BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Concerning
Energy Efficiency Rolling Portfolios,
Policies, Programs, Evaluation and Related
Issues.

Rulemaking 13-11-005
(Filed November 14, 2013)

OPENING COMMENTS OF THE
CALIFORNIA EFFICIENCY + DEMAND MANAGEMENT COUNCIL
ON ADMINISTRATIVE LAW JUDGE’S RULING INVITING RESPONSES TO
POTENTIAL AND GOALS POLICY QUESTIONS

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2. To date, the CPUC has set portfolio goals based on identifying all cost-effective energy efficiency by first identifying all technical potential and then narrowing to potential that is economic and likely to be adopted by the market.

3. Optimizable energy efficiency

4. Non-optimizable energy efficiency: The staff proposal concluded that not all energy efficiency savings streams are suitable for optimization. For instance, the staff proposal recommended that codes and standards, low income, and other savings streams with uncertain costs and benefits continue to function as load modifiers (i.e., fixed assumptions that cannot be optimized by the model) in the IRP process.

5. If you recommended that energy efficiency savings be based on IRP optimization in question 3, which covers only the electric sector, do you believe the assessment of savings potential and goal adoption for natural gas programs needs to be modified? If yes, how?

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OPENING COMMENTS OF THE
CALIFORNIA EFFICIENCY + DEMAND MANAGEMENT COUNCIL
ON ADMINISTRATIVE LAW JUDGE’S RULING INVITING RESPONSES TO
POTENTIAL AND GOALS POLICY QUESTIONS

I. INTRODUCTION

The California Efficiency + Demand Management Council (the “Council”) appreciates this opportunity to submit these Opening Comments on the Administrative Law Judge’s Ruling Inviting Responses to Potential and Goals (“P&G”) Policy Questions (“ALJ Ruling”), issued in R.13-11-005 on March 12, 2020. These Opening Comments are timely filed and served pursuant to the Commission’s Rules of Practice and Procedure and the instructions accompanying the ALJ Ruling.

II. BACKGROUND AND OVERVIEW

The Council is a statewide trade association of non-utility businesses and organizations that provide energy efficiency, demand response, and data analytics services and products in California. Our member companies and organizations employ many thousands of Californians throughout the state. They include energy efficiency (“EE”), demand response (“DR”), and grid services technology providers, implementation and evaluation experts, energy service companies, engineering and architecture firms, contractors, financing experts, workforce training entities, and manufacturers of EE products and equipment. The Council’s mission is to support appropriate EE and DR policies, programs, and technologies to create sustainable jobs, long-term economic growth, stable and reasonably priced energy infrastructures, and environmental improvement.

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1 Additional information about the Council, including the organization’s current membership, Board of Directors, antitrust guidelines and code of ethics for its members, can be found at http://www.cedmc.org. The views expressed by the Council are not necessarily those of its individual members.
The Council appreciates the opportunity to offer its thoughts and comments on the 2020-21 P&G activities. We were pleased to see that the Commission (“CPUC”) has developed two parallel tracks for stakeholders to participate and provide feedback. We look forward to active participation and will offer substantive feedback for both tracks over the next year and a half. Our comments are structured in three parts. We first offer a few broad perspectives on how we view the overall EE resource. We then offer some comments that point to a few immediate issues that we have about the P&G process that are not necessarily addressed through the ALJ’s questions set forth in this Ruling. Finally, we offer our responses to the specific questions contained in the ALJ’s Ruling.

III. THE COUNCIL’S HIGH-LEVEL VISION FOR ENERGY EFFICIENCY RESOURCES

Over the past several months, the Council reached out to numerous parties to compare notes about how the EE resource should be viewed. We spoke with Natural Resources Defense Council (“NRDC”), Pacific Gas and Electric (“PG&E”), Southern California Edison (“SCE”), San Diego Gas & Electric (“SDG&E”), Southern California Gas (“SCG”) and the California Energy Commission (“CEC”). Throughout our various conversations, one clear and consistent theme emerged – that EE serves a variety of important purposes and should not be constrained to any one particular framework or construct.

Building on a vision that we anticipate NRDC will present in their Opening Comments for this Ruling, we began to consider how we might construct a vision for EE resources. Figure 1 offers the Council’s high-level vision for how the CPUC might consider the treatment of EE resources. The figure illustrates that there are four primary pillars for EE – resource, non-resource, market transformation, and equity. This construct is similar to a vision that NRDC shared with us, with the addition of a non-resource pillar that allows for critically important non-resource programs as well as the EE resources that did not pass the optimization steps in IRP but are nonetheless economically viable. We see the EE potential study as being pertinent to all EE resources. As such, the potential study needs to estimate technical, economic and market potentials that address markets and end-uses associated with all four pillars. Once each of the respective pillars are appropriately assessed for economic viability as part of the potential study, then the CPUC can set appropriate savings goals. Several of the elements of our four-pillar diagram are further articulated in our various responses to the questions posed in this Ruling.
Figure 1: High-Level Vision for EE Resources

IV. SPECIFIC ISSUES RELATED TO THE P&G PROCESS

This section addresses a number of specific issues that were not explicitly covered in the ALJ’s questions but are in our view nonetheless important and in need of being considered by the CPUC as part of the P&G study process.

Timing of Changes: The Council was concerned to learn during the April 16th P&G workshop that the Commission will address the majority of methodological issues based on this P&G Ruling during the next round of the P&G study which covers the goalsetting timeframe for 2024 and beyond. We believe that comments received by parties based on this Ruling must be addressed and incorporated into the current P&G study, which will support the 2022 goalsetting timeframe. Otherwise, the methodological flaws in the P&G study process that we have already identified through informal comments submitted to the CPUC on December 10, 2019 and April 27, 2020 will continue unaddressed for another two years. This is a critical time for our State and the achievement of EE doubling goals set forth in Senate Bill 350 (SB 350). Without significant and immediate changes in the EE goalsetting process, we are concerned that the State will fall further behind in achieving the doubling goals set forth in SB 350.

