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NRDC Comments on the Energy Demand Forecast and Doubling of Energy Efficiency

Additional submitted attachment is included below.

Natural Resources Defense Council (NRDC) Comments on the Energy Demand Forecast and Doubling of Energy Efficiency – Data and Analytical Needs

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I. Introduction

The Natural Resources Defense Council (NRDC) appreciates the opportunity to offer these comments on the Energy Demand Forecast and the doubling of energy efficiency. NRDC is a non-profit membership organization with nearly 70,000 California members who have an interest in receiving affordable energy services that reduce the environmental impact of California's energy consumption.

This workshop was a collaboration between the joint-agencies, investor-owned utilities, publicly owned utilities, and stakeholders – all working toward Senate Bill 350's (SB 350) goal to double energy efficiency savings in California. This collaborative workshop was an excellent first step. Further work and a continued focus is necessary for the state to meet the doubling goal by 2030 and improve policies that limit opportunities to capture substantial energy efficiency savings. We need to think ambitiously and create broad, customer-centric programs that keep the transaction costs of implementing and counting energy efficiency improvements cost-effective. We need to learn the best practices from other states and perform sophisticated data analysis using advanced metering infrastructure (AMI) and real time data. We also need to define the doubling goal in ways that are feasible and also challenge us to achieve this ambitious efficiency progress, as discussed in more detail below.

II. Discussion

A. NRDC recommends using a cumulative, state-wide doubling of Mid-AAEE from the 2015 Revised IEPR Forecast (including POUs), as it is defined by law in SB 350.

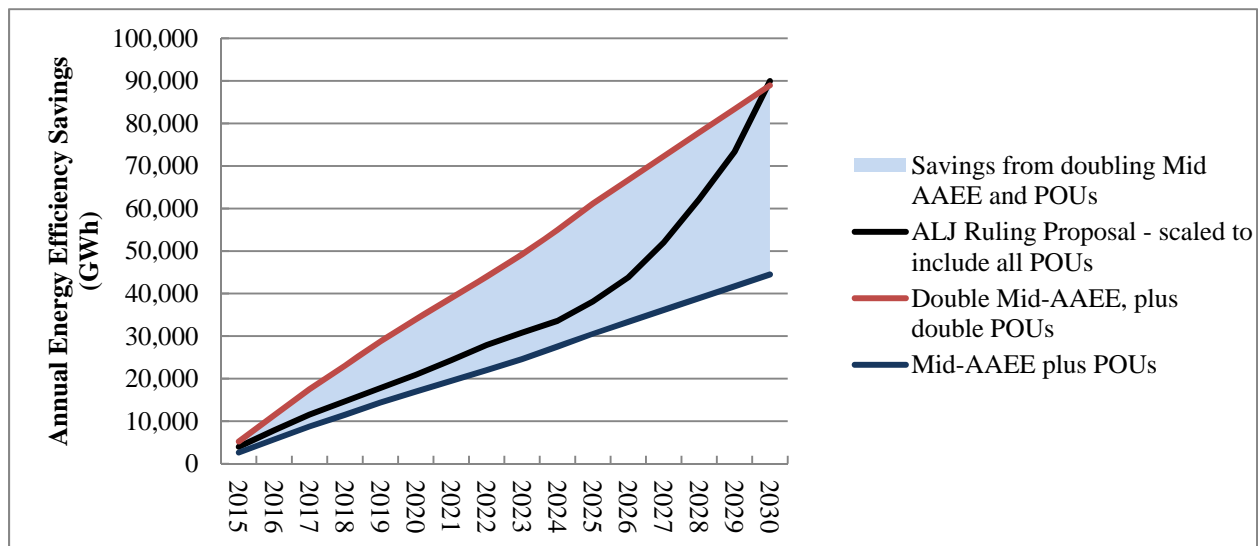
NRDC urges the Energy Commission to define the doubling goal based on the language in SB 350 that states:

“[The commission] . . . shall establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a **cumulative** doubling of statewide energy efficiency savings in electricity and natural gas final end uses of retail customers by January 1, 2030. The commission shall base the targets on a doubling of the mid-case estimate of additional achievable energy efficiency savings, as contained in the California Energy Demand Updated Forecast, 2015-2025, adopted by the commission, extended to 2030 using an average annual growth rate, and the targets adopted by local publicly owned electric utilities pursuant to Section 9505 of the Public Utilities Code, extended to 2030 using an average annual growth rate, to the extent doing so is cost effective, feasible, and will not adversely impact public health and safety.”¹

The law clearly states that the Energy Commission should implement a cumulative doubling of statewide, economy-wide energy efficiency by 2030. This full accounting of the doubling goal required under SB 350 would achieve 89,000 GWh of cumulative first-year electricity savings by 2030.

It is important that the doubling goal is not interpreted as only reaching the final goal by quickly ramping up efficiency in the last year, as incorrectly defined in the Administrative Law Judge’s proposal in the Transmission Planning Process at the California Public Utilities Commission (CPUC), Rulemaking 13-12-010. This “hockey stick” approach, shown in Figure 1, misses a large amount of energy savings over the total fifteen-year planning horizon for SB 350 and only reaches a fraction of the savings anticipated under the law.

