Language in this section referring to "voluntary" procurement by obligated retail sellers was also eliminated.

Among other issues to be addressed in R.11-05-005 in 2014 are: (1) Procurement Expenditure Limitations (PELs) for each investor-owned utility's (IOU's) RPS procurement; (2) revisions, reform, and improvements of RPS compliance and enforcement mechanisms, least-cost best-fit (LCBF) criteria, the RPS Calculator, and the RPS procurement process in light of AB 327; (3) implementation of a separate 250 MW bioenergy procurement mechanism; (4) 2014 RPS Procurement Plans, including solicitation materials; and (5) RPS-specific confidentiality rules.

On February 19, a Staff Proposal for revising the methodology used to calculate the renewable net short for RPS procurement was issued for comment. On February 20, a new comment schedule was set for revised PEL proposals and responsive comments. And on April 8, a Staff Proposal for reforming the RPS procurement review process was issued for comment.

Working with our affiliates, CEERT filed Opening and Reply Comments on the Staff Proposal for the renewable net short (RNS) on March 12 and March 26. (These comments have been previously distributed to the CEERT e-mail list.) Our central concern is the use of any RPS RNS methodology that would effectively create a ceiling on renewables procurement, which would be at odds both with AB 327 and with LTPP procurement based on meeting all energy needs first from Loading Order preferred resources, e.g., renewable generation, without limit to any program targets otherwise set for such resources.

CEERT staff prepared and distributed a detailed summary of the proposals on the PEL methodology. We are in the process of reviewing the April 8 Staff Proposal for reforming the RPS Procurement Process, which follows from earlier Staff attempted revisions on which we have previously commented.

CEERT continues to have significant concerns with the ongoing use of the RPS Calculator in this and other procurement proceedings, and with the long-overdue need to reform the LCBF criteria. Based on recent comments of the CPUC's Energy Division chief at a legislative hearing, it appears that Staff may withdraw the current RPS Calculator in favor of a revised version that will be issued at a later time.

On March 26, an Assigned Commissioner's Ruling (ACR) (Peterman) was issued "identifying issues and schedule of review" for 2014 RPS Procurement Plans. See: <http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M089/K136/89136150.PDF>. Disappointingly, the ACR directs that bid solicitation protocol shall include LCBF methodologies, but does not launch a new (and much-needed) inquiry into the methodology itself; the IOUs are simply instructed to apply an LCBF methodology consistent with past decisions.

However, the ACR does identify certain topics for party comments, including capacity valuation, project development requirements, and a renewable integration adder, with detailed questions posed on each.

The ACR requires once again that each IOU provide an assessment of the offers and contracted projects in the Imperial Valley, based on ensuring renewable project use of the Sunrise Powerlink Transmission Project. The delivery of renewable resources from the area has taken on new emphasis with the revitalization of the Salton Sea Authority as authorized by AB 71 and identification of 1,400 MW of geothermal development as an integral part of the Sea restoration plan. In our upcoming Comments, CEERT intends to urge CPUC consideration of this issue in the current RPS procurement planning cycle.

According to the schedule adopted for the 2014 RPS Plans and comments, the IOUs, along with ESPs and small utilities, were to file their proposed plans by May 14. Comments on the plans and the questions posed by the March 26 ACR were due on June 11, with reply comments and requests for evidentiary hearings to be filed on July 9, and a Proposed Decision expected by the fourth quarter of 2014.

On April 9, SCE and PG&E submitted a request to extend the date for filing the 2014 RPS Procurement Plans and for filing comments, claiming the current timeframe was insufficient because the IOUs have only recently shortlisted sellers from their 2013 RPS RFOs, and negotiations that have not commenced will inform the 2014 plans. CEERT did not object to this proposed revision in the schedule. On April 16, the ALJ granted an extension for filing the 2014 RPS Plans, but not to the extent requested by SCE and PG&E. The 2014 RPS Plans are now due on June 4, and Comments on the RPS Plans and ACR's questions are now due on July 2, with Reply Comments due on July 30.

#### Long-Term Procurement Planning (LTPP)

##### 2012 LTPP (R.12-03-014)

The CPUC's LTPP rulemakings have been the focus of significant CEERT attention, especially to increase reliance on Loading Order preferred resources (energy efficiency, demand response, and renewable generation) to meet the IOUs' long-term system and local energy needs. CEERT's advocacy met with great success in D.13-02-015 in Track 1 of this rulemaking, which for the first time relied on forecasts of preferred resources to reduce residual need, and also required a specific amount of these resources to be procured to meet SCE's local capacity requirements (LCRs).

