

CENTER FOR ENERGY EFFICIENCY AND RENEWABLE TECHNOLOGIES
QUARTERLY STAFF REPORT
JANUARY – APRIL 2017

EXECUTIVE SUMMARY: THE PAST QUARTER AT A GLANCE (pages 1–2):

Western Grid Integration (full report on page 3)

CEERT has been working with allied groups and the *Fix the Grid* campaign on steps to increase regional coordination, decarbonize the *Western Interconnection*, and educate stakeholders on key issues.

Grid Modernization and Reform (full report on page 3)

CEERT plans to push a series of concrete reforms, both small and large, to address *overgeneration*, *renewables curtailment*, and the challenges of *meeting the evening ramp*.

CEERT is advocating at the California Independent System Operator (CAISO) Flexible Resource Adequacy Criteria and Must-Offer Obligation (FRACMOO) stakeholder process and the California Public Utilities Commission (CPUC) Resource Adequacy proceeding for changes to “*flexible resource*” qualifications that would enable clean resources to be used based on their capabilities, and allow greater coordination with neighboring balancing authorities.

Transmission Planning (full report on pages 3 – 4)

Jim Caldwell participated in the CAISO’s just-concluded *2016 – 2017 Transmission Plan* on several key issues, including the decoupling of gas-fired generation from providing Essential Reliability Services.

V. John White urged the CAISO to enable exchanges between California and the Pacific Northwest, and the CAISO and the Los Angeles Department of Water and Power (LADWP), to both *export* surplus renewables and *import* hydropower for the evening ramp.

On a key issue for CEERT advocacy, the CAISO committed to making available *transmission deliverability* from the Imperial Irrigation District (IID) to the CAISO system that will allow incremental development of Salton Sea *geothermal*.

Large-Scale Energy Storage (full report on page 4)

V. John White met with leaders of the California State Water Project Contractors to discuss the potential of expanding use of the state *Department of Water Resources dams* for *renewable energy storage*.

Discussions with the Governor’s Office (full report on page 4)

V. John White met with Saúl Gómez, Deputy Cabinet Secretary, and Alice Reynolds, Senior Policy Advisor to the Governor, to discuss *CAISO reform*, improved *grid coordination*, accurate *greenhouse gas (GHG) accounting*, and the *Diablo Canyon* and *Puente* power plant issues.

Advocacy at the California Air Resources Board (CARB) (full report on page 5)

V. John White and Liz Anthony talked with senior CARB staff about the *2030 Scoping Plan*, adoption of *climate targets* for the electric sector, real-time *GHG accounting*, and a *reduction of California’s dependence on gas-fired power* for ancillary services, flexible capacity, and grid reliability.

Southern California Activities (full report on page 5)

V. John White and Jim Caldwell discussed with senior LADWP officials *expanded coordination and resource sharing* between LADWP and CAISO, and LADWP joining the *Energy Imbalance Market*.

Advocacy at the California Public Utilities Commission (CPUC) (*full report on pages 5 – 17*)

CEERT staff and affiliates met with new CPUC Commissioners Martha Guzman-Aceves and Cliff Rechtschaffen, and with Paul Douglas, Energy Division Project Manager for Integrated Resource Planning.

Activity in the *Renewable Portfolio Standard* proceeding has been very limited over the past quarter.

While the *Integrated Resource Planning* proceeding continues to move at a glacial pace, CEERT actively participated in several IRP workshops, and filed Comments urging the CPUC to favor zero-carbon resources over gas-fired generation to meet the *energy needs of disadvantaged communities*.

CEERT served testimony that recommended the CPUC commit to replacing the entire amount of the *Diablo Canyon power plant's* energy and system capacity with *GHG-free resources*, and to approving such replacement procurement in the current Diablo Canyon proceeding.

CEERT has actively participated in the CPUC's *Resource Adequacy (RA) proceeding* to ensure fair consideration of the attributes and value that *Loading Order preferred resources* provide to meet RA obligations. We spoke against locking in "durable" flexibility protocols or multiyear procurement requirements that do not further decarbonize the grid or ensure reliability or cost-effectiveness.

We believe that options for meeting the *Moorpark area's Local Capacity Requirements* with preferred resources have been undermined by poor CPUC decisions, poor timing, and poor regulatory management.

CEERT has become increasingly convinced that *demand response (DR)* is the key to decoupling gas-fired resources from their virtually exclusive position of supplying Local Capacity Requirements and other Resource Adequacy products. Unless we make significant progress on DR, it will continue to be difficult to *stop new gas development* and to carry out an orderly *retirement schedule for existing gas facilities*.

Clean Transportation Advocacy (*full report on pages 17 – 19*)

CEERT worked closely with Environmental Defense Fund and other allies to persuade the California Air Resources Board (CARB) to affirm the trajectory of the *Advanced Clean Cars* program. On March 24, V. John White testified as the final witness before CARB, which then proceeded to uphold the current 2020 – 2025 *vehicle emission standards* and to pass a resolution to initiate the regulatory process that could lead to adoption of *new vehicle emission standards* for 2025 – 2030.

CEERT continues to track the CPUC's *Alternative-Fueled Vehicles rulemaking* (R13-11-007), as several CEERT affiliates are active parties in this proceeding.

The *Low Carbon Fuel Standard* program is reviewing changes to the pathway carbon intensity application and evaluation process, as well as the addition of mandatory third-party verification.

CEERT continues to serve on the *ARFVTP Advisory Committee*, whose 2017 – 2018 Investment Plan recommended \$17 million in funding for EV charging infrastructure, \$20 million for hydrogen fueling stations, and up to \$17.5 million for near-zero- and zero-emission medium- and heavy-duty trucks.

Short-Lived Climate Pollutants (SCLPs) (*full report on pages 19 – 20*)

At a March 23 hearing, CEERT voiced support for CARB's *Short Lived Climate Pollution Reduction Strategy*, which aims to reduce the state's emissions of methane, black carbon, and hydrofluorocarbons.

CEERT spoke in favor of changes to the *Oil & Gas Rule* that we and other parties had long been advocating, such as quarterly monitoring of methane emissions from oil and gas wells, gas processing facilities,

and compressor stations. The Rule is expected to reduce methane emissions from the state's oil and gas operations by the equivalent of nearly 1.4 million metric tons of CO₂ annually.

Western Grid Integration

Although discussions on integrating the PacifiCorp transmission systems into the California Independent System Operator (CAISO) have halted, there is still a need to increase collaboration in the West for a more efficient grid that will enable decarbonization. CEERT has been working with stakeholders on incremental steps to increase regional coordination and build trust between Western entities.

CEERT Executive Director V. John White and Grid Policy Director Liz Anthony have continued to collaborate with the “Fix the Grid” campaign to develop strategies for cost-effective decarbonization of the Western Interconnection, and to educate stakeholders on key issues. Fix the Grid’s efforts are currently focused on communicating the evolving challenges of operating the grid without enhanced regional coordination, encouraging regional entities to work together on new power market products, and building momentum and consensus among stakeholders for a low-carbon regional grid operator.

Grid Modernization and Reform

While the wet winter has eased the drought crisis in California, it has also resulted in a “high hydro” year, with power from the state’s hydroelectric system well above normal. This, in conjunction with more installed solar and lack of progress on grid reform, has led to an acceleration of the “duck curve”: overgeneration and curtailment of renewables during the day, followed by a steep ramp to the evening peak. These developments have been an opportunity to pinpoint grid policy and operational issues that will inhibit cost-effective decarbonization. We hope to push a series of concrete “reforms,” both small and large, as soon as possible.

Senior Technical Consultant Jim Caldwell and Grid Policy Director Liz Anthony have been working with colleagues from around the West to explore these issues and draft solutions that will bring about a more efficiently operated grid with high levels of renewable energy.

One identified issue is the ability of non-thermal resources to be contracted and utilized as “flexible resources.” Currently, qualifications are designed around the attributes of natural gas plants, which has led to reliance on “long-start” gas resources that must run all day, causing more renewables to be curtailed at midday. It has also led to a lack of alignment between the resources that are contracted and compensated to provide flexible capacity and those that are utilized in the wholesale energy market. This results in poor price signals and incentivizing investments in gas infrastructure rather than zero-GHG electric resources and infrastructure that are more consistent with long-term decarbonization needs.