Additional Methodological Issues: The Council believes that the P&G study needs to address a broader set of methodological issues than what are identified in this ALJ Ruling. To help facilitate identification of additional issues, we are taking this opportunity to incorporate our insights and perspectives communicated to the CPUC through a number of stakeholder workshops held during the past half year. During that time, the Council participated in two venues hosted by the CPUC that relate to the P&G study process. The CPUC held a 2-day workshop on October 30-21, 2019 to address various methodological issues related to the P&G study process. As a follow-up to that workshop, the Council offered informal comments about the various data sources and methods. Appendix A includes a copy of our comments. A few key points from our comments are identified below, including:

- EE savings potential should take a broader perspective and look at the savings based on what is currently in the market (regardless of code or industry standard practice (“ISP”) levels).
- Current P&G methodological approaches do not align with SB 350 and Assembly Bill 802 (“AB 802”) expectations of existing conditions baseline and changes in metered energy consumption as the default.

The CPUC held a half-day workshop on April 16, 2020 to present the 2020 P&G study workplan and seek input from stakeholders related to a variety of methodological issues. As a follow-up to that workshop, the Council submitted informal comments. Appendix B includes a copy of our comments. A few key points from our comments are identified below, including:
• Using a 1.25 Total Resource Cost (“TRC”) for measure screening is overly punitive for economic potential purposes.
• Measure costs are overly taxing to the TRC since they include non-energy benefit (“NEB”) -related costs without associated counting of benefits.
• Current model-based methods for estimating customer uptake for achievable potential have serious limitations.
• Additional residential and commercial (“R&C”) measures need to be considered, including a wider variety of Behavioral, Retro-commissioning and Operational Savings (“BROS”) measures.
• A wider range of secondary data sources must be considered for intelligence and analysis (“I&A”) sector measure-level analysis.
• Normalized Metered Energy Consumption (“NMEC”) programs must be more broadly assessed from a potential perspective to better follow state policies.

We request that the CPUC consider including our recent informal comments filed on December 12, 2019 and April 27, 2020 as part of its formal deliberations resulting from this Ruling.

Integration with Other CPUC Proceedings: The Council notes that the bulk of the questions and issues inferred from this Ruling pertain only to EE resources within Rulemaking 13-11-005 and the associated workflow constraints outlined in the CPUC’s “bus stop” process. The CPUC needs to consider factoring in a broader set of workflow issues that significantly impact EE resources (e.g., avoided cost updates, DR program integration, integrated distribution planning, microgrid development, etc.). As the CPUC considers P&G study process improvements, the Council requests that the CPUC take into consideration the timelines associated with other parallel proceedings that impact the disposition of EE resources.

V. THE COUNCIL’S RESPONSES TO QUESTIONS IN THE ALJ RULING

1. In the context of California’s shift toward clean energy and greenhouse gas (GHG) reductions, what should be the primary objective(s) for the energy efficiency portfolio (energy savings, GHG reductions, bill savings, avoided grid costs, resiliency, and/or others)? If you identify multiple primary objectives, describe potential tradeoffs and/or synergies posed by those multiple objectives.

The Council maintains that the goal of EE has always been and should continue to be about saving energy in a cost-effective manner. In this context, it is important to recollect why
EE was established as a priority resource in the first place. According to the US EPA’s National Action Plan for Energy Efficiency:

*The rationale for utility investment in efficiency programming is that within certain existing markets for energy-efficient products and services, there are barriers that can be overcome to ensure that customers from all sectors of the economy choose more energy efficient products and practices. Successful programs have developed strategies to overcome these barriers, in many cases partnering with industry and voluntary national and regional programs so that efficiency program spending is used not only to acquire demand-side resources, but also to accelerate market-based purchases by consumers.*

Building on these themes, the CPUC in 2012 established the so-called Loading Order which mandates that energy efficiency (and by extension demand response) be pursued first, followed by renewables and lastly clean-fossil generation. The Loading Order in effect sets the stage for EE to be a priority resource for the purpose of efficiently planning a minimum amount of new energy resources for the State.

The result of saving energy leads to a variety of benefits including GHG emission reductions, bill savings for customers, avoided grid costs, addressing resiliency needs, and creating local jobs for urgently needed economic stimulus. While it is the case that a number of State policies (e.g., SB 350, AB 802, and Senate Bill 100) have resulted in more emphasis on GHG emission reductions, the focus of EE as a vehicle for saving energy must continue to be a driving policy objective of the CPUC. EE, when properly counted and effectively deployed, delivers a wide variety of benefits for the least cost.

Finally, it is important to note that EE complements other clean energy resources, including clean distributed generation and behind-the-meter energy storage. By applying all appropriately measured cost-effective EE, less of these other resources will be needed. This ultimately saves customers money and reduces the cost burdens for the ratepayers.

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3 [https://www.cpuc.ca.gov/irp/](https://www.cpuc.ca.gov/irp/)
To date, the CPUC has set portfolio goals based on identifying all cost-effective energy efficiency by first identifying all technical potential and then narrowing to potential that is economic and likely to be adopted by the market.

a. Do you believe the CPUC should continue to set goals and assess portfolio costs and benefits in this manner, or should the CPUC set goals based on an entirely different approach (e.g., setting goals as percent reduction of total demand)? For reference, Addendum A provides a summary of different valuation frameworks.

The Council believes that the current goalsetting process for EE is flawed. According to Wikipedia, “a goal is an idea of the future or desired result that a person or a group of people envision, plan and commit to achieve.” To that end, savings goals must be aligned with current state policies. In other words, SB 350 is a statutory mandate that aims to double the levels of efficiency by 2030. Some portion of that doubling falls within the responsibility of the CPUC’s EE statutory authority. The current CPUC approach to goalsetting arrives at an amount of potential that is defined based on a policy-centric approach to market and achievable potential. No other region of the US looks at EE potential or sets goals in this manner. New York has set a savings goal of approximately 3% of incremental electric sales by 2025. Massachusetts currently has in place a 3-year target of 2.7% reduction in retail sales during the 3-year period 2019-2021. Illinois has set savings targets of over 2% annual reductions by 2030 based on a legislatively derived mandate. Furthermore, as we point out in our response to Q1, many of the Commission’s current policies and rules governing EE are flawed and are in urgent need of reform. We believe that goalsetting process for EE should be no different than how goals are set for other clean energy resources, including clean distributed generation and energy storage.