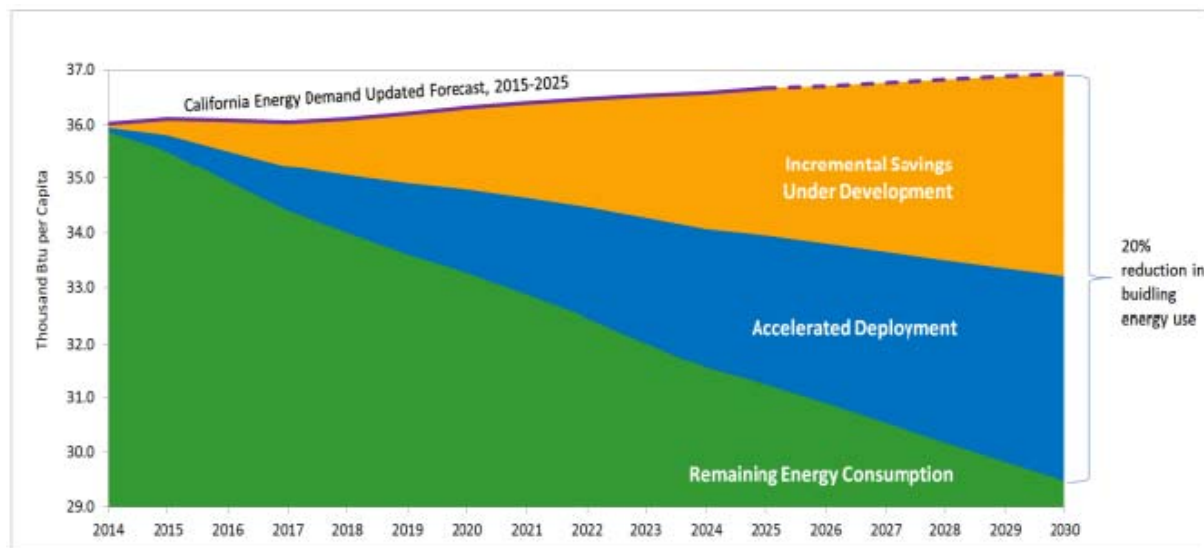
Figure 1: Efficiency Savings Goal Doubled by 2030



¹ Cal. Public Resources Code § 25310(c)(1)

The Energy Commission’s Building Energy Efficiency Action Plan correctly defined the doubling goal as a doubling of the area of the savings, not just the endpoint, shown in Figure 2.² However, this Action Plan defined the goal based only on building residential and commercial sectors of AAEE, referencing only existing buildings, rather than a full cumulative, economy-wide doubling of energy efficiency.

Figure 2: Energy Commission’s Building Energy Efficiency Action Plan



B. NRDC urges the Energy Commission to count all energy efficiency savings from publicly owned utilities (POUs) and linearly extrapolate the Mid-AAEE forecast from the 2015 Revised IEPR Forecast to 2030 using an average annual growth rate, as defined by SB 350.

It is very important that the Energy Commission include efficiency savings from all POU programs in the doubling goal, as defined by law in SB 350:

“The commission shall base the targets on a doubling of the mid-case estimate of additional achievable energy efficiency savings...[using] targets adopted by local publicly owned electric utilities pursuant to Section 9505 of the Public Utilities Code.”³

² CEC, Building Energy Efficiency Action Plan, (September 2015). Available at http://docketpublic.energy.ca.gov/PublicDocuments/15-IEPR-05/TN205919_20150828T153953_Existing_Buildings_Energy_Efficiency_Action_Plan.pdf.

