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Jeanne Clinton comments and questions on Doubling EE Targets

Additional submitted attachment is included below.

Jeanne Clinton Comments and Questions on CEC Draft Commission Report Doubling EE Savings Targets by 2030 (August 2017)

17-IEPR-06

This is organized into I. Comments on the report and II. Methodology questions and observations

I. COMMENTS

Presentation of Material

1. It will be most useful for the report to **re-organize the information presented to make it beneficial to market players**, to help them see targets (presented in different ways) **to aid business planning and investment**. I strongly recommend that the final report present targets in four different dimensions, by each of the following:
 - a) “utility programs” vs standards and other programmatic (and “TBD”) market influencers
- by type of market intervention;
 - b) Combined energy saving targets by sector or end use – to inform those providing R&D, equipment, services, capital regardless of market driver – end user targets;
 - c) Sector/end use contributions to GHG impacts¹;
 - d) Relative cost to produce (GHG tons) from different strategies (to benefit a public policy dialogue, market actors’ decisions, and the legislature) to best inform where we should “place best bets” for financial return relative to climate goals.
2. Ideally this report on target setting would **start with technical or economic potential**, and then show how utility programs, standards, other market forces are expected to tap into this potential. Presenting in this way will also **enable better dialogue on** where and for what reasons the targets fall short of technical and economic potential, and **what might be done in the future to tap more of this potential**.
3. The “next steps” and action agenda for this report should **specifically identify a short set of the most important new or improved strategies that need to be developed, or for which champions are required**. Quantification is a necessary but insufficient end to this important assignment the CEC has been given.

¹ At the September 7, 2017 workshop, staff explained that this could not be done until multiple agencies collaborate on a methodology for doing so. It seems surprising that given the efforts by CARB over the past 5 or more years to conduct analyses and modeling of climate mitigation options, including work on scoping plans and investment plants, and that already involved CEC and CPUC collaboration, somehow prevented the CEC from presenting GHG metrics in setting EE targets.

Methodology

4. **The degree of de facto double-counting looks potentially large**, no doubt caused by having two separate teams work up different aspects of the analysis. [The areas of greatest potential double-counting would appear to be include “Behavior”, possibly “Market Transformation”, Retro-Commissioning/Operational savings, Proposition 39, and PACE financing transactions in geographic areas where borrowers may also have used utility incentives. I illustrate some examples of concern in the bullets below.] The double counting is of particular concern given the 2015 law (AB 802) that directed use of “existing conditions baseline” and “normalized metered energy consumption” (NMEC) to establish the baseline eligibility for utilities to offer customers incentives for retrofits on existing buildings.] ***It would be extremely helpful for the report to offer some order of magnitude estimate of the potential magnitude of double-counting.***²
 - A potential conflict regarding “BROs”: Careful attention is warranted to resolve what is on the utility vs non-utility side of the target ledger, per page 21: **For 2024 the [IOU] goals will be about 70 percent higher for electricity.** The ... **gas goals** are proposed to be... **103 percent higher in 2024.** ***Much of the increase in savings is due to behavior, retrocommissioning, and operational savings (BROs)*** reflecting greater market adoption as incentives increase and consumers become more aware of such programs leading to higher levels of customer uptake.” ***Has the CEC now moved these potential saving to the non-utility set?***
 - P. 50 states: ***“Most of the energy savings from using smart meter data*** [utility strategies] ***are captured in the previous category of behavioral and market transformation programs.”*** [non-utility programs]
 - Proposition 39 is the **2nd largest government-funded program**, and surely **many school districts also utilize utility program technical assistance and incentives.**
5. This is an introductory comment for #6 and #7 that follow. The report uses different “lenses” and thus combines target estimates for both precision estimates (e.g. of utility programs) and what could be characterized as “hand-waving” estimates (e.g. of higher standards compliance, behavior, and market transformation). Given the disparity in degrees of precision versus possibilities, it might be helpful to offer low to high bands of the possible EE impacts from the ranges of strategies considered. Moreover, given the uncertainty of the potential EE impacts for the following three strategies, it would be useful for the report to present illustrative strategies and associated implementation functions that correspond to whatever level(s) of energy impacts are attributed to each strategy.

² My comments are informed by a close reading of the draft report. At the workshop staff indicated that an extensive appendix to the report explains assumptions about overlap between utility and non-utility strategies, and perhaps as well within these two categories. I did not have the luxury of time to dig into the appendices and discern how well the two teams handled overlap.

6. “The projection of energy savings for the building standards and appliance regulations **assumes that there is 100 percent compliance to show the full potential impact**. For this assumption to be realized, there needs to be increased compliance across the state.” **This assumption appears totally inconsistent with the more precise impacts assumptions about utility programs** that call upon program designs, outcome evaluations, and use of net savings, and not what appears to be idealized hopes with unspecified implementation programs for regulation compliance.

