PG&E's Written Comments on CPUC Workshop "Approaches for Assessing Energy Efficiency Potential & Goals"

Q1: What should be the primary objectives of the Potential and Goals study?

The Potential and Goals Study's primary objective should be to directly inform CPUC energy efficiency (EE) savings targets, which are cost-effective, reliable, and feasible. The Public Utilities Code (PUC)[1] requires that the IOUs meet unmet resource needs with all available EE that is cost effective, reliable, and feasible, and the PUC along with the Public Resources Code (PRC)[2] require that the CPUC, in collaboration with the CEC, "identify all potentially achievable cost effective electricity and natural gas savings and establish statewide targets for EE."

While the PUC and PRC statutes require the establishment of a target, they do not indicate the metric on which EE savings targets should be based. It is important that the metrics used for the potential identified in the Study be consistent with the metrics used for targets set by the CPUC. Over the years, the metrics have varied between a) gross or net savings and b) first-year savings or cumulative. In response to Question 5, PG&E addresses why it is now appropriate to revisit the metrics on which EE targets and goals are based.

Another primary objective of the Study should be to use the Study outputs as inputs to the Integrated Resource Planning (IRP) optimization process. Designing the Study to align its outputs with the inputs required for the IRP process will ensure EE resource needs are properly and accurately assessed.. This also means the results of the Study should be provided in a format compatible with the IRP models to seamlessly integrate with the IRP process.

Q4: Energy Efficiency – Integrated Resource Planning Incorporation Opportunities: c.) What role should IRP optimization of energy efficiency resources play in the development of the Study and energy efficiency goal setting?

As mentioned in the response to Q1, the Study outputs should be used as inputs into the IRP optimization process rather than using the results of the IRP process to inform the Study. The output of the IRP optimization should then be used to set the EE Resource program acquisition goals. By ensuring the Study informs the IRP and not the other way around, the EE resource program acquisition goals will

[1] PUC Section 454.5 requires that IOUs "meet unmet resource needs with all available EE and demand reduction that is cost-effective, reliable, and feasible." Section 454.55 requires that the CPUC, in consultation with the CEC, "identify all potentially achievable cost-effective electricity efficiency savings and establish efficiency targets for an electrical corporation to achieve."

[2] Public Resources Code (PRC), IEPR chapter, Section 23510, requires that the CEC and CPUC regularly "develop a statewide estimate of all potentially achievable cost-effective electricity and natural gas efficiency savings and establish targets for statewide annual energy efficiency savings and demand reduction for the next 10-year period."

be based on realistic, achievable EE potential identified by the Study instead of based on possibly unrealistic IRP assumptions.

Program activities that are not primarily pursued to meet resource needs (e.g. Work Force Education & Training, Emerging Technologies, market transformation, social equity programs) should be considered separately and not be included in the IRP optimization process.

Q5: The Evolving Energy Efficiency Portfolio:

a.) What policy-level changes (if any) should the CPUC begin to consider related to energy efficiency goal setting, to best align energy efficiency programs with the needs of California's clean energy future?

b) "What processes should the CPUC use to explore these changes?"

Define the role of the goal:

The CPUC should consider issuing policy guidance, and perhaps policy changes, to define its expectations around the many objectives for EE portfolios. The CPUC should strongly consider clarifying the definition and role of the energy efficiency savings goals it sets for Program Administrators (PAs). Specifically, the CPUC should clearly communicate behaviors that the savings goals should motivate and further describe the relative importance of each of its primary expectations for IOUs and PAs.

For example, PG&E has generally continued to meet or exceed its annual savings goals, while its portfolio TRC ratio has fallen below 1.0. PAs are routinely forced to decide between achieving savings goals or meeting a cost effectiveness threshold – what specifically should guide their decision making?

At a minimum, the CPUC should clearly state whether the following items below are *compliance requirements, targets*, or *stretch goals*, and/or which should simply be *tracked* for research and monitoring purposes. The CPUC should also describe how to interpret each type of expectation. This suggestion is made mainly to clarify the prioritization of cost-effectiveness relative to savings goals, but other items are listed below to assist stakeholders in understanding the significance of clarifying the CPUC's expectations for various metrics.

