

## DOCKETED

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**SMUD Comments on the Energy Efficiency Savings Doubling Targets Staff Paper**

*Additional submitted attachment is included below.*

**STATE OF CALIFORNIA  
BEFORE THE CALIFORNIA ENERGY COMMISSION**

<b>In the matter of:</b>	)	Docket No. 17-IEPR-06
	)	
<b>Doubling Energy Efficiency Savings</b>	)	SMUD Comments on Framework
	)	for Establishing the Senate Bill 350
	)	Energy Efficiency Savings Doubling
	)	Targets – Staff Paper
	)	
	)	February 15, 2017

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**Comments of the Sacramento Municipal Utility District  
on the Energy Efficiency Savings Doubling Targets Staff Paper**

The Sacramento Municipal Utility District (“SMUD”) respectfully submits the following 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”).

SMUD recognizes the importance of increasing the state’s energy efficiency efforts, as prescribed in Senate Bill 350 (“SB 350”). To that end, SMUD has set an aggressive 10-year energy efficiency goal of 1.5 percent annual savings and has instituted a number of energy efficiency programs. SMUD continues to examine and roll out new energy efficiency programs as new opportunities arise. SMUD has also established a Distributed Energy Resources (DER) planning unit to coordinate the consideration and development of DERs, including energy efficiency programs. SMUD looks forward to assisting the state in meeting the energy efficiency savings doubling targets set forth in SB 350.

SMUD supports staff’s methodology for determining the overarching goals, including the methodology for measuring “cumulative” 2030 savings, as well as staff’s proposal of assuming a three percent annual average growth rate for 2026 through 2030. However, there are areas of concern in the Staff Paper on which SMUD appreciates the opportunity to comment.

**I. Sub-Targets for Utilities are Problematic**

Staff has proposed to establish individual savings “sub-targets,” and has listed sub-targets for publicly-owned utilities (“POUs”) as an example. SMUD opposes establishing sub-targets for POUs, as such an action is unnecessary.

Currently, the Commission sets statewide energy efficiency targets, and POU governing boards set energy efficiency targets for their jurisdictions in consideration of the statewide target as well as local conditions and opportunities. SB 350 requires the Commission to develop a statewide target that aims to double energy efficiency savings, but neither directs nor provides the Commission with clear authority to establish targets for individual programs or individual POUs. POU governing boards should retain the authority to set their own energy efficiency targets. Progress toward the statewide goal can then be monitored through the state's Integrated Energy Policy Report ("IEPR") and through the new Integrated Resource Planning ("IRP") processes established by SB 350 to determine whether the total of utility and non-utility programs is on track to achieve the statewide goal. Coordinated action can be taken by the Commission and POUs if the programs fall behind their goals.

Additionally, under current policy, the proposed sub-targets could negatively impact utilities that only serve one fuel type (electricity or natural gas) by limiting their flexibility to move across fuel types depending on the results of the cost-effectiveness analysis. This issue could be remedied if the Commission and California Public Utilities Commission (CPUC) allow single-fuel utilities to count savings from other fuel types. We further explore an approach to provide flexibility in Section II below.

Further, the proposed sub-targets could penalize utilities that have made substantial progress in the years prior to 2015. SMUD has led the industry in residential and commercial energy efficiency programs for more than three decades, reducing electricity use and providing cost savings to our customers. This includes SMUD's aggressive 10-year gross energy efficiency goal of 1.5 percent annual savings, 50 percent more aggressive than the state's goal of 1 percent. In 2015, SMUD actually exceeded its goal by 12GWh.<sup>1</sup> To support this goal, SMUD has a number of energy efficiency programs, including some programs specifically targeting low-income customers. For example, SMUD offers a financing program to help customers replace high energy use equipment with more efficient models, rebates to help customers save on energy-efficient appliances (e.g., clothes dryers, refrigerators, and heat pump water heaters), and rebates and incentives for deep energy efficiency upgrades through the Home Performance Program. Additionally, from 2013-2015, SMUD used revenue from surplus Cap-and-Trade auction allowances to pilot three different deep energy efficiency retrofit programs with low-income customers. SMUD is also piloting programs to help mid-sized commercial customers use energy management systems to lower their energy use, to understand the potential for low-greenhouse gas, all-electric homes, and to reduce greenhouse gases and energy use through highly efficient heat pumps. Further, SMUD expects to roll-out a data analytics driven program (Planned High-User Energy Efficiency Program) to identify customers enrolled in the Energy Assistance Program Rate with the highest energy cost burden electricity usage and target efficiency efforts to those customers.