The team is advocating for changes to “flexible resource” qualifications that would enable clean resources to be used based on their capabilities, and allow greater coordination with neighboring balancing authorities. CEERT is formally working on this issue at the CAISO Flexible Resource Adequacy Criteria and Must Offer Obligation (FRACMOO) stakeholder process and the California Public Utilities Commission (CPUC) Resource Adequacy proceeding. Some movement at both venues will be required for success.

Transmission Planning

CEERT’s Jim Caldwell participated significantly in the CAISO’s recently concluded 2016 – 2017 Transmission Plan on the following issues:

- *Local Capacity Resource Technical Analysis* to help inform grid reform efforts.
- *Risk of Economic Retirement of Gas Fleet Special Study* to help inform both short-term and long-term decoupling of gas from providing essential reliability services. This study confirmed that there is a large surplus of gas plants that do not mitigate locational reliability concerns, and that as much as 4,000 – 6,000 MW of existing facilities could retire without impacting grid reliability, after considering once-through-cooling retirements and closure of the Diablo Canyon Nuclear Plant. The implications for construction of new gas plants are profound.

- *Gas/Electric Coordination Special Study* to help inform the need for gas infrastructure investment to ensure electric reliability. This is critical for understanding Aliso Canyon issues in the short term and for planning long-term investment strategy consistent with decarbonization goals.
- A *Special Study* previewing plans for a 50% Renewable Portfolio Standard (RPS), which found that little or no major new transmission investment in California is required to achieve current 2030 targets. Details of this general finding will be litigated in the CPUC's Integrated Resource Planning proceeding.

V. John White attended the CAISO Board of Governors meeting in late March, and spoke during the public comment period about the need for the CAISO's transmission planning portfolios to be based on 50% RPS and 2030 GHG targets. He also encouraged the CAISO to work closely with the Bonneville Power Administration and other publicly owned utilities to enable bilateral exchanges between California and the Pacific Northwest, and between the CAISO and the Los Angeles Department of Water and Power (LADWP), to export surplus renewables in the middle of the day and then import zero-carbon hydroelectric power to help meet the evening ramp.

On a key issue for CEERT's advocacy over the past 4 – 5 years, the CAISO has for the first time in a long while unequivocally committed to making available transmission deliverability from the Imperial Irrigation District (IID) into the CAISO system that would allow incremental development of Salton Sea geothermal. A full buildout of that resource would require more transmission upgrades, but effectively there is now no short-term transmission constraint to achieve full-capacity interconnection for new geothermal development. This year, the CAISO has actually supported geothermal development and has, on its own, removed the transmission constraint that has been a major factor hindering development of Salton Sea geothermal.

Large-Scale Energy Storage

Jim Caldwell also participated in the *Large Scale Storage Special Study*, which the CAISO intended to demonstrate the economic viability of large-scale pumped hydro storage (which will be cheaper than batteries for the foreseeable future) to integrate variable renewables like wind and solar. However, the study determined that large-scale storage was not cost-effective at a 50% Renewable Portfolio Standard (RPS) if other measures like "Fix the Grid" and grid reform were successful. There will be follow-on work to try to define whether there are local capacity needs that would add value to some pumped storage projects such as San Vicente east of San Diego, or more aggressive RPS goals that could change the general answer. These findings by the CAISO are entirely consistent with the Low Carbon Grid Study.

V. John White held several meetings with Tim Haines of the California State Water Project Contractors to discuss working together on an analysis of the State Department of Water Resources (DWR) system, and the potential to integrate and expand use of the DWR dams for renewable energy storage while strengthening water reliability and increasing water infrastructure investment. Plans are underway to work with the California Water Foundation and the Resources Legacy Fund to carry out this analysis over the next year, assuming funding can be identified and secured.

Discussions with the Governor's Office

V. John White met with Saúl Gómez, Deputy Cabinet Secretary, and with Alice Reynolds, Senior Policy Advisor to the Governor. Discussion topics included near-term opportunities to implement CAISO reform and improve grid coordination within California and with neighboring states; the need for transparent real-time GHG accounting; the availability of preferred, non-gas resources to meet local capacity requirements in the Moorpark Area as an alternative to building the controversial Puente gas-fired power plant in Oxnard; and necessary California Public Utilities Commission actions to ensure a zero-GHG replacement strategy for the Diablo Canyon nuclear power plant.

Advocacy at the California Air Resources Board (CARB)

V. John White and Liz Anthony have continued to meet with senior CARB staff to discuss the 2030 Scoping Plan and adoption of climate targets for the electric sector as a whole and for each load-serving entity (LSE). CEERT has urged CARB to use the Scoping Plan and the LSE targets to guide implementation of SB 350's provisions on integrated resource planning at the California Public Utilities Commission, and at the California Energy Commission for publicly owned utilities.

CEERT emphasized the importance of transparent, real-time GHG accounting to complement and protect against GHG emission increases from regional grid expansion, and the need to track and report on criteria air pollutants from California's natural gas plants in order to ensure that emissions in environmental justice communities do not increase, or are mitigated. We discussed the need to develop a declining cap on natural gas power plant emissions, as a way to ensure continuing reductions in such emissions in disadvantaged communities, and to chart an orderly pathway to reducing California's dependence on gas-fired power plants for ancillary services, flexible capacity, and grid reliability.

Southern California Activities

V. John White and Jim Caldwell had a lengthy conference call with Mel Levine, Chair of the Los Angeles Department of Water and Power (LADWP) Board of Commissioners, Marci Edwards, retiring LADWP General Manager, and Reiko Kerr, Assistant General Manager, on how best to achieve greater cooperation and reserve-sharing between CAISO and LADWP, including securing LADWP's formal agreement to join the Energy Imbalance Market (EIM).

Jim Caldwell made an extensive visit to LADWP this past quarter to understand all of the recent personnel changes at the Department, witness the Board discussion on LADWP joining the EIM, and open a dialogue with the Water System on better use of California Department of Water Resources assets for integrating new renewables.

Advocacy at the California Public Utilities Commission (CPUC)

CEERT Meetings with New CPUC Commissioners and Energy Division IRP Project Manager

In early April, CEERT staff (V. John White, Sara Myers, and Megan Myers) and affiliates (Roby Roberts, Robin Smutny-Jones, and Sarah Webster) had meetings with new CPUC Commissioners Martha Guzman-Aceves and Cliff Rechtschaffen, and with Paul Douglas, the CPUC Energy Division's Project Manager for the Integrated Resource Planning (IRP) Rulemaking. The meetings with the Commissioners were permitted "meet and greet" (not ex parte) meetings, and also involved members of the Commissioners' staffs.

These meetings offered a valuable opportunity for CEERT to provide an overview of our policy and business goals for California and our perspectives on the broader Western energy market and grid. The meetings also gave CEERT insight on the main concerns and objectives of each Commissioner. It is clear that Commissioner Guzman-Aceves is strongly focused on improving environmental quality and technology access related to electric generation in and energy service to disadvantaged communities. Commissioner Rechtschaffen is engaged in multiple CPUC proceedings, is the Assigned Commissioner to the Renewable Portfolio Standard (RPS) Rulemaking (effective February), and is focused on improving the CPUC's administration, transparency, and access. Commissioner Rechtschaffen was also interested in learning more about individual corporate procurement of and reliance on clean energy resources.

The meeting with Mr. Douglas was illuminating in providing some insight into the progress of the IRP analysis. Mr. Douglas indicated that a draft Staff Concept Paper might be issued fairly soon (although it is currently behind schedule), and that the Energy Division's position is that any procurement associated

with replacing the output of the Diablo Canyon Power Plant (DCPP) should be decided only in the IRP proceeding (R.16-02-007) and not separately in A.16-08-006 (PG&E DCPD).

Renewable Portfolio Standard (RPS) Program (R.15-02-020)

Activity in R.15-02-020 has been very limited since the end of 2016. The only substantive ruling in 2017 thus far was an ALJ's Ruling issued on March 24, granting the investor-owned utilities' (IOUs') joint request for an extension of time to file an update to the Joint IOU Proposal for Use of Effective Load Carrying Capability (ELCC) for RPS Procurement. The new file date is May 31.