- Cost Effectiveness
    - Portfolio TRC ratio (Benefits / TRC Cost)
    - Portfolio PAC ratio (Benefits / PAC Cost)
    - Portfolio NPV of TRC (Benefits – TRC Costs)
    - Portfolio NPV of PAC (Benefits – PAC Costs)
- Annual savings goals
    - Portfolio gross first-year kWh, peak kW, and therm goals
    - Portfolio net first-year kWh, peak kW, and therm goals
    - Portfolio gross lifecycle kWh, peak kW, and therm goals
    - Portfolio net lifecycle kWh, peak kW, and therm goals
- Financial
    - Percentage of "Admin" spend
    - Percentage of Direct Implementation Non-Incentive (DINI) spend
    - Percentage of portfolio outsourced to third parties
    - Adherence to approved budget

- Equity & Workforce
    - Hard-to-Reach (HTR) penetration
    - Disadvantage Communities (DAC) penetration
    - Workforce Education & Training (WE&T) penetration
- Others
    - Various Sector specific metrics
    - Various Technology specific metrics
    - Freeridership, e.g. NTG ratio
    - Financing

The CPUC could explore this clarification and potential change via a ruling stating the CPUCs current objectives and priorities and seeking comment on stakeholder understanding and preference for these objectives, as well as potential areas for clarification.

Move away from first-year savings goals:

The CPUC should consider moving away from first-year savings goals in favor of lifecycle goals, which better correlate with cost-effectiveness and reduced greenhouse gas emissions. Maintaining first-year savings as a statewide priority in the form of the energy savings goal produces an unintended consequence of forcing PAs to prioritize measures with high first-year savings over measures that may provide more benefits to ratepayers for the same cost. The CPUC should consider moving to a goal using lifecycle savings, delivered avoided cost benefits, or avoided GHG emissions, the latter two of which are more contemporary indicators of EE portfolio value and are more correlated to lifecycle savings than first-year savings.

The CPUC currently defines annual savings goals as the savings achieved by measures in the first year of operation, net of freeriders (or first-year net savings). In the past, the goal has also used first year gross savings as well as cumulative savings. Gross savings goals and cumulative goals each come with drawbacks that ultimately led to their abandonment in favor of the current metric.

However, first-year savings goals have severe drawbacks. In using first-year savings for annual savings goals, a measure that provides 1,000 kWh of savings per year contributes toward the goal equally, whether that measure will deliver the savings for one year, five years, or 20 years. In other words, first-year savings metrics do not recognize the added value of measures that deliver savings over a longer period of time – they encourage PAs to prioritize fast savings over deeper and more comprehensive savings, the latter of which almost always takes more time to develop and deliver but better align with long-term strategic goals.

The CPUC could explore the merit of lifecycle savings goals, avoided cost benefits based goals, or GHG reduction goals as alternatives to first-year savings goals. This could also be achieved through a ruling that solicits input from stakeholders on which of type of goal is best suited for EE programs in California today. The CPUC could consider including guiding principles of EE goals in such a ruling, such as:

- Goals should be clearly defined, be straightforward to calculate, drive PA actions toward defined policy objectives (e.g. doubling of EE, reduced GHG emissions, cost effectiveness, integration with IRP, integration with DR), not conflict with each other, and be meaningful for stakeholders such as grid planners, CEC, ARB, and the state legislature.
- Goals should be "aggressive, yet achievable" and should be considered as:
    a) a minimum compliance obligation

b) a target at which to aim
c) an upper limit of cost-effective potential

Eliminate peak demand savings goal:

The CPUC should consider eliminating annual goals associated with peak demand savings (i.e. the MW goal). If desired, this could be done while still tracking annual peak demand savings impacts, as it is currently calculated. At the aggregated portfolio level, peak demand savings and its associated goal provide limited value for stakeholders, such as CAISO or the CEC, or ratepayers compared to energy savings goals.