³ Supra 1

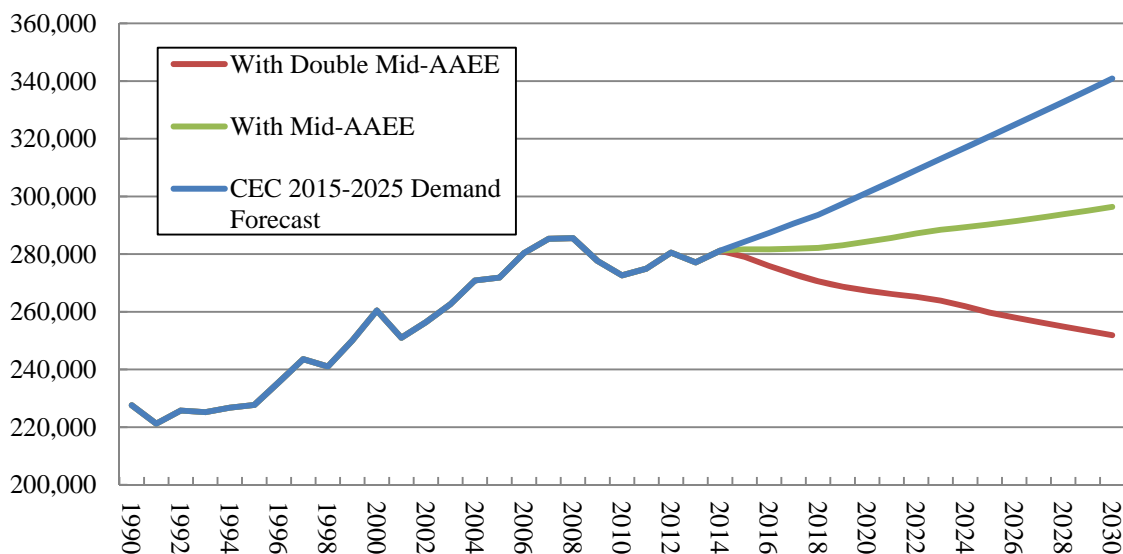
Currently the AAEE forecast includes savings from the largest POU, including LADWP and SMUD; however, we strongly recommend including all POU in future IEPR forecasts. POU savings reported in the CMUA/NCPA/SCPPA’s annual efficiency report includes goals that estimate total energy savings of 6,770 GWh for POU from 2015-2023.⁴

Secondly, when defining the doubling goal by extrapolating the AAEE forecast from the 2015 Revised IEPR Forecast from 2025 to 2030, the Energy Commission should follow the direction of the law. SB 350 states:

“The commission shall base the targets on a doubling of the mid-case estimate of additional achievable energy efficiency savings, as contained in the California Energy Demand Updated Forecast, 2015-2025, adopted by the commission, extended to 2030 using an average annual growth rate.”⁵

This directs the Energy Commission to use a simple linear extrapolation using the average annual growth rate. We understand this linear extrapolation does not imply that we have to meet these targets each year. We recognize it will take some time to scale up to higher levels of efficiency and also that we may be able to exceed the annual targets in later years. NRDC calculated the impact of the doubling goal on electricity energy savings in the manner required by SB 350, including all POU and linearly extrapolating savings to 2030 (Figure 3).

Figure 3: Impact of Efficiency Doubling Goals on the Demand Forecast⁶



⁴ CMUA/NCPA/SCPPA, *Energy Efficiency In California’s Public Power Sector A 2015 Status Report*, Appendix B: 10-Year Energy Savings Targets, AllPOUs – Annual Targets (MWh), 2014-2023, B-1 (March 2015). Available at: <http://cmua.org/wpcmua/wp-content/uploads/2015/03/2015-FINAL-SB-1037-Report.pdf>

⁵ Supra 1

C. NRDC recommends more discussion and workshops dedicated to determine the best accounting methodology to value fuel substitution/switching and to define cost-effectiveness.

1. Fuel Switching/Fuel Substitution

NRDC recommends the Energy Commission organize further workshops to discuss the best methods to account for fuel substitution and fuel switching in SB 350. One possible interpretation of the law is to allow fuel substitution from natural gas to electricity for utility customers to be considered as energy efficiency if there are net GHG emissions reductions. NRDC encourages more discussion with utilities and other stakeholders around this definition and other potential frameworks that would encourage building decarbonization, including recommending the CPUC revisit their fuel-switching policies and revising the Energy Commission's current code policies.

2. Cost-effectiveness

NRDC encourages the Energy Commission to also organize discussions on the definition of cost-effectiveness in SB 350. The current CPUC cost-effectiveness methodology undervalues efficiency and leaves a substantial amount of energy savings on the table (e.g., by under valuing long term savings with a high discount rate, and including all costs but not all benefits). To meet the ambitious doubling goal set by SB 350, the definition of cost-effectiveness must be re-evaluated to ensure savings are being properly valued, such as including non-energy benefits such as water savings, lower arrearages, and potentially an adder to account for hard to quantify benefits, such as comfort. The joint-agencies should also consider the value of energy efficiency as the cheapest method to achieve the state's GHG reduction goals. We need to value the use of energy efficiency not only when it is cheaper than conventional power, but when it is cheaper than alternative GHG reduction strategies. The Energy Commission should work with the CPUC to ensure all energy efficiency programs use a consistent methodology that is in line with the state's climate and energy goals.

⁶ CEC, Form 1.1c – Statewide, California Energy Demand Updated Forecast, 2013 - 2025, Mid Demand Baseline Case, Mid AAEE Savings, Electricity Deliveries to End Users by Agency gigawatthours (GWh) (2015); CEC, Form 1.1c – Statewide, California Energy Demand Updated Forecast, 2013 - 2025, Mid Demand Baseline Case, No AAEE Savings, Electricity Deliveries to End Users by Agency gigawatt-hours (GWh) (2015).

III. Conclusion

NRDC thanks the Energy Commission for the opportunity to comment on the IEPR workshop on the Energy Demand Forecast and Doubling of Energy Efficiency – Data and Analytical Needs. We look forward to continuing to work with the Energy Commission and thank you for considering our recommendations.