CEERT continued this advocacy in the LTPP's Track 4, which addressed local need for SCE and SDG&E following retirement of the San Onofre Nuclear Generating Station (SONGS). Through comments, testimony, and briefs, we argued that any Track 4 decision must fully consider the results of the CAISO's Transmission Planning Process (TPP), must represent a renewed CPUC commitment to preferred resources to meet all need in the same manner as D.13-02-015 in Track 1, and must include a minimum level of preferred resources and large-scale pumped storage in any authorized Track 4 procurement.

The CPUC's decision adopting an Energy Storage Procurement Framework in D.13-10-040 had excluded large-scale pumped storage, but indicated that this valuable resource could be procured through the LTPP process. CEERT sought confirmation of that inclusion of bulk storage, especially since it was excluded from the Track 4 generation RFO that SDG&E proposed.

On February 11, the CPUC issued a Proposed Decision (PD) in Track 4. In our Opening and Reply Comments of March 3 and March 10, CEERT was largely supportive of the PD's outcomes and its adoption of key positions we had advocated: ensuring continued commitment to the "clarified" Loading Order of preferred resources, including large-scale pumped storage in the authorized procurement, recognizing the reductions in LCRs from transmission solutions and preferred resources, encouraging SDG&E to conduct a Living Pilot like SCE's to better define the attributes of preferred resources for meeting local needs, and rejecting the arguments of those advocating for the over-procurement of fossil generation (i.e., PG&E).



CEERT followed our Comments with meetings with each of the Commissioners' offices to urge continued commitment to "buckets" of preferred resource to meet local need; reliance on updated assumptions (including key transmission additions in the 2013-2014 CAISO TPP); increased transparency and appropriate eligibility criteria for preferred resources in SCE's Track 1/Track 4 procurement plan and SDG&E's Track 4 procurement plan; extension of large-scale pumped storage eligibility to bid into both conventional and preferred resources procurement; and a requirement for SDG&E to conduct a Living Pilot to further develop the attributes of preferred resources to meet local needs.

In February the CPUC issued D.14-02-040, which modifies some of the LTPP planning rules, and which can be found at: <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M088/K729/88729621.PDF>.

On March 13, the CPUC issued D.14-03-004 in Track 4, which closed the 2012 LTPP, and which can be found at: <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M089/K008/89008104.PDF>. CEERT advocacy prompted one of the few substantive changes from the PD. We had long expressed concern that SCE's Track 1 and Track 4 procurement could potentially rule out otherwise viable preferred resources based on locational restrictions. Language in the Final Decision was changed to "allow SCE to submit an amended procurement plan, if SCE wishes to procure in the LA Basin, but outside of the West LA sub-area as required in D.13-02-015 (based on comments from CEERT)." That change is now incorporated in a revised discussion at page 104, a revised Finding of Fact 93, and a new, added Ordering Paragraph 12.

The Final Decision also revises the PD's "we wish to encourage SDG&E to pursue its own Living Pilot," to "we strongly encourage SDG&E to pursue its own Living Pilot."

Although D.14-03-004 maintains its commitment to preferred resources, it does add an additional 100 MW of procurement authorization for SDG&E, without changing the minimums required for preferred resources procurement. This change was made in response to SDG&E, IEP, and NRG advocacy, and is clearly focused on allowing SDG&E to procure more gas-fired generation, perhaps from its Carlsbad project. The only speakers at the March 14 CPUC meeting challenged this change as bringing more unwanted and unnecessarily fossil generation to the San Diego area.

The Commissioners justified their action by comparing how much generation has retired (SONGS) or is expected to retire (OTC) and, proportionately, how little fossil generation the Commission has authorized as replacement power (estimated to be less than 1/4 of that retiring generation).

The Commissioners described the ability to realize the preferred resource development and procurement they have targeted as very ambitious (even "Herculean"), but consistent with the state's GHG goals. They also pushed back against those seeking 100% non-fossil procurement. None thought such an approach was feasible in the next ten years, and Commissioner Peterman seemed to suggest that those who advocate for this result must do a much better job of providing assumptions that support such an outcome.