The Council strongly recommends that the EE goals should be set to align with the energy savings levels identified from SB350, which aims to double the level of efficiency achieved by 2030 relative to 2015 levels. Once the savings goals are set, then the objective of the potential study should be to identify the specific market segments and end-uses where there is potential for achieving those goals. Consistent with the 4-pillar theme illustrated in Figure 1, the Council recommends that the potential study team be given the latitude to develop true

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4 https://en.wikipedia.org/wiki/Goal
5 https://www.nyserda.ny.gov/About/Publications/New-Efficiency
6 https://database.aceee.org/state/energy-efficiency-resource-standards
estimates of technical, economic, and market potential. Once the market potentials are
devolved, the levels of potential can be categorized into each of the four intervention pillars
identified in Figure 1. We would like to see the EE goalsetting process for the 2022 and beyond
to be based on a format using SB 350 doubling goals.

Once the EE goals are set by the CPUC, we believe it is important that the CPUC
establish a process by which those goals can be monitored and potentially adjusted to account for
changing conditions. As the current COVID-19 crisis has shown, there are factors that can
impact the ability for program administrators (“PAs”) and implementers to meet their savings
goals within the pre-defined timeframes. We suggest that the goalsetting process include a
provision for having monitored triggers that would be based on economic indicators such as
changes to gross domestic product (“GDP”) and/or employment levels. As evidence is revealed
about any market shocks that might be significant enough to expect disruption in the industry’s
ability to attain goals, triggers could then automatically invoke a process to consider adjustments
and flexibly monitor/manage the goals until such time that market disruptions stabilize.

Another topic that we would like to raise with respect to the goalsetting process relates to
NMEC. As we pointed out in our informal comments on April 27, 2020, SB 350 requires that all
EE savings must be measured using meter-based techniques. While the bill language does not
prescribe a mandate to exclusively use NMEC as the only means by which to measure savings
from EE interventions, this language certainly implies that NMEC measurement approaches will
be increasingly important for future EE portfolios that potentially touch on many of the EE
savings pillars identified in Figure 1. With this in mind, the Council requests that the P&G study
team undertake an EE potential scenario that applies across a far wider range of market segments
and end-uses than the team had suggested during their presentation at the April 16 P&G
workshop. We believe that the results of this analysis will help to better inform the EE
goalsetting process.

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8 Section 25310(a)(5) of the SB350 bill language states: The energy efficiency savings and demand
reduction reported for the purposes of achieving the targets established pursuant to paragraph (1) shall be
measured taking into consideration the overall reduction in normalized metered electricity and natural gas
consumption where these measurement techniques are feasible and cost effective.
b. How does your recommendation support planning needs where savings estimates are reasonably expected to occur?

From a broad perspective, it is important to note that the EE resource delivers a variety of needs for the State based on policy objectives. Regardless of the policy objective, it is appropriate to expect that the savings will reasonably occur. Indeed, the CPUC has put into place performance mechanisms to ensure that various market actors are rewarded for achieving their goals. Most notable is the Energy Savings Performance Incentive (“ESPI”) mechanism. ESPI was adopted by the CPUC in 2013 and is intended to award the investor-owned utilities ("IOUs") for performance in both non-resource and resource activities. While far from perfect, ESPI was put into place as a means by which the State could be reasonably assured that the savings estimates will actually occur.

At the same time, the Council would like to point out that it is not appropriate for the CPUC to set expectations vis-à-vis policies and rules that are not reasonable from the perspective of the market and out of sync with the State’s carbon reduction policies. If savings estimates are to be reasonably expected to occur, then signals need to be sent to the market that will facilitate their accomplishment. Estimates of market potential and savings goals should not be based on rules and procedures set by the CPUC but must be based on: (1) the current and anticipated market conditions and, (2) the State’s policy objectives. Then rules and procedures can be structured around those two principles. Right now, the CPUC sets rules and procedures that dictate how much EE potential is available. Broader consideration must be given to the current and anticipated market conditions with broader alignment to the State’s carbon reduction policy objectives.

3. Optimizable energy efficiency:

   a. Do you agree that energy efficiency savings streams that can be optimized should be included in the development of optimal resource portfolios in IRP? Why or why not?

   Yes, we agree with the approach laid out in this question, which is directly related to the points conveyed in the CPUC’s 2018 Staff Proposal for Integrating EE into the SB 350 IRP Process. While we recognize the importance of including appropriate EE savings streams in optimal resource portfolios within an IRP framework, it is important to note that in order to

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9 CPUC Decision (“D.”) 13-09-023.
facilitate the optimization path, EE resources must be allowed to compete on a level playing field with the other resources. This implies that certain barriers which are creating an uneven playing field relative to other energy resources in the optimization process must be removed. Some of the most common barrier examples that the Council has identified to the CPUC on numerous occasions include outdated cost-effectiveness (“CE”) testing methods, mis-matched baseline policies, and broadly punitive discounts for attribution and savings realization.

b. **If you answered yes to the previous question, how should the optimal resource portfolios from IRP be considered in the adoption of energy efficiency goals?** Should energy efficiency goals be based solely on IRP portfolios for measures that can be optimized? Or should those portfolios be used to inform goals adoption in other ways, such as informing procurement directives (e.g., resource type, location, etc.)? Please provide justification for your recommendation.

The goals for optimization should be identified as a subset of the broader EE goals indicated in our answer to Q2a. However, arriving at what the magnitude of the goals should be will be entirely dependent on the results of the optimization exercise. And this happens after the potential study identifies potentially viable bundles of EE measures/programs that would be inputted into the integrated resource plan (“IRP”) models. Development of those bundles must be based on the guiding criteria of the IRP (e.g., resource type, location, etc.).

While it is difficult to know precisely what those needs will be a priori, the P&G study team will need to rely on the best available data and have detailed discussions about long-term resource plans with the various electricity operators, providers, and regulators (e.g., California Independent System Operator (“CAISO”), IOUs, Community Choice Aggregators (“CCAs”), CEC). Those discussions will help inform the P&G study team about the EE measures and situations that would be most suitable for developing the bundles that are to be optimized. Based on our experience, we believe that a wide variety of EE measures must be considered without the bias and constraints of policies and rules for inclusion in the EE measure bundles. At a high level, these bundles would include:

- Most Deemed and Custom measures.

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11 We should note that under the IRP and Integrated Distributed Energy Resources (“IDER”) proceedings, we understand that the use of a Societal Cost Test (“SCT”) is currently being evaluated. That work is ongoing through the end of 2020, at which time a final decision on its adoption will be made. In longer term, it will be appropriate to test the viability of optimizable EE portfolios using SCT.
• A range of BROS measures that are far broader than what has been considered in past EE potential studies.

