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The Energy Coalition Comments Re 2019 California Energy Efficiency Action Plan

Additional submitted attachment is included below.

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May 28, 2019

California Energy Commission
Docket Office, MS-4
Re: Docket No. 19-IEPR-06
1516 Ninth Street
Sacramento, CA 95814-5512
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Re: The Energy Coalition's Comments on the California Energy Commission Docket No. 19-IEPR-06: Stakeholder Input on the 2019 California Energy Efficiency Action Plan

Dear Commissioners:

On April 30, 2019, the California Energy Commission (CEC) held a workshop to solicit feedback on the development of the 2019 California Energy Efficiency Action Plan as part of the 2019 Integrated Energy Policy Report (IEPR) Update Proceeding ("workshop"). The CEC listed several questions related to energy efficiency (EE) and building decarbonization (BD) under the "Stakeholder Input Request" section in the workshop's notice, and invited parties to respond in workshop comments. The Energy Coalition (TEC) attended the regional workshop in Los Angeles, and appreciates the opportunity to provide these written comments responding to the Stakeholder Input Request questions.

I. About The Energy Coalition

The Energy Coalition (TEC) is a California-based 501(c)3 nonprofit with over 45 years of experience designing and implementing strategies that transform energy use, generate capital, and empower people to take responsible energy actions. As a social change organization, TEC helps create an abundant and healthy world by inspiring others to be architects of our sustainable energy future.

TEC launched the first utility-local government partnership in California, the Regional Energy Efficiency Initiative (REEI); facilitated the Community Energy Partnership for over 10 years; participated in the creation and launch of Regional Energy Networks; and has implemented Public Sector programs under contract to the Southern California Regional Energy Network

(SoCalREN). TEC is also the statewide implementer of the Workforce Education and Training (WE&T) Connections program, PEAK. TEC has also recently joined the Linux Foundation Energy (LF Energy) to create the building blocks for a new energy economy in which communities become energy-producing networks and clean energy becomes affordable and accessible for everyone.

II. Summary

TEC appreciates the Commission's efforts to update the AB 758 Action Plan to reflect the evolving and integrated energy landscape. A decarbonized California requires a harmonized approach to supply and demand side resources rooted in a fundamental understanding of today's energy uses and well informed scenarios about 2045 goals. There is great opportunity for the Commission to consider how the Action Plan can integrate strategies beyond energy efficiency as decarbonization requires an intelligent combination of solar, renewables, grid-interconnected efficient buildings (GEBs), grid redesign, and decentralized energy strategies.

III. Responses to Questions

A. Building Standards

- One goal from the 2016 Existing Buildings Energy Efficiency Plan Update was to make the 2019 Building Energy Efficiency Standards easier to use/understand than previous iterations. In your view, was this goal achieved?
    - No comment

- What are the immediate steps you recommend taking to improve compliance with building energy standards?
    - Compliance pathways are both perceived and experienced as onerous. Adding a third compliance pathway can be explored by the Commission: a Measured Performance Compliance Pathway. As the State moves towards Zero Net Energy, electrification and decarbonization, there is a need to focus on energy use intensities that align with site and source energy use intensity (EUI) targets. Since EUIs are part of the Commission's Building Energy Benchmarking Program, there is a natural overlap between code compliance and benchmarking. Furthermore, as the CPUC moves towards Normalized Metered Energy Consumption (NMEC) programs, and as legislation requires evidence of a permit when pursuing an energy program incentive, there is an even stronger case to align simplified compliance pathways with EUI reporting that is already required in the market.
    - An often overlooked aspect of codes and standards is the permitting software. The Commission invests in codes and standards development, as well as in compliance software. However, the permitting software is a critical juncture of where building owners and practitioners all interact with their respective jurisdictions. Standardized permitting software is a main reason why the

Commission and the State experiences a lack of insight to compliance rates and underlying reasons for permitting difficulty. It is recommended that the Commission explore how to standardize permitting software, enable permitting jurisdictions to adopt such software, and to offer Statewide support and analysis of data from permitting. Combining standardized permitting software with simplified EUI compliance pathways are two areas where the Commission may be able to make significant progress in codes and standards compliance improvement.