CEERT appreciates the CPUC's commitment to preferred resources, and, in particular, Commissioner Florio's consideration of our advocacy. While we expect that Commissioner Florio, especially in his new role as Assigned Commissioner to R.11-10-023 (Resource Adequacy), will continue to foster environmentally sustainable procurement outcomes, the management of the LTPP will likely change with the assignment of Commissioner Picker to the 2014 LTPP. In these circumstances, there will be an ongoing need for CEERT to "connect the dots" in these proceedings in a manner that advances the state's climate change and environmental policies in energy procurement.

2014 LTPP (R.13-12-010)

On February 25 CEERT participated in a first Prehearing Conference in the 2014 LTPP. A Scoping Memo has yet to issue for this rulemaking, but is expected to create separate “phases” on system and bundled procurement, but not local reliability need, as the Assigned ALJ indicated local reliability had been fully explored in Tracks 1 and Track 4 of the 2012 LTPP. Testimony on Phase 1 (system planning) is likely to commence in August or September (starting with a CAISO stochastic study), with the possibility of hearings in the fall. Bundled procurement plans are likely to be filed in summer or early fall.

On February 27, an ACR was issued adopting most of the Joint Planning Assumptions and Scenarios first proposed in December by CPUC Energy Division staff in coordination with CAISO and CEC staff. (See: <http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M088/K489/88489746.PDF>.) CEERT had filed comments on these assumptions in January, as summarized in our February 20 campaign summary; those comments focused especially on increasing the assumption for renewable generation from a 40%-by-2030 RPS to a 50%-by-2030 RPS, and also requested the addition of a new low-carbon, low-gas scenario to the planning exercise. Significantly, among the revisions the ACR made to the Joint Proposal was a change of the 40%-by-2030 RPS assumption to “achieve a 40% RPS by 2024.” (Emphasis added.)

An April 24 Workshop will allow CPUC Staff to “facilitate presentations by Parties who wish to conduct or sponsor technical modeling and submit modeling results as testimony to inform the CPUC LTPP Proceeding on grid operational flexibility needs given increasing penetration of wind and solar resources on the electric grid,” and “to increase transparency of operational flexibility modeling, educate Parties on the complexities of such modeling, and to explore how the model results can best inform procurement decisions.” A second Workshop is tentatively scheduled for May 29. Deadlines to indicate a party intends to make a presentation and to provide presentation materials were April 14 and April 22.

CEERT has indicated to assigned CPUC staff that we are preparing a 2030 Clean Energy Grid Study that should be considered in the development of such modeling.

#### *Resource Adequacy and the Joint Reliability Plan*

The issues of resource adequacy (RA) and system reliability remain primary CPUC (and CAISO) considerations. These issues are the subject of two CPUC rulemakings: Resource Adequacy (R.11-10-023), now assigned to Commissioner Florio following Commissioner Ferron’s departure, and Joint Reliability Plan (R.14-02-001), assigned to Commissioner Peterman. ALJ Gamson is assigned to both, but is joined in R.14-02-001 by ALJ Collette Kersten.

#### *Resource Adequacy (R.11-10-023)*

This RA proceeding, from the fall of 2013 through the present, has continued to focus on CPUC staff and CAISO proposals and reports about “flexible capacity” needs and procurement, as well as methodologies for calculating the flexible and qualifying capacity (QC) for storage and preferred resources such as demand response and wind and solar generation.

On March 3, CEERT filed Reply Comments on two Staff RA proposals presented at a January 16 Workshop: one on Effective Load Carrying Capacity and QC for Wind and Solar Resources and the other on QC/Effective Flexible Capacity Calculation Methodologies for Energy Storage and Supply-Side Demand Response (DR) Resources. Our Reply Comments, which we distributed to CEERT’s email list on March 3, focus on needed revisions to these methodologies to fairly value preferred resources.

By the April 9 Workshop, the following proposals and reports were presented, addressed and made part of the R.11-10-023 record: (1) CAISO’s April 4 Flexible Capacity Report (FCR); (2) CPUC Staff’s April 9 proposal on the implementation of the updated flexible capacity procurement framework; (3) April 3 revisions to a Staff RA implementation proposal; (4) April 9 revisions to the Staff’s proposal on QC and

Effective Flexible Capacity calculation methodologies for storage and supply-side DR; and (5) SDG&E's April 9 presentation on unbundling flexible and generic resource attributes for procurement purposes.