• Various measures that are currently considered non-resource (including certain emerging technologies and codes & standards efforts) for which savings can be uniquely attributed.\(^{12}\)

4. Non-optimizable energy efficiency: The staff proposal concluded that not all energy efficiency savings streams are suitable for optimization. For instance, the staff proposal recommended that codes and standards, low income, and other savings streams with uncertain costs and benefits continue to function as load modifiers (i.e., fixed assumptions that cannot be optimized by the model) in the IRP process.

   a. If you recommend that goals for optimizable energy efficiency be set based on IRP, should the CPUC consider the savings potential for non-optimizable energy efficiency savings streams when setting goals? If yes, how?

   Yes. As we illustrate in Figure 1, it is imperative that EE savings goals be inclusive of all EE savings streams. Those savings streams include the remaining portions of the EE measures/programs that were not included the optimizable EE activity buckets: all other codes & standards, all other BROS measures, and various other non-resource programs such as Workforce Education and Training (“WE&T”), Emerging Technologies (“ET”), Marketing Education & Outreach (“ME&O”), and online marketplaces. Each of these activities yield incremental savings and must be counted in the overall potential study framework and considered as part of the goals to be attained. Furthermore, there are additional programmatic activities such as market transformation and low income that fall within the non-optimizable EE savings potential that must also be counted as part of the goals. The results of the potential study should be the principal source that will enable the determination of these other savings streams.

   b. Should the CPUC set separate goals for non-optimizable savings streams? Why or why not?

   Yes, it is imperative that separate goals set be set for the other savings streams highlighted in our answer to Q4a. The reason for making this separation is that these other

\(^{12}\) It is important to note that the current CET calculator shows zero savings for a variety of measures that currently fall within a non-resource construct, including those listed here. The Council maintains that if there are uniquely attributed savings for any measure, then they should be considered in the Resource pillar. As such, the CPUC needs to modify its existing methods such that these measures are acceptable to claim savings under Resource programs. To enable this to happen, the CPUC should allow workpapers to be developed for these measures. The workpaper process must include provisions for indirect methods or intervention-specific approaches to ensure that savings are counted for these types of measures.
measures/programs should have metrics for success that are completely different than the success metrics that would typically be established for the optimized savings streams. For example, there are so-called NEBs that are attributable to many of the measures/programs highlighted in our answer to Q4a. The CPUC’s current CE framework does not adequately consider NEBs and a variety of other benefit streams. As Figure 1 illustrates, separate methods need to be developed for assessing the economic viability for Pillar 2 – Non-Resource-Based EE. Since methods for assessing the economic viability of these savings streams do not currently existing, the Council recommends a two-phase approach to address cost-effectiveness for non-optimizable and other non-resource savings streams. In the short term (i.e., for the purposes of the current potential study), we recommend that the P&G study team generally apply the same CE testing framework that we are recommending for Pillar 1 – Resource-Based EE, which is to use the PAC test. Over the long term, we request that the CPUC convene a stakeholder working group to address CE methods for Pillar 2. This will ensure that a variety of additional benefit streams are counted in the economic assessment of all non-resource (including non-optimizable) EE savings streams.

5. **If you recommended that energy efficiency savings be based on IRP optimization in question 3, which covers only the electric sector, do you believe the assessment of savings potential and goal adoption for natural gas programs needs to be modified? If yes, how?**

The Council does not recommend significant changes to the approaches and methods used to assess gas savings potential and goal adoption. There are a few reasons why we take this position. First, we do not believe there is a need to create a separate optimization process for natural gas since California already has in place long-established procedures and steps to optimize the utilization of this fuel. Second, as California’s decarbonization policies take hold, it will be critical that a structured and orderly process be followed leading to the eventual phase-out of this carbon-emitting fuel sources. We believe that process will best be addressed through the CPUC’s separate decarbonization proceeding. To that end, the current P&G study should consider available opportunities for improving the efficiency of gas end-uses. Drawing on the best available gas demand forecasts provided by the CEC, the P&G study team should then assess the variety of options available to improve the efficiency of the various market segments and end-uses that continue to consume natural gas. And it is important to note that reductions in natural gas translate into reductions in carbon output. To the extent that the P&G study considers scenarios that assess the potential for accelerated replacement of natural gas end-uses in favor of
electric end-uses, then those scenarios will be useful for informing and enhancing the CPUC’s decarbonization policies.

6. **In assessing cost-effectiveness of energy efficiency portfolios where all benefits are measured against all costs, should the CPUC continue to use a portfolio-based approach, or one that requires cost-effectiveness at the individual measure or program level? Provide detailed rationale to support your recommendation.**

The Council believes that a portfolio-based approach for assessing the cost-effectiveness of all the different savings streams is the most appropriate method. Portfolios are better indicators of the amount of potential that is available in the marketplace that can be harvested through various EE programs and initiatives. Taking a measure-based approach during a potential study tends to force-fit an answer that may not comport with real market conditions and does not lend well for the marketplace to come up with creative and innovative solutions.

However, as we have pointed out in our earlier responses to this Ruling, each component of the portfolio (optimized, non-resource, market transformation, and equity) must be subject to its own CE methods and criteria. For EE measures/programs that are contained within the optimized component, CE assessments should closely follow the approaches and methods that are ultimately being vetted through the IDER and IRP proceedings. For each of the other components of the portfolio (non-resource, market transformation, and equity), separate CE methods and approaches need to be determined over time.

7. **Should the CPUC consider modifying the assessment of portfolio cost-effectiveness, where all portfolio benefits are assessed against all portfolio costs, to a paradigm in which different costs and benefits are used to set goals and budgets for different types of interventions (such as market transformation, general resource programs, resource programs that target hard-to-reach customers, non-resource programs, codes and standards, etc.)? If not, why not? If so:**

The Council strongly supports the notion that the CPUC needs to modify how it assesses portfolio cost-effectiveness for all types of interventions, including those that go beyond optimizable resource programs (i.e., Pillars 2-4 identified from Figure 1). As we pointed out earlier in these comments, there are instances where traditional California Standard Practice methods for counting benefits and costs do not address the additional non-energy and other benefits associated with programs that fall into any of the categories that are not considered resource – non-optimizable resources, non-resource programs, market transformation initiatives, and hard-to-reach/disadvantaged communities/equity program interventions.
As we have seen from previous CPUC potential studies, a large portion of the economic potential is not represented in the final computation of market potential. As such, those amounts of cost-effective potential are lost opportunities that are not included in the goal setting process. This is an unfortunate outcome of the constrained potential study methodology which places very tight policy constraints on the market potential and goal setting process. Many of these constraints center on a singular focus for cost-effectiveness, which is premised on resource types of programs. This unfortunately leads to a continuous cycle of lost opportunities. To remedy this problem, the Council recommends that the CPUC apply appropriate cost-effectiveness methods and constructs for each of the four EE savings pillars identified in Figure 1. Further, the CPUC should remove its policy constraints on the P&G study, which would allow each pillar of EE to be judged in its own context without the burden of policies and rules that should not be applied to a forward-looking forward of EE potential.

a. Please provide recommendations and rationale for categorizing the different types of energy efficiency interventions and which costs, benefits or other metrics should be assessed for each one of the categories proposed.

