

## DOCKETED

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**on Staff Paper on Energy Efficiency Savings Doubling Targets**

*Additional submitted attachment is included below.*

**BEFORE THE CALIFORNIA ENERGY COMMISSION**

**In the Matter of:**

***Doubling Energy Efficiency Savings***

**Docket No.: 17-IEPR-06**

**RE: Framework for Establishing the  
Senate Bill 350 Energy Efficiency Savings  
Doubling Targets – Staff Paper**

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**JOINT COMMENTS OF THE CALIFORNIA MUNICIPAL UTILITIES  
ASSOCIATION, THE NORTHERN CALIFORNIA POWER AGENCY, AND THE  
SOUTHERN CALIFORNIA PUBLIC POWER AUTHORITY ON THE STAFF PAPER  
ON ENERGY EFFICIENCY SAVINGS DOUBLING TARGETS**

The California Municipal Utilities Association (“CMUA”), the Northern California Power Agency (“NCPA”), and the Southern California Public Power Authority (“SCPPA”) (“Joint POUs”) respectfully submit these comments to the California Energy Commission (“Commission”) regarding the *Framework for Establishing the Senate Bill 350 Energy Efficiency Savings Doubling Targets – Staff Paper* (“*Staff Paper*”),<sup>1</sup> which was presented by Commission staff at the public workshop on January 23, 2017.

The Joint POUs and their respective member utilities have long supported California’s energy efficiency policies and administered programs to provide financial incentives and rebates to POU customers for investments in a broad range of energy saving measures. The Governor’s unprecedented vision for energy efficiency – as codified by Senate Bill 350 (“SB 350”) in 2015 – of doubling statewide energy efficiency savings in electricity and natural gas final end uses of retail customers by January 1, 2030,<sup>2</sup> challenges all stakeholders to collaborate and innovate together to unlock the state’s energy savings potential. With a wealth of experience and

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<sup>1</sup> California Energy Commission, January 2017, *Framework for Establishing the Senate Bill 350 Energy Efficiency Savings Doubling Targets – Staff Paper*, Publication Number CEC-300-2017-045.

<sup>2</sup> Cal. Pub. Res. Code § 25310(c)(1).

knowledge acquired from years of working with customers on energy efficiency projects, the Joint POUs offer these comments to support the Commission’s effort to establish annual targets for statewide energy efficiency savings and demand reduction through 2030.

## **I. THE JOINT POUS’ FOUNDATIONAL PRINCIPLE OF ENERGY EFFICIENCY**

In *Energy Efficiency in California’s Public Power Sector: A 2016 Status Report* (“2016 EE Report”),<sup>3</sup> the Joint POUs outlined the following foundational principle of energy efficiency: “Customers are ultimately responsible for achieving savings from energy efficiency. To fully realize potential energy savings, policies and programs must aim to remove barriers and encourage voluntary action by customers to reduce energy usage.”<sup>4</sup> Whether the state adopts more stringent Title 24 building energy efficiency standards for existing building retrofits, or a utility offers a rebate for EnergyStar appliances, the customer is ultimately responsible for the decision to comply, invest, or otherwise implement an energy efficiency measure.

This guiding principle of energy efficiency – that the customer is central to realizing energy savings – directly relates to and should inform the Commission’s efforts to establish annual targets to achieve a cumulative doubling of statewide energy efficiency savings by 2030. In particular, consideration of customer perspective will be critical in assessing energy efficiency savings and demand reduction potential of new programs and market activity, as well as evaluations of cost-effectiveness, feasibility, and reliability.

As the Joint POUs noted in the 2016 EE Report, in many cases, a residential customer’s decision to make energy efficiency improvements is not primarily motivated by reducing their monthly utility bill or a specific attitude towards energy efficiency. Arthur Rosenfeld, former

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<sup>3</sup> CMUA, NCPA, and SCPA, March 2016, *Energy Efficiency in California’s Public Power Sector: A 2016 Status Report*, available at: <http://www.ncpa.com/policy/reports/energy-efficiency/>.