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<sup>1</sup> <http://www.energy.ca.gov/portfolio/pous/smud/BoardStrategicDirection.pdf>

Should staff choose to move forward with proposing flexible, voluntary utility-specific sub-targets, SMUD asks that the sub-targets reflect early adoption and historical progress made by each of the utilities, as well as the remaining cost-effective potential available. Those utilities that have already produced significant savings may not be as capable of providing the same savings as other utilities. Any sub-targets developed should be performance-based and not prescriptive in any way, as prescriptive targets could limit the number of strategies available to a utility to meet its goal and could result in increased program costs.

SMUD looks forward to further discussion on this topic with staff and stakeholders at the upcoming workshop.

## **II. Energy Efficiency Metric Should Maximize Greenhouse Gas Reductions**

SMUD agrees with the recommendation in the Staff Paper to leverage a common unit to aggregate gas and electric savings for measuring progress toward the 2030 target. However, SMUD believes it is important to ensure the doubling targets are defined in a manner that drives activity aligned with the overarching intent behind SB 350. Therefore, SMUD recommends the Commission employ an energy efficiency metric that maximizes greenhouse gas reductions, rather than site energy British thermal units (“BTUs”) as is currently proposed by staff. Specifically, SMUD supports the Source Energy Carbon Content (“SECC”) metric based on heat rates of marginal generators and the Renewable Portfolio Standard (“RPS”) percentage, as brought forth by the Natural Resources Defense Council (“NRDC”). SMUD believes the SECC metric is the best approach to measuring energy efficiency for the following reasons:

- The SECC metric is an accurate proxy for greenhouse gas emissions under a shifting generation mix as the RPS increases. This metric would align energy efficiency investments with statewide greenhouse gas targets, which seek to reduce California’s greenhouse gas emissions to 40 percent below 1990 levels by 2030.
- A greenhouse gas-based metric such as the SECC also ensures the programs California relies upon to meet its 2030 goals (e.g., energy efficiency, Cap-and-Trade, RPS) complement one another. For example, the California Air Resources Board’s (“ARB”) Proposed 2017 Scoping Plan relies upon a doubling of energy efficiency to deliver 6-8 million metric tons of greenhouse gas reductions in 2030. Using an energy efficiency metric that maximizes greenhouse gas emission reductions rather than BTUs can help ensure these projected greenhouse gas emission reductions are realized.
- A greenhouse gas-focused metric will also help utilities view energy efficiency as a potential Cap-and-Trade compliance pathway. Rather than purchasing or using allowances to cover their compliance obligations, entities can leverage energy efficiency programs.

- The SECC metric is straightforward to calculate, easily understood, and based on publicly-available data. The Commission already has heat rate data for California thermal plants that could be used for the calculation. (Note that using the Department of Energy national average site-to-source ratio of 3.15 would be very inaccurate for California given the state’s resource mix).
- Any concern that the SECC metric will reduce the attractiveness of electric energy efficiency measures under high RPS percentages is adequately mitigated by the fact that utilities are still obligated to implement all cost-effective energy efficiency.
- This metric could evolve to more accurately track carbon emissions that vary by season, time of day, and geographic region within the state. In doing so, it would more appropriately capture the benefits and costs of prospective energy efficiency investments. Recent research from Judson Boomhower and Lucas W. Davis shows how accounting for the timing of savings achieved through Southern California Edison’s efficient air-conditioning rebate program made the program “53% more valuable” than under a calculation ignoring timing.<sup>2</sup>
- The metric facilitates beneficial fuel substitution projects by creating an accurate conversion between the two fuels and promotes greater flexibility between natural gas and electric savings.

### **III. Cost-Effectiveness Calculations Should Reflect Uncertainty in Valuing Carbon Emission Savings**

Currently, the Cap-and-Trade auction prices have primarily tracked the established “price-floor” in the Cap-and-Trade regulations. Using the price floor does not appropriately reflect the total cost of carbon imbedded in California’s many greenhouse gas reduction programs. Since cost-effectiveness assessments will work hand-in-hand with the statewide energy efficiency targets to drive investment decisions, it is critical to appropriately value carbon savings. Cost-effectiveness calculations should also consider higher carbon cost scenarios. Example options for further consideration include:

- Average between Cap-and-Trade floor and high-tier Allowance Price Containment Reserve (APCR) price.
- Average between ARB’s low and high projections for 2030 (\$55).<sup>3</sup>
- Societal cost of carbon (about \$36 in 2015, according to EPA).<sup>4</sup>
- High-tier APCR price.