At a high level, the Council believes that taking a SCT perspective would be the most appropriate manner in which to address the costs and benefits associated with these different types of EE interventions. Rather than offer specific recommendations as to which costs, benefits and other metrics that are needed in this instance, the Council recommends that these matters be taken up within the various appropriate venues. For non-resource and non-optimizable programs, the CPUC needs to establish a separate stakeholder working group that can focus on the specific metrics of benefits and costs associated with these resources. For market transformation, CE methods and approaches must be taken up through ongoing stakeholder working groups facilitated by the California Energy Efficiency Coordinating Council (“CAEECC”). For the hard-to-reach markets, disadvantaged communities, and equity program

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13 It is important to point out that using SCT in this manner requires that procedures be established such that savings due to indirect interventions be allowed in the CPUC’s workpaper development process. For non-resource programs to be properly counted, a different theory-based approach that establishes metrics, tracks performance, and determines costs and benefits to justify budgets must be established within the workpaper construct.

14 Note that at the time of this writing it was not clear whether CAEECC would be assigned the task of addressing CE issues for market transformation initiatives. The Council urges that the CPUC assign this task to the CAEECC MT working group, which will be launched around August 2020. This is the most
Interventions, the CPUC should develop new venues or expand on existing venues where parties can work toward addressing appropriately defined metrics for measuring costs and benefits.

b. Please identify which methods (e.g., Avoided Cost Calculator, IRP optimization results, a combination of both) should be used to assess budget requests for your recommended types of energy efficiency interventions.

The Council is not prepared at this time to identify specific methods that should be used for each of these interventions. As noted in the answer above, we believe that any specific methods or approaches should be developed and vetted through the appropriate venues. However, the Council would like to stress to the CPUC that regardless of the intervention, it is essential that all benefits be counted. If methods for counting do not currently exist or are in development, then there should be approximations that are pre-agreed by stakeholders and used until such time as new data or methods are made available. Indeed, the market transformation framework established in a 2019 CPUC decision\textsuperscript{15} can serve as a template for how to ultimately develop budget requests and program success metrics for some of the other interventions noted earlier.

c. If any of the types of interventions cannot be assessed based on the Avoided Cost Calculator and/or IRP optimization:

i. Which methods should the CPUC consider for assessing reasonableness of budget requests (e.g., if you propose that budget requests to fund non-resource programs be assessed separately from resource programs, how should the CPUC assess the reasonableness of non-resource programs budget requests)?

ii. What would be the appropriate metrics, goals and any other necessary method to assess the reasonableness of interventions and associated budget requests?

The Council believes that the CPUC must always be prepared to assess the reasonableness of budget requests for non-resource types of programs. If methods do not exist at the time that budget decisions must be made, then it is our recommendation that the CPUC draw on stakeholders to help inform the reasonableness of various interventions and associated budget requests.

\textsuperscript{15} CPUC D.19-12-021.
8. Independent of whether the CPUC continues to use a portfolio-based approach or makes any of the modifications implied in Questions 6 and 7, what role do non-resource programs play in achieving the goals assessed in the potential and goals study? Are they still necessary for achieving resource savings (and if so, please reference any research or studies that support this conclusion)?

The Council maintains that non-resource programs play a vital role in the delivery of energy efficiency resources. Non-resource programs serve as a vital spark to initiating all sorts of EE activities. We see a clear picture of how non-resource programs connect with one another throughout the lifecycle of EE measure adoption. Starting with developing the product, to introducing it to the marketplace with education, training, marketing and incentives, to ultimately raising the standard for efficiency. Figure 2 provides a graphical look at a lifecycle journey map from the sunrise to sunset of energy efficiency products and services. In the Figure below, we show how Statewide non-resource programs intervene in the marketplace to accelerate adoption and transform the market.

**Figure 2: Non-Resource Program Lifecycle Journey**

Source: Opinion Dynamics, EM&V Quarterly Meeting, 12/10/19.
We see three core multi-faceted targets associated with non-resource programs—technologies (products, approaches and services), buildings, and people. Each program area involves interactions with all three targets in order to break down barriers and capture savings that are being left on the table by resource programs. For example, ME&O efforts increase people’s awareness of energy efficiency options. On the other hand, ZNE focuses on supporting partnerships and strategies focused on retrofitting and constructing buildings with zero net energy technologies. These people-centered, building-related, technology-driven areas operate as the glue that supports California’s ambitious energy goals.

**Non-Resource Programs are Market Facilitation Programs**

While the term non-resource is useful for setting expectations in terms of which programs procure direct EE resources for the State, calling these programs non-resource is problematic as it indicates these programs are not essential to energy savings. However, these programs have proven over time to be critical market facilitators. Market facilitation program activities are seen in almost every energy efficiency program theory and logic model; activities such as training the market, incentivizing the market, and marketing savings opportunities beyond code are needed in some capacity to transform a market or accelerate market adoption of specific behaviors/measures. Market facilitation activities are needed within programs for specific technologies/behaviors of focus. However, we also need market facilitation efforts to occur outside of the specific programs to serve the broader market perspective and support the entire portfolio, e.g. Statewide ME&O messaging, broad market training, Research Development and Deployment (“RD&D”) for new technologies, and Statewide advocacy for codes changes.