Comments on these proposals and the CAISO's FCR were due on April 18, with Reply Comments due on April 23. CEERT is currently reviewing all of this material, which will likely be addressed in the annual RA decision due in June. Also to be considered is CAISO's adoption of its FRACMOO tariff. CEERT will focus on ensuring that preferred resources and storage are adequately valued, including a clear and appropriate definition of their attributes for meeting RA and flexible capacity needs, and that they are properly counted and considered in any authorized RA procurement.

Joint Reliability Plan (R.14-02-001):

Following on the CPUC's adoption of a "Joint Reliability Plan" (JRP) with the CAISO on November 8, the Commission issued R.14-02-001 on February 5. This rulemaking to "execute" the JRP and consider policy proposals to refine California's reliability framework for electricity procurement can be found at: <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M087/K779/87779434.PDF>.

The policy issues to be considered (and coordinated with LTPP and RA programs) include multi-year forward-looking RA procurement requirements (Track 1), implementation of a long-term joint reliability planning assessment with the CAISO and CEC (Track 2), and adoption of rules and CPUC policy positions on the CAISO's development of a market-based backstop procurement mechanism (Track 3).

On February 27, CEERT filed Reply Comments on the Preliminary Scoping Memo for R.14-02-001, identifying the need for evidentiary hearings to resolve the new concepts being explored in this rulemaking in a coordinated, transparent way. Our Comments were circulated to CEERT affiliates that same day.

CEERT participated in a Prehearing Conference (PHC) on April 17, and sought to ensure that these complex, first-time issues will be fully vetted and subject to evidentiary hearings. Assigned ALJs Gamson and Kersten and assigned Commissioner Peterman and her Chief of Staff Julie Fitch attended the PHC.

Although the Commissioner and ALJs recognized there will need to be some fluidity in how and when these issues are decided, they committed to leaving a placeholder for requesting hearings. However, the CPUC has scheduled initial Workshops on Tracks 1 and 2 for May 2 and May 13. CEERT will participate. Of key importance is how resolution of long-term reliability planning assessment issues may be incorporated into both the current annual RA proceeding and the LTPP rulemakings.

Energy Storage (i.e., A.14-02-006, et al. (IOU 2014 Energy Storage Procurement Plans))

Following the issuance of D.13-10-040 adopting the Energy Storage Procurement Framework pursuant to AB 2514 (see: <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M079/K533/79533378.PDF>), the CPUC closed its storage-specific rulemaking and has not initiated a new one. As previously noted, this framework excluded large-scale pumped storage, a very valuable resource for meeting local and system energy and reliability needs.

As a result, CEERT's advocacy for bulk storage has been embedded in the umbrella LTPP rulemakings and the RA and reliability rulemakings. CEERT's advocacy led to the CPUC specifically including large-scale pumped storage in the LTPP Track 4 procurement authorized in D.14-03-004 (see above).

The Energy Storage Procurement Framework is currently being implemented through applications filed on February 28 for approval of each IOU's 2014 Energy Storage Procurement Plans. On March 14, a CPUC Staff Workshop was held on these applications, focusing on the process, contracts, and evaluation protocols. On March 26, an ALJ's Ruling was issued consolidating the applications, extending the time

to file comments, and setting a Prehearing Conference (PHC) for May 14. CEERT plans to attend this PHC and to continue to track this proceeding.

*Demand Response Programs (R.13-09-011)*

On September 25 the CPUC issued R.13-09-011, an Order Instituting Rulemaking on demand response (DR) issues. The Assigned Commissioner is Commission President Peevey and the Assigned ALJ is Kelly Hymes. A November 14 Scoping Memo identified four phases: Phase One (bridge funding), Phase Two (foundational issues: bifurcation, cost allocation and back-up generators), Phase Three (future DR program design), and Phase Four (DR Roadmap).

The Scoping Memo proposed bifurcation of DR into demand-side and supply-side resources. In December, CEERT filed Responses to the Foundational Questions posed in the Scoping Memo pertaining to bifurcation and a Reply to Responses to those questions.