7. **It is unclear from the main text:**

- **What new or changed strategies will drive “Behavior” and “Market Transformation”**,
- How these are isolated from utility programs, and
- The **basis for the seemingly large assumption about significant growth in gas savings** from Behavior and Market Transformation.

Looking at the graphics and tables presented in the report, the source of the gas savings appears to be:

- a) Largely from fuel substitution from gas to electric (**without an implementation strategy to inform the quantity of change assumed**); and
- b) Unclear with regard to what (non-utility) strategy is driving BROs.

8. The quantification approach does not seem to imagine **new strategies or programs for the non-utility programs’ targets**, for now relying upon broad-swipe placeholder impact estimates assigned for benchmarking, “BROs”, and standards. **The report would be improved by outlining what and how to do a better job with these in the future.**

Outcomes/Findings

9. I **would expect considerable gas potential in the industrial sector**, give the very large portion of California gas end use by the industrial sector and the well-chronicled short-term investment horizons of many business decisions surrounding efficiency investments. This suggests that the report merits more work on this sector.

10. **The projected agricultural electricity and gas savings seem HUGE relative to their consumption levels** (esp. compared to the industrial sector use).

- On pp. 38-39 Statewide, the agricultural sector (including water pumping) uses slightly less than 7 percent of electricity and about 1 percent of natural gas. Statewide, the industrial sector uses about 15 percent of electricity and 28 percent of natural gas.⁷¹
- **YET, IN THE UTILITY PROGRAMS CHAPTER** the report shows projections for industrial and ag potential with **VAST potential for agricultural electricity savings** (vs industrial, even though industrial uses TWICE the electricity of ag) and about comparable levels

between the two sectors for potential gas savings (agricultural potential being slightly greater). This is **DESPITE THE FACT THAT INDUSTRY USES 28X the amount of gas as agriculture. *These findings about potential seem quite odd.***

Next Steps

11. Both policy and market audiences will greatly benefit from **better text explanation** on the **CEC's thinking as to how to accomplish program improvements**, streamlining, improved code compliance strategies, etc.
12. The report needs to offer expanded text explanation on the CEC's thinking as to **why, where, how to strengthen workforce training so as to cause a positive impact on savings** and GHG reduction.

II. METHODOLOGY QUESTIONS AND OBSERVATIONS

Methodology

Q1: It seems to me that the treatment of MT is not consistent with the notion that all (utility) savings are reported as "net" and not "gross" (p.10), as the CEC explains the net corrections set aside savings that would have occurred absent "programs". So **the report should make clear how quantification of the MT strategy wedge differs from the net adjustment concept applied to utility programs?**

- Further, I cannot understand or know whether to concur with the report statement on p. 20 *"Also, by using net savings numbers, potential double counting with savings in the forecast due to AB 802 to-code savings mandate can be reduced."* The final report should resolve this.

Q2: ***Please better explain*** the statement on p. 40 that "Discussions with CPUC staff indicate that any potential overlap from codes and standards identified in non-utility programs addressed below and IOU rebate programs included in the utility programs (discussed in Chapter 3) is likely to be small and difficult to separate in the short run before evaluation of IOU programs generates updated information. To account for this, a blanket 10 percent reduction was applied to programs determined to be at risk. (fn 73)

Q3: **Why are "BROs" considered non-utility programs?** Taken together with Market Transformation, these represent the 3rd largest source of targeted non-utility electric savings and the single-largest source of targeted non-utility gas savings. But p. 21 shows that BROs are a large portion of IOU potential and goals study. Is this distinction as to where to report "BROs" somehow due to methodology constraints on how to treat them for POUs?

Q4: It is unclear from stated assumptions how the study may have addressed **how the implied scaling of both utility and non-utility strategies accounts for possible competition with one another for delivering some of the same rather than incremental savings.**

Outcomes/ Findings

Q5: On p. 26 the end use data reflects **more diversity in end uses (electric) by POU EE programs** (than IOU programs). Why would POUs be able to tackle more diverse end uses than the IOUs, or is this just a methodology artifact? If not a methodology reason, what does this tell us about respective program effectiveness and possible room for improvement of IOU programs?

Q6: I cannot discern how well the targets address the **affordability of scaling expenditures by utility incentive programs and government-funded grant** programs. How has statewide affordability of these targets been addressed? (For example, if utility programs might need to double their expenditures, while securing maybe 20% reduction in commodity sales, this would imply a 2 ½ factor increase in the relative cost burden per unit of energy sold.³)

³ If the baseline is \$x EE spending for 100 units of energy sales, and the new spending might need to be \$2x for 80 units of energy, then we see a change from a factor of 1/100 to 2/80, the equivalent of 1/40, or a 2.5 times change.