Maintaining a peak savings goal, next to energy savings goals for gas and electric, implies that the demand goal is of equal or similar importance as the energy savings goals. In order to meet savings goals for both electric metrics, PAs must typically overdeliver on one metric. Since goals are sized based on cost-effective savings, overdelivering on any metric comes at the expense of cost-effectiveness by definition. Additionally, the peak demand savings values (the values that currently contribute towards peak savings goals and are input into the CET tool as "kW" savings) have no meaningful effect on cost-effectiveness because the benefits are instead captured through the hourly avoided costs in the Avoided Cost Calculator (ACC).[3] Since the ACC is updated annually, it is a more robust and less duplicative way to capture peak demand benefits than the DEER peak (updated once since 2006).

In 2018, the definition of the DEER peak period was explored deeply by a working group. The working group issued a report[4] that suggested changes to the peak period, some of which were adopted by Resolution E-4952. The report also included suggestions for other potential changes, such as the removal of the definition of the peak period all together. Specifically, the report noted "unanimous agreement that the 'no DEER peak' Avoided Cost Calculator Approach is an important long-term approach, but not currently feasible until additional development and policy work is put into place."

Resolution E-4952 states,

> *"…the report suggests that the CPUC consider a "no peak" option, which would eliminate the reporting of demand reduction values. The values of demand reduction under this option would be embedded in the cost effectiveness calculation which would utilize hourly savings profiles along with hourly electric avoided costs applied to the annual savings. While many participants advocated for this solution, the group acknowledged numerous technical barriers to implementing it at this time. In light of these technical barriers we will not consider this change at this time. However, this option should be further investigated, and action should be taken to improve the available hourly efficiency measure savings profiles for use in the cost effectiveness calculations. These steps were ordered in Decision 06-06-063 and are reiterated here. [footnote: CPUC Decision 06-06-063 OP 11, 12, 13 and 14.]"*

Before deciding to eliminate the peak demand goal, or make a significant modification to peak demand savings accounting, the CPUC should seek input from stakeholders via ruling. It is critical to hear from the stakeholders that actually use the peak demand savings values (at the portfolio or sub-portfolio level) in their work. Once the CPUC identifies who specifically uses the peak savings values and specifically how it is used, the CPUC can make an informed decision on the merit of maintaining a

[3] While the peak demand savings do not affect cost-effectiveness, the *load profile* of a measure (which describes a demand shape input into the CET) does.
[4] Refreshing DEER's Peak Period, May 4, 2018

related goal and will be better positioned to make potential changes to how these values are determined and tracked.

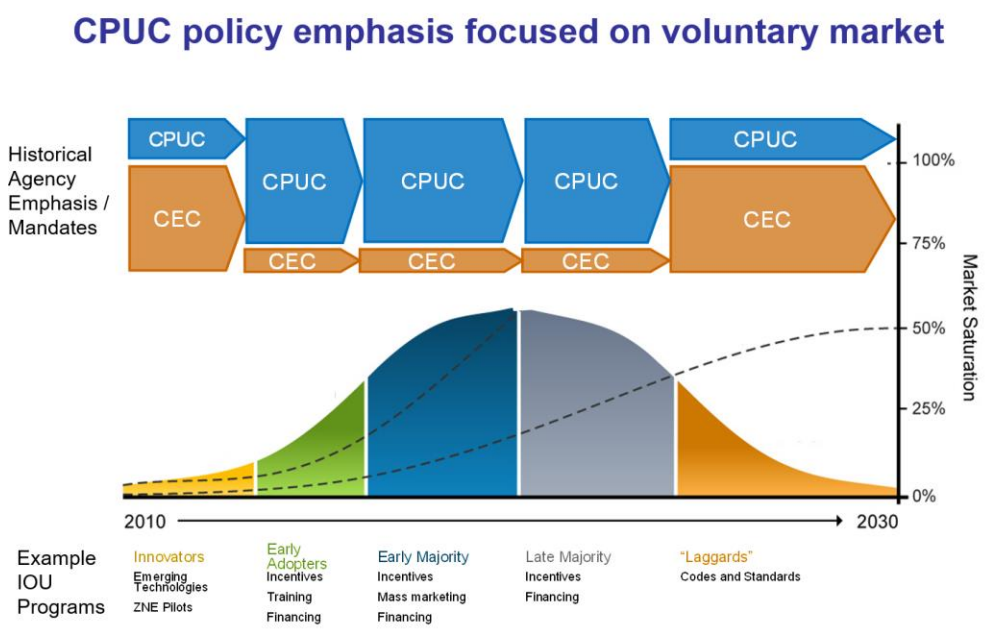
Reconsider the role of Codes and Standards (C&S) toward portfolio savings and cost effectiveness:

The CPUC should reconsider the role of C&S within the EE portfolio. After multiple years of effective C&S advocacy by the PAs, C&S has now graduated from mere "bonus" savings or a hedge for EE rebate programs to perhaps the most significant and cost-effective portion of CA's EE portfolio. Specifically, the CPUC should reconsider whether it is still appropriate to provide separate savings goals for C&S and whether C&S should be included in the CPUC's primary test of portfolio cost effectiveness.

Many EE measures in CA follow a technology path that may progress as follows:

- Emerging Technologies program;
- initial voluntary rebate programs offerings;
- robust voluntary rebate programs offering with heavy marketing with strong rebates;
- reduced rebates levels and marketing as awareness is increased and costs fall;
- finally, many measures graduate to C&S, driven largely by PA analysis and advocacy.

The graphic below is from the "CPUC Energy Efficiency Primer" available on the CPUC EE homepage. It highlights the potential interplay between rebate programs and C&S, and the opportunity to ensure that they are complementary to each in goal attainment.



PG&E also included a discussion on this topic in its Reply to Protest of Advice Letter 4136-G/5627-E, below:

"The role of Codes and Standards as a "bonus" contributor to the overall EE portfolio is no longer commensurate with the magnitude of savings and benefits that Codes and Standards delivers relative to the rest of the EE portfolio. When the concept of Codes and Standards savings as a hedge against

portfolio underperformance was introduced in D.05-09-043 and later reaffirmed in D.12-05-015[5], Codes and Standards comprised a smaller part of the EE portfolio. For the 2006-2008 program cycle, Codes and Standards savings accounted for only 9% of total savings.[6] In contrast, for the 2020 statewide portfolio, Codes and Standards savings are forecast to be 63% of first-year net GWh...[7] Codes and Standards is now a large portion of the portfolio that the CPUC should consider when assessing the cost-effectiveness of the statewide portfolio."

Q6: What other topics related to the Potential and Goals Study need consideration leading to the 2021 P&G Study, aside from those discussed at the October workshop and in the Navigant abstracts? Would you prioritize those topics above those discussed at the workshop? If yes, why?

PG&E highlights the below three topic areas for consideration leading into the 2021 Study. These three topics directly account for PG&E's recent inability to cost-effectively achieve the goals set forth in the Study, and as such, should be prioritized over other topics discussed at the workshop.

Activities outside of EE Resource Acquisition: Non-Resource (e.g. WE&T), social equity programs (e.g. HTR, DAC), market transformation (e.g. PLA, AHUP):

The CPUC should consider supplementing the Study with a similar analysis aimed to provide guidance for the merit and potential scale for EE activities not currently included in the Study (all activity with a TRC < 1.0, including non-resource activity). Currently these categories may be the biggest differentiator between the Study (which screens for measures with a TRC>1.0 and does not include non-resource programs) and the portfolios (which does include those activities).

National leaders in EE may be expected to invest beyond only those EE resource programs and measures that produce immediately quantifiable cost-effective savings. This likely means going beyond cost-effective EE activity to ensure to address DAC, HTR, WE&T and other social programs, including non-resource programs. Addressing those areas often requires allocating resources to activities that do not produce cost effective savings. As such, many important interventions and topic areas are not considered in the Study.