On January 10, CEERT was invited to join the DR Collaborative, which shared CEERT's concerns that the proposed bifurcation does not appear to retain existing valuable programs and that adopting a bifurcated structure now would mean proceeding before identifying the real problem or purpose.

On January 24, the Commission issued Decision (D.) 14-01-004 approving two-year bridge funding for DR programs, which will ensure continuity in DR programs for the near term. See: <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M086/K608/86608147.PDF>.

Also on January 24, CEERT and the DR Collaborative met with Audrey Lee, Commission President Peevey's advisor, and Rachel Peterson, Commissioner Florio's advisor. Ms. Lee stated that the CPUC is trying to retain existing valuable DR programs with the bridge year funding (2014-2015) and that there will be no cliff at the end-date of these programs. She also stated that the Commission wants to expand and improve existing programs, and that bifurcation was effectively an ongoing bargain with the CAISO – if the CPUC gives it supply-side DR resources, then the CAISO has to plan for integrating DR resources.

On January 29, CEERT and the DR Collaborative met with Nick Chaset, then the Governor's Office Commission advisor and now Commissioner Picker's advisor; Amy Baker, Commissioner Sandoval's advisor; Julie Fitch, Commissioner Peterman's Chief of Staff; and Melicia Charles, Commissioner Peterman's advisor. Mr. Chaset said the CPUC does not want to lose resources, but wants to focus on why certain DR programs are not responding as the Commission believes they should, on developing operationally flexible DR, and on determining whether DR can replace power plants. Ms. Fitch and Ms. Charles were the most sympathetic to the DR Collaborative's position.

On January 31, the Assigned Commissioner and ALJ issued a Ruling Providing Guidance for Submitting DR Proposals to the three IOUs. While several parties filed responses to that Ruling, CEERT elected to focus on the broader policy issue of bifurcation.

On February 21, the CPUC issued a Proposed Decision (PD) that bifurcated DR programs into two categories: (1) load modifiers, which reshape and reduce load by indirectly reducing the RA requirement, and (2) supply resources, which can be dispatched into the CAISO energy markets when and where needed. The PD specifically categorized current DR programs as either load modifiers or supply-side resources.

The PD noted party concerns but concluded that these concerns should not preclude bifurcation, and emphasized that the CPUC will not devalue current DR programs. The PD identified bifurcation issues such as costs of CAISO energy market integration, jurisdiction, RA issues, and unnecessary segregation of programs. It also found that a DR Auction Mechanism (DRAM) is a good starting point for exploration.

CEERT filed Opening and Reply Comments on March 13 and March 18. We supported the PD's statement that current DR programs would not be devalued, and argued that bifurcation requires resolution of RA and CAISO market-integration cost issues prior to implementation, that CAISO cannot have exclusive control of DR, and that DR must be available to address local and system-wide issues.

CEERT was also critical of the PD's failure to identify how bifurcation would enhance DR to help meet the state's clean energy goals, and its failure to deal with jurisdictional issues prior to bifurcation. We asked that the premature categorization of current DR programs as either load modifiers or supply-side resources be eliminated and that proposed definitions be clarified.

On March 20 and 21, CEERT and the DR Collaborative held several meetings with Commissioner advisors and staff members, and with the Energy Division. The issues we raised were (1) the PD's assertion that there is broad support for bifurcation is incorrect, (2) the categorization of existing DR programs is premature, (3) the PD has no recognition of DR for emergency or peak-shaving purposes, and (4) no evidence exists that bifurcation will eliminate double-counting. We gathered from the meetings that the CPUC planned to proceed with bifurcation, but the PD would be modified to address these issues. The most troubling of the meetings was with Nick Chaset, who seemed negative about current DR programs; it was unclear whether he was speaking solely for himself, or also on behalf of Commissioner Picker.

On March 24, a Revised PD was issued that made a number of significant changes based on Comments from CEERT and other parties and the successful CEERT/DR Collaborative meetings at the CPUC. The Revised PD recognized CEERT on the issue of avoiding unnecessary segregation of DR resources as a result of bifurcation, and also referenced CEERT's opposition to categorization of DR resources before the attributes of the various types of those resources have been defined.

These arguments, among others, were persuasive in the Revised PD making the important clarification that bifurcation was only being adopted on a "conceptual" basis at this time for purposes of studying the two categories of DR, and that operational bifurcation would not begin until 2017. Per CEERT's specific request, the Revised PD also eliminated the Ordering Paragraph that categorized current DR programs as either load modifiers or supply-side resources. A Second Revised PD was issued on March 27 that added the word "energy" to Finding of Fact 20.