As shown in Figure 1, not all market facilitation programs are alike. Some programs lead directly to energy savings, e.g. Finance, Codes & Standards and Zero Net Energy (potentially). Other programs indirectly lead to energy savings or have the promise of energy savings in the future. For example, the Emerging Technology Program benefits the larger portfolio by conducting the research and testing that is needed to accelerate new energy efficient technologies into the marketplace. This activity is critically needed in the marketplace and is often conducted outside of any specific program. Bonneville Power Administration (“BPA”), Nicor Gas’ Gas Technology Institute (“GTI”), and NYSERDA, are examples of similar programs that support the development and adoption of energy efficient technologies by identifying, assessing and developing evaluating emerging technologies.
To further illustrate the importance of non-resource programs, Appendix C provides a detailed look at three types of non-resource programs, describing their role in achieving energy saving goals and whether they are still necessary for achieving savings with support from research studies:

- Workforce, Education & Training
- Emerging Technologies
- Marketing, Education & Outreach

The Council respectfully requests that the CPUC remove non-resource program budgets from the optimizable portion of the EE portfolio. These programs must be assessed on their own merits and cannot be included as discretionary budget items that the IOUs can dispense with if their resource portfolios are not reaching the desired outcomes.

9. **If the CPUC does not adopt any of the approaches considered in questions 7-8 and continues to set a portfolio cost-effectiveness target, is a target total resource cost of 1.25 for portfolio approval an “aggressive yet achievable” approach?**

It is important to note that our answer to this question only relates to optimizable-based EE programs, as referenced in Figure 1. With that said, the Council does not believe that the current target TRC threshold of 1.25 for resource-based EE portfolios is reasonable. This is particularly the case given the fact that we are proposing that many of the costs associated with non-optimizable EE and non-resource programs not be burdened against the portfolio cost-effectiveness since the savings resulting from those activities cannot be counted in the resource portfolios, so it is only appropriate that their costs not be burdened against the portfolio. As such, we believe it is no longer necessary to require such a high cost-effectiveness threshold to be achieved. Secondly, the IRP framework will result in an optimized and cost-effective portfolio of EE resources that will be aligned and comparable to other non-EE resources. Conducting an appropriate CE analysis prior to the optimization step will ensure that whatever outcome for EE is realized during the optimization process, it will be cost effective.

The Council recommends that the entire issue of CE methods for optimizable EE resource programs be completely reconsidered. Given that such reform is likely to be a significant undertaking, the Council recommends that the CPUC conduct a two-stage stakeholder-driven process aimed at CE reform. First, in the short term, we recommend that the CPUC immediately transition the optimizable portfolio CE away from TRC to a Program
Administrator Cost (“PAC”) test. As we have noted in 2019 comments for the IDER proceeding,\textsuperscript{16} the TRC fails to recognize the distinct nature of customer distributed energy resource (“DER”) investment, or appropriately take into consideration economic, grid integration, grid reliability, climate, environmental, and equity policy objectives. As a result, staying with a current form of the TRC (as the CPUC ultimately decided in that proceeding) inadvertently increases the difficulty and expense of achieving our State’s urgent policy goals by undervaluing DERs, reinforcing barriers to private investment, failing to properly value policy goals, deterring DERs from the scaling to meet the increasing demand flexibility needs, and improperly favoring more expensive alternatives. The PAC test is a more appropriate and comparable measurement of cost-effectiveness relative to other non-EE resources. Second, in the longer term, the CPUC should consider moving away from the California Standard Practice approach which is dated and does not capture many of the advances in assessing the cost-effectiveness of not only EE but other DERs. For example, efforts led by the National Energy Screening Project (“NESP”)\textsuperscript{17} are currently finalizing a National Standard Practice Manual (“NSPM”), which addresses CE methods and approaches for all distributed energy resources.\textsuperscript{18} When the CPUC is ready to undertake more significant CE reform, we recommend that national experts be consulted to help guide various reform efforts.

10. How should the Commission prioritize the various policy questions above? Are there issues that you recommend the CPUC decide on before new IOU Business Plans and 2021 annual budget advice letters are submitted (i.e., before September 2020)?

While the Council does not see a timing overlap between the current P&G study process and the new IOU Business Plans and 2021 PA Annual Budget Advice Letters (“ABALs”),\textsuperscript{19} the Council recommends that the CPUC immediately take steps to adopt policy decisions on portfolio cost-effectiveness, so they can be applied to the September 2020 IOU Business Plan

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\textsuperscript{17} NESP is a stakeholder organization and is open to all organizations and individuals with an interest in working collaboratively to improve cost-effectiveness screening practices.

\textsuperscript{18} More Information about the NSPM for DERs can be found here: https://nationalefficiencyscreening.org/the-national-standard-practice-manual-for-ders/

\textsuperscript{19} Note that the current schedule for the P&G study as reported in the April 16\textsuperscript{th} workshop does not have P&G draft study results coming until Q1 2021, which is at least 4-6 months after IOU Business Plans and PA ABAL filings are submitted.
filings and 2021 PA ABAL filings. As the Council has suggested in previous questions for this Ruling, we are recommending a variety of approaches that can be implemented during this short-term period that will sufficiently assess the economic viability for each of the EE pillars outlined in Figure 1. Furthermore, other policy barriers that are constraining the amount of available EE potential need to be immediately modified. This includes revising baseline policies to be in alignment with current statutory mandates from AB802 and relaxing rules that impose inappropriate and across the board discounts based on spurious claims for rates of attribution and savings realization.

11. Are there any new or modified rules or processes that the CPUC should consider, to support your recommendations? Please be specific in your answer.

The Council believes that much of what we have suggested and outlined in these formal comments and our informal comments contained in Appendices A and B are well within the CPUC’s existing statutory authority. As such, it should not be necessary for the CPUC to engage in any formal regulatory process to modifying any of the rules or processes that we have identified in these Opening Comments.

Based on the broad arguments that we make in our response to Q1, EE needs to be on more of a level playing field such that it can be reasonably competitive with other resources. Based on current CPUC policies and rules, the Council believes EE is overly penalized relative to other resources. To address this issue, the CPUC needs to immediately rectify a number of deficiencies in its policies that have created a high degree of uncertainty and have added to the cost of the EE resource. Some of the most important corrections we are proposing include:

- **CE Testing**: Overly punitive CE policies that are outdated and unfairly penalize EE resources. As noted earlier, the test perspective for EE needs to immediately shift from TRC to PAC to be more in alignment with other clean energy resources. In the longer term, the CPUC needs to consider moving away from the outdated California Standard Practice Manual tests and build from ongoing national efforts aimed at reforming and modernizing how we look at cost-effectiveness for energy efficiency.