<sup>4</sup> *Id.*, pg. 25.

CEC Commissioner and renowned as the “godfather of energy efficiency”, co-authored research that framed customer motivations as follows:

From a consumer perspective, it is often the non-energy benefits that motivate (or can be used to promote) decisions to adopt energy-efficient technologies... From the perspective of energy consumers, non-energy benefits can equal or even exceed the importance of the energy cost avoided, thus meriting greater consideration in private investment decisions, marketing strategies, design and evaluation of utility programs, and government policies designed to promote energy efficiency.<sup>5</sup>

Whereas non-energy benefits can motivate customers, non-monetary costs can dissuade customers from pursuing energy efficiency retrofits. An Energy Institute at Haas working paper<sup>6</sup> explored the impact of non-monetary costs on customer participation in a free weatherization program. The Weatherization Assistance Program that was studied provided participating households with an energy audit and a home retrofit that typically included some combination of insulation, window replacements, furnace replacement, and infiltration reduction. The average value of the efficiency retrofits provided to participating households in the study exceeded \$5,000 per home.

The research found that the process of applying for weatherization programs is onerous and time intensive. Applicants must submit extensive paperwork documenting their eligibility. Despite being eligible for an average of \$5,000 in improvements, the paper concluded that there is “striking evidence that individuals and households bypass opportunities to improve energy efficiency that require zero out-of-pocket expenditures and are widely believed to be privately beneficial.”<sup>7</sup> The researchers also noted that participation is only modestly increased by

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<sup>5</sup> Mills, E. and Rosenfeld, A., 1996, “Consumer Non-Energy Benefits as a Motivation for Making Energy-Efficiency Improvements,” *Energy* (21)7-8: 707-720.

<sup>6</sup> Fowlie, M., Greenstone, M., and Wolfram, C., January 2015, “Are the Non-Monetary Costs of Energy Efficiency Investments Large? Understanding Low Take-up of a Free Energy Efficiency Program,” *Energy Institute at Haas WP 256*.

<sup>7</sup> *Id.*

extraordinary education and outreach efforts. The rate at which households pursued a weatherization retrofit increased nominally from less than 1% to almost 6% when provided the additional education and outreach. On average, it cost an additional \$1,000 per household in program administration for the education and outreach efforts. The lesson to be learned from the research with regards to establishing 2030 energy efficiency targets is that even with a generous incentive and marketing campaign, it can still be challenging to encourage customers in existing buildings to voluntarily participate in projects to realize energy efficiency savings that may otherwise be considered “cost-effective” and “feasible” by utility energy efficiency potential studies.

The research above also highlights that the definition of “cost-effectiveness” can vary by stakeholder. While a utility or government program may deem a measure “cost-effective” based on the estimation of building and equipment life-cycle costs to the consumer and/or utility, corporate decision makers will likely decide whether or not to proceed with an energy efficiency measure based on return on investment (“ROI”), simple payback period, up-front costs, and the reliability of projected savings. As previously referenced, residential customers may be more interested in the non-energy benefits of a measure, which further alters the decision-making process.

The Joint POUs raise these issues because the challenge and complexity of achieving a doubling of statewide energy efficiency savings cannot be understated. Failure to accurately assess and incorporate customer perspectives into this process may lead to the Commission establishing annual targets for statewide energy efficiency savings and demand reductions that grossly mischaracterize energy efficiency market and economic potential. Whereas certain programs – such as the Title 20 Appliance Energy Efficiency Standards, Title 24 Building

Energy Efficiency Standards, and investor owned utility (“IOU”) and POU incentive programs – have established models for forecasting potential energy savings that consider customer acceptance and participation, other non-utility programs and market activities have not been previously modeled. The Joint POU’s appreciate the recognition in the Staff Paper of the limitations of available data regarding customer perspective and market activity related to energy efficiency, and concur that there is a need to further refine the Commission’s analysis in future iterations of the Integrated Energy Policy Report.<sup>8</sup>

With respect to the customer perspective, it is critically important to consider energy efficiency in the context of other distributed energy resources (“DERs”) – including distributed generation, energy storage, electric vehicles, and demand response. For example, research completed by the Center for Sustainable Energy on the energy efficiency activities of customers participating in the California Solar Initiative found that customers installing on-site solar systems also installed many simple energy efficiency upgrades, such as lighting and Energy Star appliances. However, similarly to customers that are not installing solar systems, more complicated efficiency actions such as duct sealing or replacement, which could yield significant additional energy savings, are not installed by a significant fraction of solar adopters.<sup>9</sup> In the end, customers that install solar or other DERs may invest in energy efficiency options at a different rate than customers that do not install those DERs.