B. Benchmarking

- Are building owners looking at their energy consumption or just reporting to benchmarking?
    - TEC was the prime contractor on the AB 802 Outreach and Facilitation contract for the Commission. Based on our insight from the compliance data of 8,000 submitted Portfolio Manager records, which was a 40% compliance rate, we observed that while the program was effective at receiving data, there is more that can be done. Many submittals did not include anything more than the minimum required fields. It would be recommended to update the regulations to require owners submit all fields indicated by the EPA in order to receive an ENERGY STAR score if the building is eligible for a score.

- What type of encouragement or support, beyond monetary, would lead to improved benchmarking scores over time?
    - Information from Portfolio Manager serves as a snapshot of energy use and is an important first step in understanding energy use and costs. However, building owners need more information to understand if their building is “efficient” or not, and then what they can do to improve the score. One resource the Commission can offer is California-specific analysis on benchmarking data through their newly developed Energy Analytics Information Platform (EAIP). Peer comparisons and analytics based on reported data can provide valuable insight to owners on their benchmarking data. However, in order to uncover actionable strategies to improve scores, either more granular energy consumption data is needed, or further analysis in audits and retro-commissioning is needed. The Commission can work with the EPA to provide feedback on how Portfolio Manager can accommodate interval data. The Commission may also want to consider how to perform additional research on the benchmarking data to create a large scale building energy modeling analysis to develop a fundamental understanding of end-use load profiles which can be used to inform future policy, whether it be an audit ordinance, or it be used for more general purposes on load forecasting, electrification potential or IEPR updates.
    - In addition, most customers find value in the web services or monthly automatic upload of energy usage data provided by their local utility. Unfortunately, since the

final regulations for benchmarking did not require utilities to include cost data as part of their sharing of data through ENERGY STAR Portfolio Manager, most utilities have removed the sharing of cost data through the web services feature in Portfolio Manager and have cited the regulations as driving this decisionmaking. This means that building owners leveraging this valuable service have visibility to energy use data through benchmarking, but not the associated costs, which is essential for planning. The Commission could remedy this challenge by clarifying to all utilities that the final regulations were not intended to limit the sharing of cost data through ENERGY STAR Portfolio Manager and that it would be an added benefit to building owners. The Commission could encourage utility providers that cost data is shared monthly along with the energy data to encourage further action by building owners to reduce these costs.

C. Market Transformation

- How can local governments continue to support and/or expand energy efficiency efforts?
    - A promising effort under the latest Action Plan was the Local Government Challenge. As the Commission refines the strategies under this year's update to the plan, it would be beneficial to resurrect the program to empower Local Governments to meet the priorities for a decarbonized California.
    - As seen in the recent Integrated Resource Plans, there is a need to recognize if the collective action across market actors are meeting State goals. As local governments are updating climate action plans (CAPs) with strategies beyond energy efficiency, the Commission has an opportunity to assist in the unification of local strategies across the State in support of the Action Plan outcomes.
    - A critical part of such planning processes in access information and data to either recommend or create programs tailored for their local constituents. Either through the Energy Analytics Information Platform, or through CPUC efforts to create a statewide data resource the Commission can leverage data for permitting, benchmarking, Prop 39, prototype building energy modeling analysis, and underlying data from IEPR development to support local governments as they update local plans and policies.
    - Local governments can assist the Commission by pursuing resources to digitize and leverage permitting data to create a fundamental understanding of the building stock that could benefit the AB 758 planning process. The Commission can play a role by creating or expanding existing data standards to help capture and organize such data.