- **Baseline Policies**: Restrictive policies including code and ISP baselines must be terminated immediately in favor of existing conditions baselines. Current law requires that all existing buildings adhere to existing conditions baselines. Further, we believe that existing conditions baselines must also apply for industrial and
agricultural situations. Indeed, certain EE program interventions already allow for existing conditions to be included in industrial Strategic Energy Management (SEM) programs.

- **Savings Discounts**: Broad applications of free-rider and gross realization discounts that are not supported with actual field evidence should be eliminated. Without actual evidence of free-ridership and gross realization, any arbitrary discounts must not be applied. The proper time to address these issues is during the ex post EM&V study process.
- **Remaining Useful Lifetimes**: Arbitrary determinations and rules governing remaining useful equipment lifetimes mean that far lower savings are being attributed for new measures. Rules about effective useful lifetimes should be eliminated in concert with a broader application of existing conditions baselines.
- **Project Reviews**: Time-consuming review steps by IOUs and CPUC staff for program application approvals (particularly for Custom and NMEC projects) delay projects, postpone the realization of vital energy savings, and dissuade customers from participating in future programs. These reviews must be held to strict time limits to ensure projects move faster through the approval process.

12. **Is there anything else you would like to propose or add that has not been addressed in the questions above? Please provide rationale for your proposal, actionable implementation steps and timing.**

The Council does not have any additional issues or topics to propose at this time but reserves the right to offer additional ideas and proposals regarding the P&G study process at various points in the future.

**VI. CONCLUSION**

The Council appreciates the opportunity to offer our comments and suggestions for the P&G study and policymaking activities that will take place over the next year. While we acknowledge that many of our suggestions and requests will require significant modification to approaches and methods that have been used for previous P&G study and goalsetting cycles, we believe they can all be feasibility addressed and are urgently needed. Energy efficiency plays a vital role in addressing California’s climate policies and now more than ever is an important catalyst for reviving California’s economy resulting from the COVID-19 crisis. We urge the
Commission to act swiftly to adopt our suggestions and put EE back on track to once again be a major contributor during these critical times.

Dated: May 22, 2020

Respectfully submitted,

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APPENDIX A
CEDMC Response to Request for Written Comments on 2021 Energy Efficiency Potential & Goals, December 10, 2019 (8 PAGES)

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December 10, 2019

CEDMC Response to Request for Written Comments on 2021 Energy Efficiency Potential & Goals

The California Efficiency + Demand Management Council (the Council) appreciates the opportunity to provide these informal comments on methods and approaches that will inform the next Potential & Goals (P&G) study. Our comments address each of the questions posted by the Commission in an 11/19/2019 email sent to the service list in connection with proceeding R.13-11-005.

1. What should be the primary objectives of the Potential and Goals study?

It is apparent that the current method of P&G does not align with the State’s clean energy policies. The goal-setting process does not lead us on a path to achieving the doubling goals set forth in SB350. In the Council’s view, the primary objectives should be to set goals that are independent of the estimation of market potential. Instead, goals should be set more or less based on aspirational considerations. For example, it would be more appropriate to set the GWh and Therm savings goals based on what it would take to get to doubling energy efficiency (EE) by 2030. In fact, the CEC has already calculated those amounts for the state as a whole.1 The goal-setting exercise for the CPUC could be more focused on determining the share of savings that would be attributed to the investor-owned utility (IOU) territories. This could be done based on a sales-weighted approach or historical savings-based approach.

Once goals are set, it is critical to determine the market potential that enables those goals to be achieved. Ideally, the market potential pool should be larger than the goals. In other words, there should be more than enough potential out there such that the goals set forth by the CPUC can be reasonably achieved. The CPUC typically sets policies which directly impact the goal-setting process and at times preclude achievement of market potential. It would therefore be best to completely revisit the way in which market potential is defined. Currently, the CPUC takes a very narrow interpretation of market potential as only being the EE resources that are over and above existing codes and/or industry standard practice. EE savings potential should take a broader perspective and look at the savings based on what is currently in the market (regardless of code or industry standard practice (ISP) levels) and then determine the savings based on going to the highest efficiency levels, of course while maintaining cost-effectiveness thresholds.

This so-called existing market conditions baseline would only apply in replacement and retrofit scenarios. New construction EE potential savings scenarios should continue to follow code baselines, as is currently practiced. It is our recommendation that the lead agency, the CEC, be responsible for determining the market potential for the state as a whole (IOU and POU territories). The CEC has the mandate of ensuring SB350 compliance and they are responsible for the IEPR statewide forecasts. It only makes sense that the CEC should be the lead agency for identifying the market potential. Then it would be up to the CPUC to ensure that IOUs/PAs are proposing cost-effective programs and implementation solutions aimed at achieving the goals. The IOUs/PAs would look to the potential study for guidance on which sectors/sectors and end-uses/measures would be most applicable for achieving the stated goals.

A Note about Applicable Measures

The Council wishes to express concerns that the potential for conservation voltage reduction (CVR) measures continue to not be included anywhere in the potential study. While we recognize that the CPUC’s EE jurisdiction is only pertinent to end-use measures on the customer side of the meter, CVR could bring about significant cost-effective savings that are comprehensive (i.e., applicable across all sectors) and affordable for ratepayers. CVR has been used in the field for decades and is widely recognized as one of the most affordable and cost-effective approaches to
reducing electric consumption and demand. CVR is specifically identified in SB350 as an eligible measure to achieve energy savings. While CVR might not fit into the traditional EE program delivery construct, the CPUC should not limit the scope of the potential to pure behind-the-meter EE considerations. If future potential studies are to have meaning and relevance to California's clean energy policies, then it is imperative that all energy saving measures must be considered, including those that are delivered through front-of-the-meter or distribution efficiency efforts, which are also regulated by the CPUC.