At the March 27 CPUC Business Meeting, the four Commissioners present unanimously adopted the Second Revised PD. Commissioner Peterman noted her concern about bifurcation and her desire to resolve outstanding issues before proceeding, but Commissioners Florio and Peevey both expressed a wish to proceed "aggressively" with bifurcation. Unfortunately, Commissioner Picker was not present at the meeting so his stance on DR is still unclear. On April 4, the CPUC issued final decision D.14-03-026; see: <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M089/K480/89480849.PDF>.

On April 2, the Assigned Commissioner and ALJ issued a Revised Scoping Memo that defined the scope and schedule for Phase Three, revised the schedule for Phase Two, and provided guidance for testimony and hearings. The scope for Phase Three covers six categories: (1) goals for DR, (2) RA concerns as directed by D.14-03-026, (3) CAISO Market Integration Costs as directed by D.14-03-026, (4) Supply Resources Issues, (5) Load Modifying Resources Issues, and (6) Program Budget Application Process.

The Revised Scoping Memo asked for parties' testimony on remaining Phase Two and Phase Three issues, and on the proposal for a DRAM. Testimony should be served by May 6; hearings will be June 9 – 13; and Opening and Reply Briefs are due in July. (A technical working session on DR wholesale market integration took place on April 18.) Most of the DR Collaborative expressed concern that this schedule was too aggressive; several parties sent a request to the ALJ to extend the time to submit testimony and to hold workshops first on the DRAM. Despite the unanimity of all parties on the need for an extension, the

ALJ denied the request, and the due dates for testimony, hearings, and briefs remain the same; the only concession has been to add “working sessions” to address the DRAM on April 28 and May 22.

Other CPUC Rulemakings:

To date, CEERT has had a limited budget to actively participate in other CPUC proceedings focused on energy efficiency, the water-energy nexus, and net energy metering (NEM). Nevertheless, we are currently a party to or are tracking the following proceedings to take the opportunity (when appropriate and our budget permits) to advance these resources.

Energy Efficiency (R13-11-005)

On March 3 an Assigned Commissioner’s Ruling (ACR) was issued amending the original Scoping Memorandum for this proceeding and providing guidance on energy savings goals for program year 2015. See: <http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M088/K661/88661908.PDF> . A subsequent ruling was issued on April 2 correcting certain errors in the guidance for program year 2015 (<http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M089/K323/89323716.PDF> ). On March 26, the IOUs, as “program administrators,” filed their individual responses and requests for 2015 EE programs and funding. Comments on these submissions are due in April, with a Proposed Decision on 2015 portfolio funding expected by May 13.

Water-Energy Nexus (R.13-12-011)

This rulemaking emanated from a Petition for Rulemaking of the CPUC’s Division of Ratepayer Advocates for a proceeding to develop a partnership framework between energy IOUs and the water sector (both public and privately owned water and wastewater agencies) to co-fund programs that reduce the water sector’s energy consumption. Since the rulemaking’s issuance in December, only a single Pre-hearing Conference has been held, in which CEERT participated; no Scoping Memo has yet issued. Jurisdictional issues between IOUs and publicly owned utilities will likely require early resolution to ensure the success of any partnership framework. An April 25 Workshop has been scheduled for a proposal about marginal water supply and avoided costs.

Net Energy Metering (NEM) (R.12-11-005)

On March 27, the CPUC issued D.14-03-041 (see: <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M089/K386/89386131.PDF>). Pursuant to AB 327, D.14-03-014 establishes a transition period of 20 years for customers enrolled in NEM tariffs, during which systems already on NEM tariffs on the earlier of July 1, 2017 or the date on which a utility reaches its statutorily required NEM cap may continue to receive service on their previously applicable NEM tariff. Significant increases to the generating capacity of a transitioning system will not be eligible.

D.14-03-014’s timing and rules for the transition to a new tariff “should ensure that customers who interconnect...systems under the currently applicable program have a reasonable opportunity to recoup the costs of their investment....” The CPUC believes the 20-year transition period is consistent with the expected useful life of such systems. The IOUs are to file Advice Letters revising their NEM tariffs by May 19. A CPUC Staff Workshop on the NEM successor tariff pursuant to AB 327 is scheduled for April 23.