- Which private-sector financial mechanisms have been most successful in supporting energy efficiency?
    - No comment

- What changes, if any, are expected or ongoing in the energy efficiency market due to the expansion of community choice aggregators?
    - CCAs have the ability to leverage revenue from local energy sales to deliver programs tailored for their communities based on a broader societal benefits filter.
    - CCAs have the ability to capture stranded savings from interventions that will not likely be addressed in existing CPUC programs as they are not “cost effective” per current CPUC norms.

- Have you seen improvements in energy efficiency marketing, outreach, and education efforts? If not, what areas are still undeveloped? Please provide examples.
    - Significant improvement will likely only occur once more granular and targeted customer/market segment data is available to program designers and implementers. According to EPIC research conducted under Phase I of the Advanced Energy Communities grant, it was found that the adoption rate of a broad sampling of CPUC programs in Southern California was between 3 and 8 percent. More robust information is critical for program administrators and implementers to effectively screen, acquire and service customers, especially disadvantaged communities.

- In your opinion, what retrofit programs (please specify sector) are most successful? What makes the program successful?
    - The Southern California Regional Energy Network Project Delivery Program is a CPUC funded program which is helping cities, counties, school districts, water agencies, and special districts identify and implement energy efficiency projects.
    - The program has enrolled over 120 public agencies, with over half of the enrolled cities comprised of disadvantaged communities, and has developed over 60 million kilowatt hours (kWh), 2 megawatts (MW) and 125,000 therms to IOU resource programs. Enrolled agencies save a total of $7+ million annually in energy costs and 850+ green jobs have been created from construction on enrolled agencies’ energy projects.
    - The program’s success can be attributed its customized approach to individual public agencies with the goal of maximizing energy efficiency action. Public agencies are supported through the program from project identification to completion and leverages all other available programs to support projects.

- What barriers remain for energy efficiency to be a reliable grid resource? Are there data limitations, lack of quality results, lack of awareness, etc.? What immediate steps do you recommend the Energy Commission take to resolve these barriers?
    - California as a whole would benefit from drawing a more granular connection between GHG reduction targets and energy savings needed to achieve State goals, rather than just identifying what is market ready and cost effective.
    - Energy consumption data access does remain a barrier for stakeholders under contract to deliver programs that use public funding sources. Customer acquisition, prioritization and screening is an area where data access can lead to EE programs

that are at the scale and precision that is needed for a reliable grid resource. An example of this is that a recent CEC EPIC study on Advanced Energy Communities found that current ratpayer programs see a 3-8% penetration rate. This is nowhere near the scale of interventions needed to double EE or decarbonize the State. A recent evaluation of the 2017 Energy Savings Assistance program showed room for improvement in the depth of retrofits and detectable savings for low income participants. Disadvantaged communities, as well as all ratepayers would benefit from programs designed and delivered with a full set of market information focused on consumption data.

- Another barrier to building and acting on a clear understanding of energy use in the State is how data can be re-used to save time in analyzing the market. The CEC has the ability to collect consumption data as well as building characteristics through benchmarking and permitting. This information can be viewed as a residual asset for building energy modeling that would contribute to statewide market potential studies, and even specific program design. The Commission may want to consider how to curate such a data set to help inform decarbonization research and program design to simultaneously address EE, demand flexibility, generation and storage and grid-interconnected efficient buildings.

D. Building Decarbonization

- What are the main concerns with implementing programs that focus on reducing carbon emissions from buildings?
    - As the guiding principles in the updates AB 758 plan highlight, there is a need for market centered solutions that include non-energy benefits. Creating solutions that have inherent value to customers in all sectors and of all types is paramount to realizing decarbonization.
    - It is recommended that the Commission prioritize research to understand and overcome technological feasibility, economic benefits and risks, as well as non-energy benefits of decarbonization and electrification.
    - Fuel switching constraints in incentive programs remains a barrier in current State offerings, and the Commission can explore how EPIC funds and perhaps how CPUC program constraints can be addressed through strategies in the Action Plan.
    - The Commission should take a realistic yet aggressive approach to addressing decarbonization and be particularly sensitive to the needs of disadvantaged community customers that cannot, in the short term, make such changes without technical and economic assistance.
    - Much work is being done by the Decarbonization Coalition on customer perceptions of decarbonization, and Commission coordination with their work can serve as a springboard for Action Plan development.