Integrated Resource Planning (IRP) / Long-Term Procurement Planning (LTPP) (R.16-02-007)

The CPUC's statutory charge from SB 350 to develop Integrated Resource Plans (IRPs) has taken precedence over the CPUC's traditional modeling of 10-year LTPPs. Though incorporating remaining requirements for the IOUs' long-term plans, R.16-02-007 is now predominantly focused on compliance with Senate Bill (SB) 350's IRP provisions, but continues to move at a glacial pace to implement those provisions.

There was a series of IRP workshops in fall 2016 and winter 2016-2017, and CEERT was an active participant in these workshops. We also submitted informal comments on the draft Staff Concept Paper on IRP (August 31), the Staff-proposed IRP Scenario Development (November 3), the Staff White Paper on implementing GHG targets in IRP (November 30), and the December 16 Workshop on the Proposed Reference Plan (January 13).

On December 21, the CPUC finally confirmed the delays that the parties had begun to anticipate by issuing a Ruling that altered the previous schedule significantly. (See: <http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M171/K509/171509508.PDF>). The Ruling stated that 2017 draft assumptions and scenarios for use in the California Independent System Operator's (CAISO's) Transmission Planning Process (TPP) and responsive Comments were due from January 18 – February, with a Commissioner's Ruling adopting the 2017 Assumptions and Scenarios issued in March; Comments on questions related to disadvantaged communities and grid issues were due in February; the Staff's Proposed Guidance on 2017 IRP Process and Contents were due in March, with a workshop to follow; the Staff's Proposed Reference Plan will be in May (as are CARB's final electric-sector GHG emissions reduction targets), with a workshop on that plan also to be scheduled in May, with comments to follow; Proposed and Final Decisions on guidance for the 2017 IRP filings are due in August and September; and load-serving entity (LSE) (i.e., IOU) IRP Filings are due by "the end of 2017."

On February 17, CEERT filed Comments on the December 21 Ruling, urging the CPUC to read and apply all relevant statutory requirements in its implementation of PU Code Section 454.52, especially to ensure that planning for or procurement of gas-fired generation in disadvantaged communities is avoided in favor of preferred, zero-carbon resources to meet the energy needs of these communities.

On January 18, ALJ Fitch issued a Ruling Seeking Comment on Assumptions and One Scenario for Use in Long-Term Planning for 2017. (See: <http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M172/K519/172519400.PDF>.) On February 28, CPUC President Picker issued an Assigned Commissioner's Ruling on the same subject. (<http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M176/K948/176948479.PDF>.)

On February 10, CPUC and CEC Staff issued "Options for Setting GHG Planning Targets for Integrated Resource Planning and Apportioning Targets among Publicly Owned Utilities and Load Serving Entities," which framed issues to be discussed at a February 23 CPUC-CEC Workshop and requested informal comments. The paper provided two options for defining an overall 2030 electric sector emissions target for IRP purposes: Option A (use the electric sector share of statewide 2030 emissions specified in

the California Air Resources Board's (CARB's) Scoping Plan) and Option B (scale the statewide 2030 GHG target by the electric sector's share of the most recent GHG emissions inventory).

In addition, the paper outlined three options for determining a methodology to divide the electric sector emissions reductions targets between the CPUC's and CEC's IRP processes: Option A (use a methodology similar to CARB's allowance allocation for electric distribution utilities), Option B (divide the electric sector target based on electric load served in 2016) and Option C (determine a bottom-up methodology for apportioning the electric sector emissions reduction targets among all retail sellers of electricity). In our informal comments filed on February 17, CEERT recommended using Option A.

On February 23, the CEC and CPUC held a Joint Agency Workshop on 2030 GHG Emission Reduction Targets for IRP. This workshop provided an overview of electricity sector GHG targets in the Scoping Plan update and the interagency process to establish GHG planning targets for IRP. There were also panels on defining the sector-wide GHG planning target and on dividing that target between the CPUC's and CEC's IRP processes. Informal reply comments were filed on March 9.

The Staff Proposal: Guidance on 2017 IRP process and contents was supposed to be issued in March with a workshop to follow. However, that Proposal is now anticipated to be issued at the end of April.

Clearly, progress will continue to be slow in achieving the end point of even a pilot or practice 2017 IRP, which would likely not trigger any procurement, but merely offer information for use in IRPs filed in 2018 – 2019. In addition, as discussed in more detail below, PG&E has withdrawn its testimony on Tranches 2 and 3 in the PG&E Diablo Canyon Power Plant (DCPP) proceeding, and, as noted above, the CPUC staff assigned to the IRP believe that replacement of DCPP output should only be considered in the IRP and not in the DCPP application. This further underscores the importance of CEERT continuing our active involvement in both the IRP and Diablo Canyon proceedings, particularly to ensure that the IOUs are on target for achieving the state's GHG emission reduction goals.

A.16-08-006 (PG&E Diablo Canyon Closure & Proposed Procurement Plan)

On August 11 PG&E filed A.16-08-006, seeking approval of its plan to retire its Diablo Canyon Power Plant and related proposals, including a Joint Proposal offered by PG&E, Friends of the Earth, Natural Resources Defense Council, Environment California, IBEW Local 1245, Coalition of California Utility Employees, and Alliance for Nuclear Responsibility to replace a portion of Diablo Canyon's output with "greenhouse-gas-free renewable energy, efficiency and energy storage resources." This jointly proposed procurement plan involved three "tranches" of procurement: Tranche #1 (2,000 GWh of energy efficiency installed by the end of 2024); Tranche #2 (an all-source solicitation of 2,000 GWh of GHG-free energy for delivery in 2025-2030; and Tranche #3 (a voluntary commitment to a 55% RPS to start in 2031).

CEERT has been actively involved in the retirement of Diablo Canyon and its replacement with carbon-free resources since before the filing of this application, including providing initial analysis to Friends of the Earth in Q2 2016 on "A Cost Effective and Reliable Zero Carbon Replacement Strategy for Diablo Canyon Power Plant." We cited this report in our Response to A.16-08-006 filed on September 15.

On January 27 CEERT served our Opening Prepared Testimony, which focused on the Proposed Replacement Procurement for Diablo Canyon, and recommended the following:

- Affirm PG&E's decision not to seek license extensions for Diablo Canyon, and allow Unit 1 to retire in 2024 and Unit 2 to retire in 2025, when their current Nuclear Regulatory Commission operating licenses expire.
- Adopt as CPUC policy the Joint Parties' recommendation to replace the entire amount of Diablo Canyon's energy with carbon-free resources, and require that any system capacity shortfall resulting

from Diablo Canyon's retirement be carbon-free as well. CEERT agrees that the approval of this procurement should be in this proceeding, with any needed "true-up" to take place through the IRP process being addressed in R.16-02-007.

- To that end, accept, with minor changes, the Joint Parties' proposal to authorize procurement in this proceeding of approximately 5,000 GWh/year of carbon-free energy in three tranches as a down-payment on PG&E's obligations to serve its bundled customers. Such procurement shall be additional to any procurement otherwise required to serve bundled load customers resulting from compliance with existing state law, including SB 350.
- Defer consideration of any cost allocation mechanism to require ratepayers who are not PG&E bundled load customers to pay for any portion of the procurement described above.

On February 27, PG&E notified the parties to the Diablo Canyon proceeding that it was withdrawing its testimony on Tranches #2 and #3, as well as its proposal to implement the Clean Energy Charge to recover the costs associated with Tranches #2 and #3. PG&E's rebuttal testimony served on March 17 further underscored this position and PG&E's contention that all replacement procurement of Diablo Canyon, aside from Tranche #1, should be done in the IRP proceeding. However, ALJ Allen has not determined that any of the original issues are outside the scope of the Diablo Canyon proceeding.

Evidentiary Hearings began on April 19 and are scheduled to continue through April 28. Because no party asked to cross-examine Jim Caldwell, CEERT's witness, we sought stipulation to the admission of Exhibit CEERT-1 on April 19. That request was granted and Exhibit CEERT-1 is now part of the evidentiary record in A.16-08-006.