The CPUC sets savings annual savings goals based primarily off the results of the Study. Portfolio design and budgets are in turn modeled to achieve the goals. The Study does not include any non-resource program activity nor measures that fail an economic screen (currently all measures below 1.0 are excluded). These exclusions are reasonable given the intent of the study; however, non-resource activity and measures with a TRC below 1.0 remain in all portfolios.

The CPUC should provide guidance, informed by a comprehensive study, workshop, or otherwise, for PAs to right size their budgets as they relate to measures, activities, and interventions that are not currently included in the Study.

Ramp Time:

[5] D.12-05-015, p. 85
[6] Ibid.
[7] Budget Filing Detailed Report for program year 2020, downloadable from the CPUC's California Energy Data and Reporting System (CEDARS) website.

The Study should describe its assumptions around and more closely consider the ramp time of launching new programs and measures, specifically as it relates to increased third party program activity and NMEC programs. The 2019 Study states that the author's "'Crystal Ball' is hazy when it comes to […] [the] (g)reater role for third party implementation." While clearing all the "haze" may take more time, the solicitation process is already in progress and learnings could better inform the Study specifically as it relates to the time required to launch a new program in the current policy context.

After a program is launched, there is often a delay before the program begins to complete projects and claim ex-ante savings. If a program is primarily using deemed savings that were previously determined, the delay may be as little as a few weeks or months; however, savings associated with larger custom projects or new deemed workpapers may take much longer before projects are completed and savings are claimed. Programs and projects that utilized NMEC to determine savings have a much longer delay because NMEC savings often require a year of post installation data before savings are claimed. While individual program design, implementation, and M&V strategies vary, it is not unreasonable to suggest that new NMEC savings opportunities may take two to three years to begin to materialize into savings claims (e.g. six months to a year for program design and award, six months to a year for customer acquisition, project development and installation, one year for savings data collection). Assumptions for ramp times of all savings potential, and especially potential related to new third-party programs and NMEC opportunities, should be clearly identified in the Market Potential analysis so that stakeholders may comment on their reasonableness.

IOU Portfolios are relatively inelastic; as a result, it takes time for the program implementers and administrators to adjust to changes in market conditions, such as the fluctuations in the Study's Market Potential over the last few cycles. The time lag for the EE Portfolios to pivot should be considered when estimating the timing for market potential.

Variation in avoided cost inputs:

The version of the Avoided Cost Calculator (ACC) used for planning (i.e. in the Study) and for calculating savings claims (i.e. to determine final portfolio cost effectiveness) are usually different. As a result, the avoided cost values used as inputs when calculating cost effectiveness in the P&G Study are not the same as those used when calculating the actual performance of the portfolio, resulting in the inability to do an "apples-to-apples" comparison of a portfolio's potential and its actual performance. In addition, avoided costs have recently been decreasing and are anticipated to continue to do so next year. As a result, an identical portfolio would have a higher cost effectiveness in the Study (which uses an older version of the ACC) than it would when implemented (which uses a newer version of the ACC). For example, the 2021 proposed major updates to Avoided Costs in IDER is anticipated to decrease EE's cost effectiveness on the order of 20-40%. This could result in measures passing the cost effectiveness screen for the Study (and thus being included in the portfolio goal) not actually being cost-effective by the time the portfolio is implemented or evaluated.

The CPUC should address how to reconcile the difference in avoided cost values used for planning vs. performance. Some examples of how the CPUC could address these discrepancies are:

- Allow for more flexibility in the CET to use future or past Avoided Costs to allow for straightforward analysis of the effects of avoided costs on past, current, and future portfolios.
- Use the same avoided costs for evaluation of a given year as was used for planning for cost effectiveness testing.

- Annually determine the effect of updated avoided costs on the potential identified in the Study (on included measures, total savings potential, and cost effectiveness) in order to better interpret the portfolio claims.