- An accurate accounting of source energy and GHG impacts of electricity and natural gas is lacking in the industry. Fugitive emissions from natural gas infrastructure and the potential of pipeline decommissioning is an area for Commission research. The opportunity cost in these areas carries significant value as the State evaluates decarbonization.
- Decarbonization requires significant changes to the electricity grid. Much emphasis is put on the analysis of individual buildings and how to decarbonize them. However, the grid itself is often overlooked as a static piece in decarbonization strategies. A thorough and independent analysis of grid redesign should fundamentally challenge our assumptions about time and locational value of energy. The Commission and industry as a whole should not prematurely approach decarbonization by taking the current grid shortcomings as a problem to "work around." It should rather be an opportunity for grid redesign in parallel to an analysis of decarbonization strategies.

- Heat pump water heaters and space conditioners are expected to play a role in building decarbonization, they currently occupy a small portion of the market; what actionable steps do you think are viable to improve the market potential of the technology?
    - Pilot programs for heat pump water heaters would prove effective in addressing early adopters and the early majority for transforming this end use. These pilot programs, if delivered at a large enough scale, can positively impact market costs for equipment and installation, customer awareness and perception, and expansion of electrification penetration in both existing occupancies and in new construction.

E. Low Income and Disadvantaged Communities

- What type of energy efficiency programs are shown to be most successful in low-income and disadvantaged communities? Please cite any evidence such as program results or customer testimonials.
    - The Advanced Energy Community (AEC) Projects funded by the Commission's EPIC funding are creating a scalable model for a community in which enough local energy is produced to meet local needs while creating direct health and financial benefits for participating residents and building owners. These programs have great promise to transform low income and disadvantaged communities throughout the State.

F. Standards Compliance

- In your experience, what are the primary drivers of non-compliance with building Standards?
    - Compliance pathways are both perceived and experienced as onerous. Adding a third compliance pathway can be explored by the Commission: a Measured Performance Compliance Pathway. As the State moves towards Zero Net Energy, electrification and decarbonization, there is a need to focus on energy use intensities that align with site and source energy use intensity (EUI) targets. Since EUIs are part of the Commission's Building Energy Benchmarking Program, there is a natural overlap between code compliance and benchmarking. Furthermore, as the CPUC moves towards Normalized Metered Energy Consumption (NMEC) programs, and as legislation requires evidence of a permit when pursuing an energy program incentive, there is an even stronger case to align simplified compliance pathways with EUI reporting that is already required in the market.
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G. Workforce Development

- Have state efforts resulted in workforce improvements to install energy efficiency Measures?
    - No comments

- Provide examples of effective energy efficiency workforce training efforts.
    - Workforce training efforts are increasingly important with decarbonization. In addition to skilled trainings, there is much activity in workforce education across all age groups. Some examples include:
    - PEAK is an energy education program designed to empower students to become smart energy managers. PEAK provides comprehensive energy curriculum correlated to California academic content standards, professional development for educators, a toolkit of supplies for each hands-on PEAK lesson, interactive

assemblies, classroom assistance, instructional planning, field trips and a wide range of special events. Partnering with California utilities, TEC is engaging thousands of PEAK students in hundreds of schools statewide. Variations and extensions of the program are critical to addressing the wide range of workforce needs in the following educational categories: K-12 Programs, Early Childhood, Primary Elementary, Upper Elementary, Middle School, Elementary and Middle Out of School Time, High School Out of School Time, and High School. This comprehensive approach to developing a pipeline of next generation workers is critical to meet the evolving needs of a decarbonized California.

Respectfully submitted,

/s/ Craig Perkins

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