That Exhibit includes the appended study prepared by CEERT Staff (Jim Caldwell, V. John White, and Liz Anthony, with William Marcus) for Friends of the Earth, based on analysis in the Low Carbon Grid Study (LCGS), entitled: "A Cost Effective and Reliable Zero Carbon Replacement Strategy for Diablo Canyon Power Plant." This Study was the genesis for PG&E, FOE, NRDC, and other organizations developing the Joint Proposal that PG&E included in A.16-08-006, and called for procurement of "GHG-free" energy to replace Diablo Canyon output.

While PG&E has sought to withdraw two of the three proposed tranches of GHG-free energy procurement, those tranches remain within the scope of A.16-08-006, and having CEERT's testimony and our Study as part of the evidentiary record can be used to support a CPUC decision to either move forward now with such procurement, even if limited, to start progress toward meeting SB 350 goals, or, at the least, commit to the replacement of Diablo Canyon's output with GHG-free energy resources.

As part of our ongoing efforts to build a record in support of such outcomes, CEERT will continue to cross-examine PG&E's witnesses on PG&E's positions on the IRP, its current proposals in A.16-08-006, and replacement of DCP's output by GHG-free resources.

Although not sponsored by CEERT, the Geothermal Energy Association also served testimony in A.16-08-006 that included another study prepared by CEERT Staff (Caldwell and Anthony), also based on LCGS analysis, and entitled: "The Value of Salton Sea Geothermal Development in California's Carbon Constrained Future." The GEA testimony was admitted into the evidentiary record for A.16-08-006 on April 19, and can be used in briefs to support reliance on renewable resources to replace DCP's output.

Briefs are due May 26 and Reply Briefs June 9, after which the ALJ will issue a Proposed Decision. For the reasons noted above, especially in light of the evidentiary record that includes the CEERT testimony, it is critical that CEERT remain part of this proceeding to advocate for our positions, whether or not the CPUC moves the Tranche #2 and Tranche #3 replacement procurement to the IRP.

Resource Adequacy (RA) (R.14-10-010)

What remains for the CPUC's regular June Resource Adequacy (RA) Decision in 2017 is to address Track 1 (2017 Local RA obligations and program refinements) and now Track 3, addressing "four primary issues: local and flexible RA requirements for 2018, a durable form of flexible capacity requirement (FCR), multiyear RA requirements, and Effective Load Carrying Capacity (ELCC) of wind and solar resources."

The Track 3 Scoping Ruling, as amended by later ALJ's Rulings, called for parties to submit comments on Study Plans for FCR Topics in September, a Staff Report on Multiyear RA in October, workshops in November on FCR and ELCC topics, further comments and Preliminary Phase 3 Proposals on all topics in December, and continued comments, workshops, and final proposals offered through March, followed by the CAISO's final LCR and FCR Studies originally due in April.

CEERT has actively participated in all aspects of Track 3, including Workshops and filed Comments, with the ongoing goal of ensuring fair consideration of the attributes and value that Loading Order preferred resources (e.g., renewable generation) provide to meet RA obligations. This includes participation in Track 3 Workshops held in February and the filing of Comments on Final Phase 3 Proposals on March 10, which Comments can be found at: <http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M180/K998/180998892.PDF>.

In those Comments, CEERT concluded that "although slow progress" on considering actual experience, appropriate metrics, and resulting resources related to flexibility was "finally being made, there remains much work to be done before there can be any kind of reasonable consensus on the way forward." Thus, we strongly reiterated our "previous recommendation that no consideration be given to 'durable' protocols or multiyear procurement requirements at this time." Instead, we urged: "Now is not the time to lock in 'stranded protocols' that do not comport with the long-term goal of decarbonizing the grid and do not ensure either reliability or cost effectiveness." On that point, we noted (as detailed above in the RPS section) that the Joint Utilities' updated ELCC proposal has now been delayed again to May 31.

These concerns will be foremost considerations in CEERT's review of CAISO's Draft LCR and FCR Studies released on April 13. We plan to file Comments on those Draft Studies on April 28, along with Reply Comments on the final studies and other parties' April 28 Comments on May 5. Issues related to LCR and FCR will be addressed in the CPUC's June 2017 Decision, which will be the subject of a Proposed Decision issued in mid-May, and on which we will be filing Comments. In general, this RA proceeding remains exceedingly resistant to change in light of the need to replace natural gas as the principal means of supplying Essential Reliability Services with zero-carbon alternatives.

Local Capacity Requirement (LCR) and Preferred Resources Procurements

The CPUC's 2012 LTPP rulemaking ended with decisions authorizing local capacity requirement (LCR) procurement for SCE and SDG&E in D.13-02-015 (Track 1, SCE) and D.14-03-004 (Track 4, SCE and SDG&E). That procurement was the subject of three applications seeking approval of procurement contracts signed pursuant to those authorizations: (1) A.14-07-009 (SDG&E (Carlsbad Power Purchase Tolling Agreement (PPTA))); (2) A.14-11-012 (SCE LCR Request for Offers (RFO), Western LA Basin); and (3) A.14-11-016 (SCE LCR RFO, Moorpark).

The first two applications resulted in disappointing decisions that almost exclusively continued to favor gas-fired generation over preferred resources. Despite notable errors by the Commission, decisions in those applications nevertheless withstood appellate challenges.

The same has been true of the initial decision in A.14-11-016 (Moorpark), a smaller authorized procurement specific to the Big Creek/Ventura local reliability area resulting from the Track 1 decision only,

which mandated that SCE use all efforts to meet its LCR need first with preferred resources. SCE's application sought approval to meet 95% of the authorized procurement with gas-fired generation (GFG), represented by a GFG plant in Oxnard called the Puente Project.

On May 26, 2016, the CPUC issued D.15-05-050, largely approving the results of SCE's RFO. However, the proceeding remained open to consider whether to approve a contract to refurbish the Ellwood plant (and an associated 0.5 MW energy storage project) which was not bid into that RFO. The Puente Project is currently the subject of California Environmental Quality Act (CEQA) review by the California Energy Commission (CEC). While the CPUC elected not to defer approval of the Puente Project contract to await that review, such CEC approval would be a condition precedent to completing the project.

However, the CPUC did open, and has now completed, the second phase of this proceeding on SCE's request for approval of the 54 MW Ellwood Refurbishment contract and its related 0.5 MW energy storage contract. On August 11, the CPUC issued an Amended Scoping Ruling to address whether the Ellwood contract and the contract with NRG California South LP for the storage project were reasonable. Parties submitted testimony and rebuttal testimony in the fall, an evidentiary hearing was held in November, and briefs were filed in December.

SCE, NRG and CAISO advocated for Commission approval of the contracts, citing the unique reliability need in the Santa Barbara/Goleta region. However, Sierra Club argued that resiliency in the area should be improved through procurement of additional preferred resources, and that SCE can continue to contract with Ellwood on a short-term basis pending deployment of preferred resources. Sierra Club also argued that the 0.5 MW energy storage offer violates Commission procurement rules against combining offers of existing and incremental capacity and must bid independently as part of a subsequent RFO. ORA opposed approval of this contract, arguing that SCE has not demonstrated an unmet reliability need in the Goleta area, but even if an unmet need does exist, it should be filled with preferred resources.

On April 7, the CPUC issued a Proposed Decision on the Ellwood Contract (<http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M183/K389/183389354.PDF>). The Proposed Decision "reject[s] the 54 megawatts (MW), 10-year gas-fired generation, 30-year refurbishment Ellwood contract and 0.5 MW energy storage contract (linked to the Ellwood contract) to give the Commission additional time to explore whether any approved need in the Santa Barbara/Goleta area can be met in a manner more consistent with the Commission's goals of reduced reliance on fossil fuel" and "further find[s] that no reliability need justifies approval of the Ellwood contract."

While on the face of it, this seems like a decision consistent with CEERT's own goals to reduce reliance on GFG, it actually would have been preferable, from a clean energy and environmental justice perspective, for the Puente Project to be denied and this project, which is much smaller and shorter in duration, to remain, with additional need met by preferred resources. Unfortunately, the timing of the CEC's CEQA Review of Puente (which has not been completed), along with the CPUC's initial flawed decision to approve the contract last year and not defer to the CEC, has meant that the best decision to meet Moorpark's LCR has been undermined by poor timing and poor management of the overall regulatory processes. The Proposed Decision, on which comments were filed in late April and early May, will be considered at the CPUC's Business Meeting of May 11 in Merced.