Similarly, thermal energy storage (“TES”) systems may shift a customer’s air conditioning load off of peak hours and be an effective way for non-residential customers to avoid demand charges. However, customers that install these TES systems may examine their

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<sup>8</sup> Staff Paper, pg. 18.

<sup>9</sup> Langheim, R., Arreola, G., and Reese, C., August 2014, *Energy Efficiency Motivations and Actions of California Solar Homeowners*, presented at ACEEE Summer Study on Energy Efficiency in Buildings, Pacific Grove, CA, August 17-22, 2014.

efficiency options differentially from customers that do not in order to manage their energy usage and monthly bills. While TES systems can provide an economic benefit to the customer, and greenhouse gas emissions reductions from the utility and state perspective, TES systems themselves do not necessarily result in significant energy savings. A utility may offer rebates for energy efficiency measures that are both “cost effective” and “feasible,” but customers may embrace these offerings differentially based on their interest in or installation of other DER options to satisfy their needs. The Joint POU would encourage the Commission to include a comprehensive evaluation of how consideration and adoption of other DER options may impact customer decision-making regarding energy efficiency improvements.

## **II. THE PROCESS FOR ESTABLISHING ANNUAL TARGETS SHOULD PRIORITIZE ASSESSMENT OF NONUTILITY PROGRAMS**

Chapter 1 of the Staff Paper proposes an initial timeline and process, to be completed by November 1, 2017, for establishing annual targets to achieve a cumulative doubling of statewide energy efficiency savings and demand reductions by 2030. The proposal includes a workshop focused on the portions of the cumulative statewide doubling targets that ought to be met by utilities and by independent third party programs. In particular, this workshop may discuss the establishment of subtargets for the achievement of “enhanced energy efficiency savings” to be met by IOUs and POU. The concept of “enhanced energy efficiency savings” is used multiple times throughout the Staff Paper, but it is never defined and the Commission’s meaning of the term is unclear.

The Joint POU believe that establishing sub-targets at this time and in this manner is premature and unwarranted. Currently, the Commission sets statewide energy efficiency targets and POU local governing boards set energy efficiency targets for their respective areas in consideration of the statewide target and local conditions and opportunities. SB 350 requires the

Commission to develop a statewide target that aims to double energy efficiency savings, but does not provide the Commission with clear authority to establish targets for individual programs or individual POUs. POU local governing boards should retain the authority to set their own energy efficiency targets. It is sufficient at the beginning of the SB 350 target setting process to allow the IOUs through the CPUC and POUs through their local governing boards to adopt targets, and further develop new state and third-party efforts. Progress toward the statewide goal can then be monitored through the state's IEPR and through the annual POU energy efficiency report to determine whether the total of utility and nonutility programs is on track to achieve the statewide goal.

The 2015 additional achievable energy efficiency ("AAEE") savings includes the savings not yet considered committed but deemed likely to occur, including impacts from future updates of building codes and appliance standards and utility efficiency programs expected to be implemented after 2015. AAEE impacts for the IOU service territories are based on the California Public Utilities Commission's ("CPUC") 2015 California Energy Efficiency Potential and Goals Study ("2015 Potential Study").<sup>10</sup> The 2015 Potential Study was approved and adopted by the CPUC pursuant to the statutory requirement that the CPUC "shall identify all potentially achievable cost-effective electricity efficiency savings and establish efficiency targets" for IOUs.<sup>11</sup>

In a similar fashion, the 2013 POU 10-year energy efficiency potential studies were adopted by individual POU local governing boards to satisfy their own statutory requirement to "identify all potentially achievable cost-effective electricity efficiency savings."<sup>12</sup> By the time

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<sup>10</sup> California Energy Commission, January 2016, *California Energy Demand 2016-2026, Revised Electricity Forecast*, Publication Number CEC-200-2016-001-V1. pg. 54.