Solar Advocacy

There has been no news from the agencies about the release date for the draft Desert Renewable Energy Conservation Plan (DRECP). Rumors have now moved the release from May or June to July – August. CEERT continues to monitor the process, but we have little to report right now other than that the agencies are busily working and trying to address all of the federal and state details and legal requirements.

The California Energy Commission (CEC) has issued additional assistance grants to several counties to develop local renewable energy and conservation elements for their general plans. Of particular note,

Riverside, Imperial, and Kern counties received funds in the most recent round. San Bernardino County is well on its way in developing a renewable energy and conservation plan. A series of public workshops are being held in April in communities throughout the desert.

The Energy and Climate Change Task Force has released to the Secretary of the Interior "A Strategy for Improving the Mitigation Policies and Practices of the Department of the Interior." CEERT will be pursuing with DOI staff the potential impacts of this report on current and future renewable energy projects in California and how the report may be integrated into the DRECP.

David Nawi is facilitating the California Desert and Renewable Energy Working Group, which at its April 17 meeting chose a new direction of work while waiting for the DRECP's release. A significant number of both industry and conservation representatives participated. The group rejected the proposed "No Surprises" policy as being too complex, put aside consideration of goals, and formed a number of working groups that will develop policies for the full group to sign onto.

These working groups' topics are: durability, to be led by Peter Weiner; mitigation response to the new DOI report, to be led by Laura Crane; predictability and project approval streamlining, to be led by Rick Miller; renewable energy development on agricultural lands in the San Joaquin Valley, Imperial Valley, and Antelope Valley, to be led by Pam Eaton; renewables development outside of the DRECP area, to be led by Peter Weiner; and the future of energy development in California and ways to influence the Governor's office, to be led by Diane Fellman.

The Governor's Office and the Office of Planning and Research are talking with CEERT, the Large-Scale Solar Association, the Nature Conservancy, and others about a working group to plan for solar development on retired San Joaquin Valley farmland. A proposal has been drafted and funding is being sought.

Some environmental groups have approached CEERT about convening a conversation on the environmental screen at the CPUC and CEC for renewable energy project siting. CEERT is working with NRDC and the Nature Conservancy to develop this effort.

### **Southern California Activities**

#### **Salton Sea Revenue Potential Study**

The Imperial Irrigation District (IID) commissioned a study to assess the revenue potential of renewable energy development at the Salton Sea. The study found that development at the sea could generate up to \$4 billion in revenue over 30 years, with \$2 billion for Sea restoration. Geothermal development could generate as much as \$2 billion over the period, with mineral extraction bringing in a potential \$1.5 billion.

Estimated revenue potential from Salton Sea renewable energy development, 2016-2045:

\$2.001 billion – Geothermal development

\$1.495 billion – Mineral recovery

\$260 million – Algae products

\$150 million – Solar development

\$189 million – Falling water charge revenue

\$42 million – Transmission royalties

*Total: \$4.138 billion*

The study is based on a number of assumptions, comes with caveats, and reveals many risks and uncertainties. For example, it assumes a geothermal potential of 2,000 MW and a solar energy potential of 1,000 MW. Royalties from mineral extraction projects are estimated at \$2.4 million per year for a 50 MW geothermal plant. A new transmission line with construction costs estimated at \$510 million will need to be built in order to deliver the energy generated at the Sea to load centers.

The report leaves a lot of unanswered questions: it does not address the job outlook at the Sea, nor does it address key environmental issues. However, it does recommend a number of steps for IID to take, such as approaching state agencies for the financing and construction of the transmission line and securing loan guarantees for project development.

In the meantime, environmental mitigation projects at the Sea are moving forward.

#### Salton Sea Restoration & Renewable Energy Initiative

Karl Gawell, Geothermal Energy Association Executive Director, presented a resolution to the IID Board of Directors at the Imperial Valley Renewable Energy Summit calling for a Salton Sea Renewable Energy Initiative. According to the resolution, the Salton Sea area represents one of the greatest opportunities for new geothermal development in the U.S. Benefits would include thousands of construction jobs, hundreds of permanent jobs, affordable baseload energy, and support for habitat and species conservation. The initiative will first focus on developing up to 1,700 MW of new geothermal energy at the Sea.