Preferred Resources Pilot Requests for Offers (PRP RFOs)

As detailed in our last Quarterly Report, in 2012, as a result of the SONGS and OTC retirements addressed in the LTPP, SCE began to develop and launch "preferred resources pilot requests for offers" to meet certain needs in identified geographic areas.

SCE PRP RFO 1: SCE's first PRP RFO focused on an Orange County area around the Johanna and Santiago substations that SCE identified as "critical from a local energy and reliability perspective." SCE decided to meet this need by launching its first Preferred Resources RFO in November 2014 as a standalone procurement mechanism to solicit offers for in-front-of-the-meter distributed generation in this region. On November 25, 2015, SCE executed two power purchase agreements with SunEdison for a combined 2.2 MW of solar photovoltaic (PV) projects. On December 15, 2015, SCE filed A.15-12-013 for approval of these results, which the CPUC approved in D.16-09-006.

This decision was the subject of an application for rehearing (AFR) filed by the Office of Ratepayer Advocates (ORA), on October 19, 2016, challenging this outcome on multiple grounds, claiming that findings on need, cost, geographic factors, and RPS compliance were in error and/or in conflict with the identified scope of the proceeding. SCE responded in opposition to that AFR.

However, on January 19, SCE wrote to the CPUC's Legal Division that SCE had terminated both of the SunEdison contracts. While not seeking any specific relief, SCE stated: "Given that your office is handling the AFR, SCE is notifying you that ... on January 4, 2017, due to SunEdison's nonperformance, SCE exercised its right to terminate the agreements."

SCE PRP RFO 2: SCE continued to pursue this type of procurement by launching its second PRP RFO on September 24, 2015, also focusing on the Johanna-Santiago area. On November 4, 2016, SCE filed A.16-11-002, seeking approval of 19 contracts for 125 MW of preferred resources that interconnect to the lower voltage level substations and circuits electrically in-line with either the Johanna A-Bank substation or the Santiago A-Bank substation. These preferred resources include 60 MW of in-front-of-the-meter energy storage (ES), 55 MW of demand response supported by energy storage and load reduction, and 10 MW of behind-the-meter solar PV paired with storage.

In this application, SCE stated its principal purpose in launching PRP RFO 2 is "to support the PRP endeavor," with an "equally motivating objective" of procuring "preferred resources through the PRP RFO 2 to support other important State-led endeavors that focus on the emerging, modernized grid, including the EPIC Investment Plan's IGP and at least two DRP demonstration projects....Perhaps most importantly, SCE's procurement of preferred resources for the J-S Region is reasonable and in the best interest of customers because it supports the State's...environmental and energy policies, including those embodied in the...Cap-and-Trade Program, Renewables Portfolio Standard, SBs 327 and 350, and the Loading Order." Because CEERT would agree that these goals have merit (if borne out by SCE's procurement mechanism and outcomes), we are continuing to track this application.

However, ORA has also protested this application. ORA's primary objections stem from SCE's PRP being an "internal program for which SCE has not sought Commission approval" and one that is either at odds with or could be subsumed in existing programs.

On April 21, the Scoping Ruling for this application, which is assigned to CPUC Commissioner Peterman, was issued (<http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M183/K956/183956427.PDF>). In addition to determining the reasonableness of these contracts and whether they are in the public interest, the issues in this case include whether SCE's PRP RFO 2 is duplicative of other CPUC mandates, programs, or procurement. The schedule for the proceeding includes testimony, potential hearings, and briefs, with a Proposed Decision expected in Fourth Quarter 2017. CEERT will especially focus on the propriety of such separate PRP procurements when the other LCR RFOs were clearly unsuccessful in procuring anything other than gas-fired resources.

SDG&E PRP RFO: On April 19, San Diego Gas and Electric filed an Application for approval of contracts signed from its Preferred Resources LCR RFO. The Application asks for approval of 88 MW of

new preferred resource contracts; however, like all of SDG&E's recent procurements, it is extremely light on demand response and RPS-eligible resources, and consists of several battery storage installations and one AAEE contract. CEERT plans to track this application and is contemplating a formal protest on the lack of diversity in SDG&E procurements.

Demand Response (DR)

CEERT has become increasingly convinced that DR is not only consistent with a long-term low-carbon grid, but is the *key* to decoupling gas-fired resources from their virtually exclusive position of supplying Local Capacity Requirements and other Resource Adequacy products. Unless we make significant progress on DR as a policy initiative, it will continue to be difficult to stop new gas development and to carry out an orderly retirement schedule for existing gas facilities.

Therefore, CEERT continues to advocate vigorously before the CPUC and other agencies to strengthen existing DR programs while pressing for changes in DR procurement, and to urge the CAISO Board of Governors and senior management to reduce barriers to expanded use of this crucial resource.

On December 15, ALJ Hymes issued a Ruling requesting comments on the 2015 California DR Potential Study Draft Report on Phase Two Results, and requesting responses to questions on developing new models of DR. Parties filed comments on the DR Potential Study on January 27, reply comments on February 10, comments on the new models of DR on February 14, and reply comments on February 28. On January 11, ALJ Hymes revised the procedural schedule, as detailed below.

On February 17, the Joint Utilities filed and served their Proposal on Competitive Neutrality Cost Causation Principles. This pertains to when a direct access (DA) or community choice aggregator (CCA) implements its own DR program. The Proposal identifies the following principles:

- Support mechanisms to provide DR services to meet grid needs in a fair, even-handed way to CCAs, Electric Service Providers (ESPs), aggregators, the utilities and bundled and unbundled customers.
- Establish a sustainable framework that provides sufficient flexibility to accommodate the changing nature of DR, and the roles of various participants.
- Focus on simplicity in implementation, with an emphasis on reducing customer confusion and minimizing implementation costs.
- Recognize CCA/ESP responsibilities to deliver on their DR obligations based on the shift of customers to the CCA/ESP and make corresponding reductions in IOU targets to deliver DR.

There are four steps to the proposed framework: Step 1 (CCA provider or ESP notification of its DR program), Step 2 (determination of program's support of state policy and CPUC mandates), Step 3 (formal determination by the CPUC), and Step 4 (implementation). Parties filed comments on this Proposal on March 3 and reply comments on March 15.

On February 22, the CPUC held a 2016 DR End-of-Year Workshop with panels that discussed utility and DR provider interfaces with end-use participants and with the CAISO energy markets. There was also a discussion of next steps, including how to prioritize issues.

On March 1, the Final Report on Phase Two Results of the DR Potential Study was issued (see: <http://www.cpuc.ca.gov/General.aspx?id=10622>). On March 30, an addendum presented a breakdown of the expected future "Local Shed" DR potential at a finer geographic resolution, with results summarized by Sub-Load Aggregation Point (SubLAP) and Local Capacity Area.

On March 1, the CPUC held a Demand Response Auction Mechanism (DRAM) Evaluation Plan & Metrics workshop, with informal comments served on March 13. And on March 7, the CPUC issued D.17-03-012, which extended the statutory deadline of this DR proceeding to May 13.

On March 28, ALJ Hymes issued a Proposed Decision (PD) Addressing Petitions for Modification that denied OhmConnect's Petition to Modify D.16-09-056 to expedite the evaluation of the DRAM Pilot because the proposed timeline is unreasonable. The PD also denied the Joint DR Parties' Petition to Modify D.16-06-029 to increase the budget for the DRAM pilot because the record does not support doubling the budget for the second year of delivery. However, the PD grants the Joint DR Parties' request to modify D.16-06-029 to be consistent with Resolution E-4817, which allows two-years of delivery for the DRAM Pilot. The PD states that the CPUC will consider in a future decision whether to allow for an additional DRAM auction in 2018, with delivery in 2019. Parties filed comments on this PD on April 17, with reply comments due on April 24. The PD is on the agenda for the April 27 CPUC Business Meeting.

On April 3, the CPUC and CAISO held a Joint Agency Workshop on Pre- and Post-Contingency Dispatch of DR and Local RA. On April 4, the CPUC held a New Model of DR Workshop, and on April 10, the CPUC held a Cost Causation Competitive Neutrality Principle Workshop.