<sup>11</sup> Cal. Pub. Util. Code § 454.55(a)(1); §454.56(a).

<sup>12</sup> Cal. Pub. Util. Code § 9505(b).

POUs finalize their respective 10-year energy efficiency potential studies in the next couple of months, over a year will have been spent planning, gathering data, and modeling energy efficiency potential in each POU's respective service territory.

Taken together, the AAEE and the POU potential studies identify all cost-effective energy efficiency savings achievable through utility programs. Therefore, in order to achieve a statewide doubling of energy efficiency savings, nonutility programs, which do not factor into the AAEE or POU potential studies, must be a significant source of new energy efficiency savings.

In contrast to the robust modeling completed for IOU and POU energy efficiency programs, the Joint POUs are unaware of publicly-available forecasts of the energy efficiency savings and demand reduction potential from a number of nonutility programs, including the Comprehensive Energy Efficiency Program for Existing Buildings, programs funded by the California Clean Energy Jobs Creation Act, the Building Energy Use Benchmarking and Public Disclosure Program, and Property Assessed Clean Energy ("PACE") programs.

While the Staff Paper includes a fourth workshop on nonutility subtargets, which could potentially address modeling energy savings from these programs, the Joint POUs believe that a single workshop is likely insufficient in the absence of existing data on the energy efficiency savings and demand reduction these programs could deliver between now and 2030. As such, the Joint POUs strongly encourage the Commission to prioritize their resources towards modeling, in an open and public process, the energy efficiency savings and demand reduction from nonutility programs, or if this work has already been completed, providing the technical assumptions to the public for comment and feedback. Without this data, it is not possible to set meaningful nonutility subtargets. (See section IV below for a more in-depth discussion on the

importance of nonutility programs establishing and achieving the energy efficiency savings doubling targets.)

### **III. THE GENERAL FRAMEWORK FOR ESTABLISHING ANNUAL TARGETS IS APPROPRIATE**

The general framework for establishing the annual statewide energy efficiency savings doubling targets outlined in the Staff Paper is appropriate. Specifically, the Joint POU support all of the following:

- Interpreting “cumulative” energy efficiency savings to mean the cumulative savings realized in 2030 in alignment with the definition the CPUC has used to set IOU energy efficiency savings goals.<sup>13</sup>
- Illustrating the 2018-2030 annual savings targets as a literal, arithmetic doubling of the 2015-2025 additional achievable energy efficiency savings and the 2013 targets adopted by POU, with the understanding that these will likely NOT be the annual energy savings targets proposed by staff later in 2017, since the analyses to determine cost-effectiveness, feasibility and reliability are not yet complete.<sup>14</sup>
- Expressing electric and gas savings in a common unit in order to facilitate calculations related to fuel substitution.<sup>15</sup>

While these general parameters are appropriate for establishing statewide annual savings targets, it is not appropriate for the Commission to separately establish forecasts for POU programs. The Joint POU main concern with the framework is the proposal for Commission staff to establish their own forecasts for POU programs despite the fact that the POU local governing boards are given this authority to adopt these targets.<sup>16</sup> SB 350 does not direct or authorize the Commission to establish forecasts for POU programs; instead, the Legislature notes that POU programs are but one source of energy efficiency savings to count towards the annual

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<sup>13</sup> Staff Paper, pgs. 5, 12-13.

<sup>14</sup> *Id.*, pg. 5, footnote 1.

<sup>15</sup> *Id.*, pg. 5.