#### **Clean Transportation Advocacy**

##### Low-Carbon Fuel Standard (LCFS)

CEERT continues to be an active participant in the defense of the LCFS. While CARB has been allowed to continue to implement and enforce the LCFS, CARB staff have been working to address the California Court of Appeal's concerns over aspects of how the program was designed and adopted. CARB hosted workshops in March on adjustments it intends to make to the program and updates on the latest modeling research for assigning indirect land use (iLUC) carbon scores to biofuels.

In April CARB held workshops on how it intends to enhance the flexibility of the program by including more incentives for refiners to improve their efficiency, and how it plans to limit volatility in the LCFS credit market going forward, which should result in some cost containment. Workshops also updated industry participants on reporting and enforcement provisions. CARB staff are to complete all program revisions for the CARB Board to consider and adopt in the fall.

CARB is certifying an increasing number of low-carbon fuel pathways (also the subject of an April workshop), which shows there is healthy activity in the low-carbon fuels industry. CEERT remains concerned that compliance in the later years of the program might pose a challenge if sufficient cellulosic fuels are not available. Work continues on organizing a cellulosic fuels conference in the summer.

The LCFS program will have a formal review this year. CEERT has been invited to serve on the 2014 Review Committee (as we did during the 2011 LCFS Review). The first meeting will be in May.

##### Alternative and Renewable Fuel and Vehicle Technology Program

CEERT continues to serve on the Advisory Committee for the Alternative and Renewable Fuel and Vehicle Technology (AB118/AB8) Program. The 2014 Investment Plan was the subject of a second public Advisory Committee meeting on February 10. The Draft Investment Plan proposed \$20 million in funding for electric vehicles and charging infrastructure and \$20 million for hydrogen fueling infrastructure for fuel-cell vehicles (FCVs), out of a total budget of \$100 million. Additional funding could be available for electric or fuel cell vehicles in the medium- and heavy-duty sectors. The Advisory Committee was uniformly in agreement with the budget CEC staff proposed for the 2014-15 funding year, and the CEC will consider adoption of the Investment Plan at its April 22 business meeting.

##### Electrifying Transportation

CEERT is active in the CPUC's new proceeding (R.13-11-007) on vehicle-grid integration and the use of vehicle batteries for demand response or energy storage. Following comments on the Order Instituting



Rulemaking and the Staff's White Paper on Vehicle-to-Grid Integration, the CPUC held a pre-hearing conference on February 26. CPUC staff are drafting a Scoping Order, which will likely be issued in May.

CEERT continues to meet with automobile manufacturers, demand response companies, and other stakeholders to fully explore the opportunities and barriers that should be addressed in this proceeding. Our advocacy will seek to maximize PEVs' potential to provide value and benefits to the grid.

The Governor's Office hosted a second Zero-Emission Vehicle (ZEV) Summit on March 7 to conduct a status check on the implementation of the Governor's ZEV Action Plan. The Summit reviewed the progress made in enabling markets for plug-in electric (PEV) and fuel-cell-electric vehicles (FCVs) since the 2012 Summit. Stakeholders' feedback is being incorporated into an addendum to the ZEV Action Plan.

As an active member of the Plug-in Electric Vehicle Collaborative, CEERT is working with other stakeholders to expedite the deployment of PEVs.

#### Fuel-Cell Vehicles (FCVs) and Hydrogen Fueling Infrastructure

The California Fuel Cell Partnership is drafting a progress report on hydrogen fueling station deployment. CEERT is contributing to this effort, which will produce a final draft for release this spring or summer.

As part of the work to ensure that sufficient hydrogen fueling stations will be in place to support automobile manufacturers' planned deployment strategies for FCVs in the next five years, CEERT participated in an April 14 workshop hosted by the Governor's Office for community leaders in the LA area. The purpose of the workshop was to familiarize planning and permitting authorities with FCVs and the siting and permitting of hydrogen fueling stations. This workshop represents a kickoff for statewide efforts on FCV and hydrogen fueling-station deployment.

As an active member of the California Fuel Cell Partnership, CEERT will be working with other Partnership members, the Governor's Office, and the Governor's new ZEV Infrastructure Project Manager to expedite the deployment of hydrogen fueling infrastructure and FCVs in the state.