DR Applications

On January 17, the IOUs filed Applications for Approval of their 2018 – 2022 DR Programs, which were consolidated into A.17-01-012, et al. by ALJ Ruling on February 16. That Ruling also set a Pre-Hearing Conference on March 1. Protests and Responses were filed and served on February 27.

On March 15, a Scoping Memo identified the following issues as within the scope of the proceeding:

- Do the applications of PG&E, SCE and SDG&E requesting approval of DR programs and budgets for 2018 – 2022 advance the goal, principles and guidance adopted in D.16-09-056 and comply with its directives, as well as all other relevant directives listed in prior CPUC decisions and rulings?
- Are the utilities' proposed changes to DR programs and activities, including pilot recommendations, reasonable, and should they be adopted? Similarly, are parties' proposed changes to utilities' programs reasonable?
- Are the utilities' proposed programs and portfolios cost-effective pursuant to cost-effectiveness protocols adopted in D.15-11-042 and D.16-06-007? If not, should they be adopted?
- Are the utilities' requested budgets to implement the proposed programs and cost and rate recovery requests, including continued fund shifting flexibility, reasonable?
- Should the CPUC consider whether the utilities' proposed programs and portfolios adequately focus on locating DR participants in particular geographic areas, such as disadvantaged communities or areas of highest value to the grid that could defer or displace investment in generation, transmission and distribution? If so, could the utilities increase utilization of DR in disadvantaged communities, or displace conventional generation in locally constrained transmission areas, or should the utilities apply approaches being developed in R.14-08-013, including locational net benefit analysis or integrated capacity analysis to DR resources in this cycle of program implementation?
- For issue areas that are being determined in other proceedings or venues, do the utilities' program designs provide reasonable directions to DR program participants until those issues are completely resolved in those venues?
- Is PG&E's proposal for post-2019 DRAM cost recovery reasonable and should it be adopted?
- Should the CPUC explore joint activities in DR and energy efficiency by integrating funding and program implementation in a limited manner?

The schedule is fairly compact: Direct Testimony on May 10, Rebuttal Testimony on June 2, Cross-Examination Estimates on June 9, Evidentiary Hearings on June 19 – 22, Briefs on July 14, Reply Briefs on July 28, and a Proposed Decision in October.

On April 4, the CPUC hosted a workshop that provided an overview of the IOUs' Applications, and included discussion of focusing DR in particular geographic areas, reasonableness of proposed program changes, cost-effectiveness issues, coordination with other proceedings, and DR integration proposals.

Other CPUC Rulemakings and Governance Actions:

CEERT has had a limited budget to actively participate in other CPUC issues. Nevertheless, we are currently a party to or are tracking the following proceedings in order to advance key resources.

Distribution Resource Plans (DRPs) (R.14-08-013)

CEERT has party status in this rulemaking, which has three concurrent tracks: Track 1 on methodological issues (quasi-legislative), Track 2 on demonstration and pilot projects (rate-setting), and Track 3 on policy issues (quasi-legislative). Track 1 will develop an integration capacity analysis (ICA) and locational net benefits analysis (LNBA). Track 2 will look at certain Demonstration Projects. Track 3 includes definition of the distribution services that can be provided by distributed energy resources (DERs).

The current focus of this proceeding is on five Demonstration Projects: A (Dynamic ICA), B (Optimal LNBA), C (DER Locational Benefits), D (Distribution Operations and High Penetrations of DERs), and E (Micro-Grids Where DERs Serve a Significant Portion of Customer Load and Reliability Services). The proceeding has also created ICA and LNBA working groups.

On January 24, the CPUC held a workshop on the development of a CPUC framework to evaluate grid-modernization investments aimed at increasing DER penetration, integration and value maximization. An objective of this workshop was to identify the essential DERs-related grid functions that may be needed and the specific technologies that can provide those functions.

On February 10, the CPUC held a workshop on DER growth scenarios and distribution load forecasting. The workshop considered the process and methodologies for forecasting the adoption of DERs in order to inform the DRP, as well as coordination issues and how the DRP will inform CPUC IRP processes, CEC Integrated Energy Policy Report (IEPR) demand forecast, and CAISO Transmission Planning Process.

On February 16, the CPUC issued D.17-02-007 approving PG&E's proposed Track 2 Demonstration Projects C and D, SCE's proposed Projects C and D, and SDG&E's proposed Projects C and E. The proceeding remains open for revised Track 2 proposals and consideration of other issues.

On February 27, Assigned Commissioner Picker issued a Ruling Setting Schedule for Submission of DER Growth Scenarios and Distribution Load Forecasting. The schedule is as follows:

- April 7: IOUs develop Draft Assumption and Framework document containing load and DER adoption assumptions and Trajectory/Most Likely scenario to be used for local area planning.
- April 14 – May 26: Working Group meetings will be held to address DER inputs/divergence from statewide planning assumptions and disaggregation methods.
- June 9: IOUs submit revised Assumptions and Framework document.
- Third Quarter: Proposed Decision adopting Assumptions and Framework.

On April 7, the IOUs developed a Draft Assumption and Framework that suggests a process for selecting DER adoption assumptions for the Trajectory/Most Likely scenario, and presents the IOUs' load forecast assumptions and methodology.

On April 19, Commissioner Picker issued a Ruling that posed questions on the consensus and non-consensus recommendations in the ICA and LNBA Final Short-Term Working Group Reports for a forthcoming CPUC decision. The scope of that decision is expected to encompass, at a minimum: Demonstration Project compliance, ICA and LNBA use cases, final methodologies for system-wide implementation, implementation schedule and regulatory processes. Comments on this Ruling are due May 10.

Integration of Distributed Energy Resources (IDER) (R.14-10-003)

On December 22, 2016, the CPUC issued D.16-12-036, a Decision Addressing Competitive Solicitation Framework and Utility Regulatory Incentive Pilot.

On January 23, Sierra Club filed an Application for Rehearing of D.16-12-036, alleging that it impermissibly allows fossil-fueled generators to participate in the pilot program and the competitive solicitation framework, and ignores PU Code Section 769's exclusion of non-renewable generation resources by allowing those fossil generators to participate. This Application for Rehearing has not yet been ruled on.

On February 9, ALJ Hymes issued a Ruling Taking Comment on the Staff Proposal Recommending a Societal Cost Test (SCT). The Staff Proposal recommends that the SCT include a GHG adder, an air quality value, and a social discount rate, and suggests that the SCT could be used alongside the traditional Total Resource Cost (TRC) and Program Administrator Cost (PAC) tests (or modified versions) in the CPUC's evaluation of DERs. The Ruling requested responses to questions on the Staff SCT Proposal, the various cost-effectiveness tests in the Literature Review, and the Cost-Effectiveness Working Group Final Report. Parties responded to the February 9 Ruling on March 23, and replied to responses on April 6.

On February 28, NRDC, Sierra Club, Solar Energy Industry Association (SEIA), and California Energy Efficiency Industry Council (collectively the Moving Parties) made a Motion Seeking Review and Modification of the Three-Prong Fuel Substitution Test, which determines what fuel substitution projects can be awarded utility customer-funded energy efficiency incentives. The Moving Parties argued that, to enable program administrators to launch new fuel substitution programs with confidence, the CPUC should address several issues with the test through the IDER Cost-Effectiveness Working Group. On March 20, ALJ Hymes issued a Ruling requesting that the Moving Parties provide a timeline of steps for reviewing the test and explain why that needs to happen now. The Moving Parties filed their response on March 27.

On April 3, ALJ Hymes issued a Ruling Requesting Comments on an Interim GHG Adder. CPUC Energy Division Staff proposed an interim GHG adder to be used as an input into a proposed SCT or modified TRC or PAC test, in the event the CPUC adopts such a method for DERs. The Staff Proposal expresses a preference for a GHG adder that is determined as part of the IRP proceeding, but notes that an interim GHG adder may be needed, and may have to be determined by another method, depending on the pace of the IRP proceeding. Comments were filed on April 17 and reply comments on April 24.

DER Action Plan

There have been no modifications to CPUC President Picker's Draft DER Action Plan since November, and it is unclear how this plan will be used going forward.

Energy Efficiency (EE) (R.13-11-005)

On January 30, the CPUC and CEC held a Joint Agency Workshop on 2030 energy efficiency targets, which discussed key questions in the implementation of the EE portions of SB 350.