<sup>16</sup> Cal. Pub. Util. Code § 9505(b).

statewide targets.<sup>17</sup>

Similarly, it is also clear from the plain language of SB 350 that individual POUs are not mandated to adopt targets that will achieve a doubling of energy efficiency savings for that POU's retail customers by 2030. When the Legislature sets a statewide goal and directs individual entities to meet a specified portion of that goal, it does so expressly.<sup>18</sup> In contrast, SB 350 sets a statewide goal that incorporates the individually adopted POU targets. Further, the rules of statutory construction dictate that statutes must be interpreted "with a view to promoting rather than defeating the general purpose of the statute, and avoid an interpretation that would lead to absurd consequences."<sup>19</sup> The POUs represent a broad range of entities with widely differing climates, customer bases, and economic conditions. Requiring every POU to adopt targets demonstrating a doubling of energy efficiency savings for its individual customer base would ignore these fundamental differences and lead to absurd consequences, such as ignoring early actions.

However, the Joint POUs do recognize the need for the Commission to incorporate POU 10-year energy efficiency potential studies into the annual statewide energy efficiency savings doubling targets. To this end, the Joint POUs recommend that the Commission include the cumulative energy savings derived from the 10-year energy efficiency targets adopted by all POU local governing boards, extended to 2030 using an average annual growth rate.

Similarly, POUs currently report to the Commission the results of their energy efficiency

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<sup>17</sup> Cal. Pub. Res. Code § 25310(d)(7)-(8).

<sup>18</sup> For example, when establishing a statewide procurement requirement of 125 MW for certain bioenergy facilities, the Legislature described each obligated POU's requirement as follows: "A local publicly owned electric utility serving more than 100,000 customers shall procure its proportionate share, based on the ratio of the utility's peak demand to the total statewide peak demand, of 125 megawatts of cumulative rated capacity from existing bioenergy projects . . . ." (Cal. Pub. Util. Code § 399.20.3(e)).

<sup>19</sup> *Wilcox v. Birtwhistle*, 21 Cal.4th 973, 977-78, 90 (1999).

programs on an annual basis.<sup>20</sup> The Joint POU's have worked with Commission staff in the past to ensure that public power's annual energy efficiency report provides the information in a format that facilitates the Commission's review. With SB 350 directing the Commission to "provide recommendations and an update on progress towards achieving a doubling of energy efficiency savings,"<sup>21</sup> the Joint POU's are committed to continuing to work with the Commission on refining the existing POU annual energy efficiency report to support the Commission's own reporting requirements under SB 350. To this end, the Joint POU's recommend amending the Staff Paper to clarify that data on POU programs will be provided through the existing POU annual energy report, rather than through the creation of a separate, duplicative report independent of the data compiled and reported by the POU's.

#### **IV. NONUTILITY PROGRAMS ARE CRITICAL FOR ESTABLISHING AND ACHIEVING STATEWIDE ENERGY EFFICIENCY SAVINGS DOUBLING TARGETS**

In *California's Existing Buildings Energy Efficiency Action Plan* ("EBEE Action Plan"),<sup>22</sup> Commissioner McAllister echoes the Joint POU's foundational principle of energy efficiency in his introductory message: "Policy and the market must approach property owners and residents by recognizing their constraints and helping them move ahead with well-conceived projects that both reduce energy consumption and improve their lives."<sup>23</sup>

The EBEE Action Plan builds on Commissioner McAllister's message by providing a brief overview of each of the main existing building sectors and the opportunities and challenges related to increasing energy efficiency for customers in each of these sectors.<sup>24</sup> The Joint POU's

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<sup>20</sup> Cal. Pub. Util. Code § 9505(a).

<sup>21</sup> Cal. Pub. Res. Code § 25310(e).

<sup>22</sup> California Energy Commission, September 2015, *California's Existing Buildings Energy Efficiency Action Plan*, Publication Number CEC-400-2015-013-F.

<sup>23</sup> *Id.*, pg. ii.