<sup>2</sup> <https://ei.haas.berkeley.edu/research/papers/WP271.pdf>

<sup>3</sup> Page 65 of 2017 Draft Scoping Plan [https://www.arb.ca.gov/cc/scopingplan/2030sp\\_pp\\_final.pdf](https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf)

<sup>4</sup> <https://www.epa.gov/climatechange/social-cost-carbon>

#### **IV. Flexibility Across Fuels is Needed**

SMUD supports staff's position that fuel substitution falls within the scope of the SB 350 energy efficiency program. Any energy efficiency guidelines established by the Commission should offer flexibility across fuels because it allows greater energy savings at a lower cost, and potentially greater greenhouse gas reductions than fixed targets. Single-fuel utilities should be able to count savings from other fuel types, as the costs of public goods programs are already disproportionately distributed, with electric customers paying more than gas customers. A flexible structure will avoid putting even more pressure on electric rates. Electrification of natural gas end-uses will play an important role in California's clean energy future. Energy and Environmental Economics' (E3) California PATHWAYS modeling suggests "over 50% of new sales of residential water heaters and HVAC systems for buildings [will need to be] high efficiency electric heat pumps by 2030."<sup>5</sup> Further, more than half of the cumulative electricity savings needed to achieve a doubling are either not yet in place or currently not known to be achievable, further emphasizing the importance of providing flexibility across fuels and broadening the scope of eligible activities. The cost of energy efficiency technologies and services will likely evolve significantly by 2030, and fuel flexibility will be a key component in capturing the full value of these advancements.

#### **V. Existing Policy Barriers Must be Addressed**

Achieving the state's ambitious energy efficiency goals in a cost-effective manner requires stakeholder discussion and resolution of existing policy barriers that could limit progress. Examples of how to address these policy barriers include:

- Update the definition of cost-effectiveness in the building energy code and in the cost-effectiveness test used by the CPUC for customer-funded incentive programs to fully account for the value of carbon reductions and other non-energy benefits in order to broaden the pool of cost-effective energy efficiency opportunities.
- Update policies to allow electric-only utilities to claim gas savings from fuel substitution projects that meet Commission requirements for fuel substitution to contribute toward statewide targets.
- Remove Title 24 Time Dependent Valuation ("TDV") bias favoring gas end-uses, by including the social cost of carbon and other non-energy impacts in TDV as well as appropriately considering variable load shapes for these uses.
- Consider using greenhouse gas impacts as the threshold for Title 24 residential retrofits rather than TDV. As long as a project does not

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<sup>5</sup> [https://ethree.com/documents/E3\\_Project%20Overview\\_20150126v2.pdf](https://ethree.com/documents/E3_Project%20Overview_20150126v2.pdf)

increase greenhouse gas emissions, a homeowner should be able to pursue it regardless of whether the retrofit meets a TDV “cost effectiveness” test. The homeowner may see additional value in the project outside of the scope of TDV.

- Update the three-prong test to align with current greenhouse gas-driven policy framework and account for current high efficiency electric technologies. The California Building Decarbonization Coordinating Group will be providing a memo with suggested changes to the three-prong test.
- Develop policies and shift to metrics that encourage flexible loads capable of reducing carbon emissions as well as grid costs caused by high penetrations of photovoltaic (“PV”) systems, energy efficiency, and electric vehicles.
- Continue progress on measurement and evaluation and efficiency policy updates that will allow a broader range of residential and commercial behavior programs to contribute toward statewide energy efficiency targets.
- Create an incentive structure that would better allow utilities to claim savings from market transformation programs.
- Reexamine the assumptions that feed into free ridership calculations.

## **VI. Opportunities for Additional Savings**

Opportunities remain to achieve additional savings to contribute to the savings wedges in Figures 3 and 4 of the Staff Paper:

- Pay for Performance programs.
- Broader application of comprehensive energy efficiency retrofit approaches.
- Wider and deeper behavioral programs including commercial and industrial operator training, business energy reports, energy usage feedback strategies, prompts, competitions, and other forms of community-based social marketing.
- Enabling tools such as metered M&V data analytics approaches to increase program participation, improve customization of offerings to customer needs, and reduce marketing costs.
- Guidelines and tools to help utilities capture to-code savings allowed by Assembly Bill 802.
- Develop additional market transformation programs.



## VII. Conclusion

SMUD appreciates the opportunity to comment on the Staff Paper and looks forward to meeting with Commission staff to discuss our proposal in further detail.

/s/

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cc: Corporate Files (LEG 2017-0077)