On March 24, the Energy Division held a workshop on Phase III custom program issues that discussed contract and payment structures, ex post evaluation results, and timing of ex ante review. On April 11, a workshop discussed the To-Code Pilots, lessons learned, and updated best practices for applying randomized control trial designs as an embedded measurement and valuation technique in EE programs.

On March 29, the CPUC issued D.17-03-026, the Decision Addressing Energy Efficiency Financing Pilot Programs Originally Ordered in D.13-09-044. This decision reiterates the CPUC's support for the California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA) as program administrator for the financing pilot programs authorized in D.13-09-044. The decision continues funding for CAEATFA to administer the programs throughout the life of the pilots and states that all financing pilot programs will be launched no later than December 31, 2019. The CAEATFA financing pilot program will be separate from the EE rolling portfolio business plans filed on January 17 (see below).

On April 10, the CPUC issued D.17-04-005, which granted PG&E's Petition to Modify D.14-10-046 to authorize the utility to claim toward its EE goals energy savings achieved through efficiency improvements of utility-owned street lighting.

EE Business Plans (A.17-01-013, et al.)

On January 17, the electric IOUs, Southern California Gas, and Marin Clean Energy filed Applications for approval of their EE rolling portfolio business plans. On January 30, these Applications were consolidated into A.17-01-013, et al. An informal workshop on the Applications was held on February 2. Protests and Responses were filed and served on March 3.

A PHC was held on March 16 and a Scoping Memo issued on April 14. The issues within the scope pertain to whether the CPUC should adopt, modify or deny these applications; specific policy and implementation issues; and issues specific to individual Program Administrator business plans. The first events in the schedule revolve around supplemental information and overall proceeding issues, sector level metrics issues, and third-party solicitation process issues. June 19 is the deadline for parties to file motions to request evidentiary hearings or the opportunity to submit testimony.

Energy Storage (R.15-03-011)

On February 24, the CPUC issued a Proposed Decision (PD) resolving all remaining issues for Track 2 of the Energy Storage Rulemaking except Multiple Use Applications. The PD does not expand utility storage targets, but sets forth a process for implementing AB 2868, which requires utilities to procure an additional 500 MW of specific storage resources. It affirms the 1% Energy Service Provider / Community Choice Aggregator storage procurement target, but establishes a limit on that obligation to ensure parity with utility storage procurement obligations. It declines to modify prior decisions on the eligibility of certain resource types to count toward utility storage procurement targets. The PD adopts rules on the treatment of station power used to charge storage devices. The proceeding remains open to address Multiple Use Applications issues. Parties filed comments on March 16 and Reply Comments on March 21.

The PD was originally on the April 6 CPUC Business Meeting agenda, but Commissioner Guzman-Aceves requested that the item be discussed and held to the April 27 Meeting to request inclusion of a set-aside for disadvantaged communities in the Final Decision. Assigned Commissioner Peterman opposed the inclusion of a set-aside, and indicated she would not be revising the PD to include this request. Commission President Picker also opposed a set-aside, but Commissioner Rechtschaffen supported Commissioner Guzman Aceves' proposal; Commissioner Randolph's position was unclear. Commissioner Rechtschaffen agreed with the PD's determination that power to gas is not eligible but would like to see the CPUC tackle that issue in other contexts.

West of Devers Transmission Upgrade Project (A.13-10-020)

On October 25, 2013, SCE filed an Application for a Certificate of Public Convenience and Necessity for the West of Devers Upgrade Project (WODUP). The CPUC subsequently issued D.16-08-017, which granted SCE's CPCN for the WODUP. On September 8, 2016, the Office of Ratepayer Advocates (ORA) filed an Application for Rehearing of D.16-08-017. On March 27, 2017, the CPUC issued D.17-03-029, which denied ORA's Application for Rehearing and closed the proceeding.

Time-Of-Use (TOU) Rates (R.15-12-012)

On January 23, the CPUC issued D.17-01-006, the Decision Adopting Policy Guidelines to Assess Time Periods for Future Time-of-Use Rates and Energy Resource Contract Payments. This Decision adopted a framework for designing, implementing and modifying the time intervals reflected in TOU rates, but did not adopt specific TOU time intervals or rate-design elements. The Decision closed the proceeding. On February 16, the CPUC issued D.17-02-017, which corrected errors in D.17-01-006.

On March 2, SEIA and CalSEIA filed a Petition for Modification of D.17-01-006, alleging that D.17-01-006 created a gap in TOU period certainty that will extend until new TOU periods are approved, and that D.17-01-006 left prospective solar customers, including many customers who were proceeding with contracting for solar installations but could not submit their initial interconnection application by January 31, unable to accurately assess the value of installing solar until the IOUs' new TOU periods are established. The Petition has not yet been ruled on, but the proceeding was reopened to address the Petition.

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

As previously reported, on November 16, the Commission issued D.16-11-021, which approved pilots for SCE and SDG&E to test the concept of "matinee rates" (special midday price discounts) as a means to reduce both energy and water use during high-impact times. And on December 20, the CPUC issued D.16-12-047, which ordered PG&E, SCE, SDG&E and SoCal Gas to work with Energy Division to create a plan of action to update the water-energy nexus cost calculator.

On March 2, SCE filed a Petition for Modification of D.16-11-021, stating that it has made comprehensive rate design proposals that would expeditiously accomplish the goals set to be accomplished by the matinee rate pilots on a much broader scale in its 2016 Rate Design Window proceeding (A.16-09-003), and that its pilot approved in D.16-11-021 is no longer necessary and the CPUC should modify the decision to remove the redundant requirement. This Petition has not yet been ruled on.

On April 10, the CPUC issued D.17-04-021, which extends the deadline in this proceeding to June 25.

Public Records Access (R.14-11-001)

CEERT is tracking this proceeding because of its potential significance for document access at the CPUC. As previously reported, on December 30, Commission President Picker issued an Amended Scoping Memorandum and Ruling identifying that in Phase 2A, processes will be developed for reviewing requests for confidential treatment of documents submitted to the CPUC, responding to California Public Records Act requests, and determining whether potentially confidential documents will be released to the public; and in Phase 2B, the CPUC will develop lists of documents for the industries it regulates, or the functions it performs, that are by default designated as either confidential or non-confidential. Parties submitted opening comments on this Ruling on March 3, and reply comments on March 24.

On March 30, Assigned Commissioner Picker issued a Ruling that amends the Phase 2A schedule to remove submission of briefs. The revised schedule calls for a Revised Phase 2A Draft Proposal in April, Opening Comments in May, Reply Comments in June, and a Proposed Decision followed by a Final Decision in the third quarter of 2017.

Clean Transportation Advocacy

Advanced Clean Cars Program

In preparation for the March 24 Riverside meeting of the California Air Resources Board (CARB) to decide whether to affirm the trajectory of the Advanced Clean Cars (ACC) program, CEERT worked closely with Environmental Defense Fund's (EDF's) Vickie Patton and EDF's expert consultants, former CARB Deputy Executive Officer for Motor Vehicles Tom Cackette and recently retired U.S. EPA senior executive Chet France. Tom and Chet had prepared a detailed economic and technology assessment of

the future of battery-powered and fuel-cell vehicles, compared to hybrids and conventional gasoline vehicles. Their analysis showed that the price gap between electric or fuel-cell vehicles and conventional or hybrid vehicles is narrowing, and with continued regulatory direction from CARB and other national governments, electric-drive vehicles may cost the same or less than conventional vehicles by 2030.

Working with EDF and the Clean Cars Coalition, V. John White and John Shears helped coordinate NGOs' presentations and strategy prior to the CARB meeting, in close consultation with CARB senior staff and CARB Chair Mary Nichols. John Shears testified about the critical importance of the ACC program to California's ability to fight global warming and its stubborn air quality challenges.

V. John White testified as the final witness before CARB, which then proceeded to unanimously affirm the current 2020 – 2025 vehicle emission standards, and to pass a resolution to initiate the regulatory process that could lead to the adoption of new vehicle emission standards for 2025 – 2030, thereby delivering significant clean-air and public-health benefits for Californians and cost-savings for consumers. Should CARB proceed to adopt new standards, a new waiver of Section 209 by U.S. EPA would be needed, but that might not come before EPA for a decision until 2021.