<sup>24</sup> *Id.*, Chapter 1, pg. 11-22.

generally support the EBEE Action Plan characterization of the different building sectors (and customer opportunities and challenges) as a foundation on which the Commission should build upon in establishing statewide energy efficiency savings doubling targets, as required by SB 350. However, additional assessments of the building sector and characterization of customer motivations, opportunities, and challenges related to pursuing energy efficiency measures are needed to guide the implementation of the EBEE Action Plan, as well as the establishment of SB 350 statewide energy efficiency targets.

Furthermore, as the strategies outlined in the EBEE Action Plan “aim to mobilize market-based activity in California such that the existing \$1.1 billion in annual ratepayer-funded programs is leveraged to activate sufficient private capital to reach an annual investment of at least \$8 billion per year,” the EBEE Action Plan plays a critical role in setting annual statewide targets and achieving the doubling of energy efficiency savings by 2030. To this end, the Commission will need to develop forecasts for the anticipated energy and demand savings, as well as the costs and benefits, for each of the strategies outlined in the EBEE Action Plan to include in the statewide energy efficiency savings doubling targets.

In Chapter 3: Staff Draft Implementation Framework, the Staff Paper includes a section on Subtargets, Cost-Effectiveness, Feasibility, and Reliability. The section includes a list of subtargets that could be established using discrete assumptions of cost-effectiveness, feasibility, and reliability. The Joint POU's recommend amending this list to include specific subtargets for the EBEE Action Plan strategies (which includes the Building Energy Use Benchmarking and Public Disclosure Program) and programs funded by the Clean Energy Jobs Creation Act. Furthermore, while the Staff Paper acknowledges that subtargets could be created for nonutility programs, as noted above, the Staff Paper does not discuss methodologies for establishing

subtargets or the process(es) for doing so. The Joint POUs suggest that the proper authority for establishing subtargets for POUs is the POU Governing Boards themselves.

The Joint POUs support the Commission's endeavors, in an open and public process with feedback from stakeholders, to model the energy efficiency savings and demand reduction potential, and to develop metrics of cost-effectiveness, feasibility, and reliability, of nonutility programs. This should include the EBEE Action Plan Strategies (which includes the Building Energy Use Benchmarking and Public Disclosure Program), programs funded by the California Clean Energy Jobs Creation Act, and PACE programs.

## **V. TREATMENT OF FUEL SUBSTITUTION IS COMPLEX AND DESERVES A WORKSHOP OF ITS OWN**

The Joint POUs support the Staff Paper proposal to count fuel substitution measures towards the SB 350 energy efficiency savings doubling targets. In addition to delivering energy savings, electrification of fossil fuel end uses is essential towards achieving the state's greenhouse gas emission goals. To this end, SB 350 stated that the annual targets should include fuel substitution "programs that save energy in final end uses by using cleaner fuels to reduce GHG emissions as measures on a lifecycle basis from the provision of energy services."<sup>25</sup>

The Joint POUs interpret the statute to mean fuel substitution of natural gas end uses with electricity should be counted towards the targets when the grid or utility source-based energy input from the electric appliance is lower than that of the gas appliance assuming equivalent energy output for both appliances. However, the statute is unclear and the Joint POUs ask the Commission to further clarify the definition of "fuel substitution".

Furthermore, there are technical issues regarding fuel substitution and the accounting of energy efficiency savings as accruing to natural gas utilities or electric utilities. Similar concerns

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<sup>25</sup> Cal. Pub. Res. Code § 25310(d)(10).

have arisen at the California Air Resources Board as they proceed with laying the framework for achieving a 40 percent reduction in greenhouse gas emission below 1990 levels by 2030. The Joint POU request that a separate workshop(s) be convened to specifically discuss the technical issues associated with fuel substitution measures.

## **VI. CONCLUSION**

The Joint POU appreciate the opportunity to comment on the Staff Paper and the Commission's consideration of our concerns and perspective. The Joint POU look forward to continuing to work with Commission staff on building a better understanding POU programs and how they relate to establishing annual statewide energy efficiency savings targets.

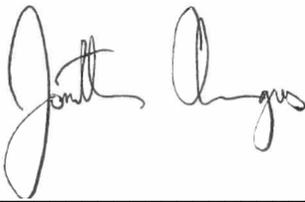
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