CARB staff's mid-term ACC review evaluated the zero-emission vehicle (ZEV) regulation, the 1 mg/mile particulate matter standard, and the light-duty vehicle GHG standards for 2022 and later model years. Their evaluation found that the GHG emission standards currently in place for model years 2022 – 2025 are readily feasible at or below the costs estimated in 2012—when the standards were adopted with support from many automakers—and also confirmed that the technology-forcing ZEV standards and the most health-protective particulate matter standards in the world are feasible and appropriate. This was affirmed by an independent analysis from the International Council on Clean Transportation.

Electrifying Transportation

CEERT continues to monitor the CPUC's Alternative-Fueled Vehicles rulemaking (R13-11-007), as several CEERT affiliates are active parties in this proceeding. The IOUs' SB 350 transportation electrification planning process was launched from this overarching proceeding on electric vehicles.

Pursuant to SB 350 provisions, on January 20 the IOUs submitted their transportation electrification (TE) plans as applications: SDG&E (A.17-01-020), SCE (A.17-01-021), and PG&E (A.17-01-022). (Smaller utilities must file their TE applications by June 30). The IOUs' plans require almost \$1 billion in investment (SDG&E \$244 million; SCE \$574 million; and PG&E \$253 million), with roughly \$779 million being proposed to support on-road heavy-duty infrastructure and \$230 million for residential infrastructure.

Parties submitted their initial written comments (or protests) on March 6 and their reply comments on March 13. At a March 16 pre-hearing conference, the CPUC met with parties to discuss identified gaps in the applications, the scope and priority of items to be reviewed, whether some or all of the priority review projects could be approved quickly, and whether the applications should be consolidated into a single proceeding. The CPUC will issue a Scoping Memo on whether the applications will be categorized as rate-setting, and whether evidentiary hearings will be necessary for the utilities' proposed priority-review and standard-review projects. (Priority-review projects are one-year projects that cost less than \$4 million.)

Low-Carbon Fuel Standard (LCFS)

CARB continues to hold public workshops to update aspects of the LCFS and evaluate program enhancements in order to deliver a revised regulatory package to the Board in late 2017 or early 2018. Many of the workshops are reviewing specific fuel categories (e.g., natural gas and biomethane; electricity and hydrogen; ethanol; biomass-based diesel; alternative jet fuel; and gasoline, diesel and crude oil) and updating the life-cycle assessment model that is at the program's core and the model that estimates GHG emis-

sions from oil and gas production. The program is reviewing changes to the pathway carbon intensity application and evaluation process, improvements to reporting and credit generation processes, and the addition of mandatory third-party verification.

POET Lawsuit

On April 10 the California Fifth District Court of Appeal ruled in favor of POET, LLC, an ethanol producer, holding that CARB had failed to comply with CEQA's requirement that it analyze the degree to which nitrogen oxide (NOx) emissions would be affected by the use of biodiesel fuels. The Court ruled that CARB had used an improper baseline against which changes in NOx emissions could be evaluated, and must therefore set aside its 2015 approval of the parts of the final CEQA Environmental Analysis on NOx emissions from biodiesel and conduct a year-by-year analysis to determine whether the LCFS rules are likely to cause an increase in NOx emissions.

This entails CARB identifying a baseline for NOx emissions as they existed in 2010 at the time the original LCFS regulations took effect. CARB must also show whether any increase in NOx emissions is likely to have a significant impact on the environment, and must provide mitigation measures where appropriate. While the Court of Appeal might have suspended the entire LCFS regulation until CARB addressed the NOx issue, instead it froze the carbon-intensity targets for diesel and biodiesel fuel provisions at 2017 levels until CARB conducts the baseline analysis.

Canada Clean Fuel Standard

The Government of Canada is proceeding with efforts to develop a Clean Fuel Standard, which CEERT and other stakeholders encouraged last fall. As part of its consultative process, Environment and Climate Change Canada (ECCC) issued a Discussion Paper on February 24 that reviews different approaches for existing renewable and low-carbon fuel standards elsewhere. The discussion paper seeks to inform the regulatory framework for a Clean Fuel Standard, and asks respondents to reply by April 25 to 39 questions on topics such as scope, timing, and stringency. ECCC is also receiving input through roundtables, workshops and webinars. More technical consultations will occur in 2017 and early 2018, with a draft of the proposed regulation scheduled to be issued in mid-2018 and a final regulation by 2019.

Alternative and Renewable Fuel and Vehicle Technology Program

The 2017 – 2018 Investment Plan Update for the Alternative and Renewable Fuel and Vehicle Technology Program Lead Commissioner Report was released on March 28 and approved by the Commission at its April 12 business meeting. The Investment Plan Update recommended nearly \$17 million in funding for electric vehicle charging infrastructure, almost \$20 million for hydrogen fueling stations, and up to \$17.5 million for projects involving near-zero- and zero-emission medium- and heavy-duty trucks.

Short-Lived Climate Pollutants (SLCPs)

The CARB Board adopted the final version of its *Short Lived Climate Pollution Reduction Strategy* at its March 23 hearing in Riverside. CEERT spoke in favor of the *SLCP Strategy*, which seeks to reduce the state's emissions of short-lived climate pollutants such as methane, black carbon and hydrofluorocarbons (HFCs), all of which are more potent at trapping heat than carbon dioxide, though they remain in the atmosphere for a much shorter time. Reducing these super-pollutants will have a more immediate impact on fighting climate change while also reducing harmful air pollutants such as nitrogen oxides and particulate matter. The *Strategy* sets reduction targets relative to 2013 levels of 40 percent for methane; 40 percent for HFCs; and 50 percent for black carbon emissions by 2030.

Livestock, landfills, and the oil and gas industry are the state's major sources of methane. The *SLCP Strategy* requires the capture of methane from manure at large dairies and the reduction of methane emissions from enteric fermentation. Emissions from landfills will be cut significantly by reduced disposal of

organics in landfills. Methane emissions from the oil and gas industry will be reduced through a new regulation that targets methane leaks from oil and gas operations (see below).

While California has already reduced black carbon emissions from anthropogenic sources by 90 percent since the 1970s—largely through stringent regulation of diesel emissions—the *SLCP Strategy* will rely on greater deployment of zero-emission vehicles for on-road use, in ports, and at rail yards. The *Strategy* also relies on the increased use of mass transit (especially using zero-emissions technology), and seeks to reduce black carbon emissions from residential wood-burning appliances.

HFCs are used in refrigeration and air conditioning, as propellants, and in the manufacture of insulation. CARB is studying HFC substitutes, which are becoming increasingly available, to better understand how they can be introduced into the market with minimal cost and disruption. CARB's evaluation will undergo a third-party review before it develops any regulations requiring the replacement of HFCs.

CEERT has been advocating for the state to undertake an SLCP Reduction Strategy for more than a decade, and thus is gratified to see California finally adopt such a strategy. With the latest assessment indicating that current proposed global actions remain insufficient to avoid global warming greater than 2°C (3.6°F), it is critical that California expand its efforts to reduce all climate pollutants. While the state continues to explore ways to achieve deeper CO₂ reduction targets through the CARB Scoping Plan process, adopting a strategy to pursue SLCPs is necessary to provide a climate buffer until global efforts to curb emissions of long-lived climate pollutants can take effect. Achieving near-term SLCP emission reductions will also improve air quality and health in vulnerable communities.

Oil & Gas Rule

On March 23 the CARB Board adopted what are likely the most comprehensive set of regulations of methane leaks from the oil and gas industry. The regulations include changes to the Oil & Gas Rule for which CEERT and other parties had long been advocating, such as a requirement for quarterly monitoring of methane emissions from oil and gas wells, gas processing facilities, compressor stations, and other processing and delivery equipment. Some equipment will also be required to add vapor collection systems.

CEERT spoke in favor of the Rule, which is a critical component of the *SLCP Reduction Strategy* and is expected to reduce methane emissions from the state's oil and gas operations by the equivalent of nearly 1.4 million metric tons of CO₂ annually. Avoiding these leaks will also reduce smog-forming chemicals and volatile organic compounds such as benzene that are air toxins.