2. **Topic-specific considerations:** Do you agree with the considerations discussed at the workshop regarding the issues below? Why or why not? Please propose specific methodological improvements if you feel any are needed. Please refer to the Navigant-produced abstracts including the methodological considerations, key questions and data needs described for each topic.
   
   a. **Energy efficiency-demand response analysis**

   The Council generally agrees with the integration approaches presented by Navigant during the October Workshop. However, the Council believes the concept of co-benefits between EE and DR programs needs to be explored in much greater detail. If the costs of combined measures/programs can be split between EE and DR, it will make both program types more cost-effective than if one or the other shouldered the entire burden itself.

   b. **Fuel Substitution**

   While it is difficult for the Council to comment on the fuel substitution (FS) goal-setting process since limited information was offered on this topic during the October Workshop, the Council is committed to working with the Commission as it develops methods and approaches that appropriately balance goal-setting of FS programs and measures vs. non-FS programs and measures. In the meantime, we would like to reiterate that the Council supports the Commission’s overall efforts to ensure a robust yet equitable approach to FS program deployment. Overall, the Council wants the FS goal-setting process to affirm that third-party providers are essential to the deployment of viable and cutting-edge programs and technologies that ensures achievement of California’s energy and climate goals. To that end, we would like to see more use of meter-based quantification of impacts.
associated with FS programs and measures given the general trend toward these quantification approaches for other EE programs.

c. Data and analysis for RENs and CCAs (including which items are critical to be included in the Potential and Goals Study itself).

The Council has no comments at this time.

d. Industrial and/or agricultural market sector characterization and analysis

The Council believes that the Industrial Assessment Center data is insufficient for the purpose of determining industrial/agricultural market potential. The CPUC should explore using the Department of Energy’s advanced manufacturing office (AMO) and the Better Plants Challenge to extract relevant data. Also, using historical programmatic accomplishments from other states will be a useful guide, particularly for states that don’t have the same restrictive policies regarding custom projects and industry standard practice baselines that California currently has in place. Other possible data sources to explore include SKAGG, Energy Atlas, ISO 50001 audits, CA agricultural statistics, and the 2016 MASI studies conducted by the CA IOUs.

Further, the Council believes that all Industrial and agricultural potential should be developed from a market perspective, not a program perspective. Programs are merely the means by which to deliver what is potentially available from the market. As such, market potentials should err on the side of more inclusivity rather than less. Currently, the opposite is in place whereby the market potential is solely determined based on programmatic considerations. This is an erroneous method that continuously leads to an under-determination of potentials.

Finally, it is essential that the CPUC begin to recognize that the industrial and agricultural markets are fundamentally different than the mass markets when it comes to energy efficiency. While the CPUC determined that AB802 did not apply to these markets, it is nonetheless important to recognize that the principles of AB802 can and must be applicable to industrial and agricultural processes. In particular, existing market conditions must be used as the baseline for any replacement or retrofit situation. Customers don’t necessarily consider ISP or highest efficiency when faced with an equipment replacement situation. They are more likely to put in
whatever is needed to quickly resume the production of their particular products. The normalized metered energy consumption (NMEC) approach for measuring and verifying savings using AMI data was intended to be a pathway that could apply broadly to the industrial and agricultural sectors. NMEC offers an alternative to the time-consuming and uncertain custom review process. Critically, to make NMEC successful for industrial and agricultural applications, it will be important for the CPUC to not discount or otherwise discourage viable projects vis-a-vis the current policies which lead to substantial discounting of savings and are discouraging to customers.

3. **Overall Methodology:**
   
a. **What are the opportunities and challenges of a “top down” assessment of energy efficiency in comparison to the current “bottom up” widget-based approach? Please provide evidence to support your answer.**

   The Council believes that the burden of supplying evidence regarding new methodological approaches must be with the CPUC and its consultants. With that said, we believe that there are substantial advantages to moving away from the current widget-based approach. First, staying at the level of measure granularity is not realistic since PAs are not bound to implement programs that strictly fall within the purview of the measures identified in the potential study. Second, taking a purely widget-based approach does not work for important sectors, such as industrial and agricultural where EE opportunities are typically so site-specific that the only option for these facilities is to put forward a group of measures that are one-offs and thus are more in line with custom projects. Third, the current widget-based models do not allow for dynamic market baselines that are constantly changing based on updated market characterizations. And finally, the widget-based approach does not align with AB802 and SB350 expectations of existing conditions baseline and changes in metered energy consumption as the default.

   
   b. **If staff were to consider using “top down” methods to assess energy efficiency savings potential, how could the study transition? Please identify areas/topics that could be incorporated in the 2021 study and areas/topics that may need further study and data collection.**
The Council believes that it is well within the scope and capability of its P&G study contractor to create a new top-down potential study modeling framework. One such framework could be adapted from potential studies in other jurisdictions where top-down methods are employed. For example, the Department of Energy’s Office of Energy Efficiency and Renewable Energy has compiled a catalog of potential studies from numerous states and jurisdictions that could inform this effort. It is critical that the methods and calculations used be made transparent and accessible to ensure that all stakeholders can have visibility into the various methods used to come up with sector and end-use levels of potential.

c.  *Are there process changes or any additional rule-setting the CPUC must consider in order to support this transition?*

The only process change that is touched on in our answer to question #1 is that the responsibility for conducting the market potential studies must lie with the CEC. Since they have the responsibility of developing the biannual IEPR forecast, along with overseeing the implementation of SB350.

d.  *Please identify any specific data sources that should be considered for incorporation into future potential and goals studies, and explain the value of incorporating each data source, either in addition to or as a replacement to an existing data source.*

The CPUC should conduct more market characterization studies. To accomplish this, the Commission should consider reallocating EM&V funding toward more market characterizations. This can enable a less widget-focused approach and transition to a more holistic appraisal of potential.

   a.  *Should staff consider optimization of energy efficiency in the Integrated Resources Planning (IRP) process in the 2021 Potential and Goals study? If yes, how? If not, why not?*

No. The Council believes that more investigation is needed before fully integrating EE into the IRP process. Right now, EE stacks (or bundles) tend to

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fall out of the picture early on because the basis by which cost-effectiveness is assessed for EE measure bundles is not in line with how cost effectiveness is assessed for other resource stacks in the IRP analysis. EE bundles must be placed on a level playing field with other resources, with existing conditions baselines being used for all replacement and retrofit potential opportunities, cost effectiveness screening test changed to a Societal test perspective, and gross (vs. net) savings used as the basis for the contributing savings.

b. The EE-IRP Staff Whitepaper identified areas where process modifications and further rule development may be necessary for optimization of energy efficiency in the IRP. Do you agree with staff's proposal? Why or why not?

The Council is not prepared at this time to provide specific comments on the staff's proposal for optimization of EE in the IRP.

c. What role should IRP optimization of energy efficiency resources play in the development of the Study and energy efficiency goal setting?

It would be appropriate to step back and ask the question of whether EE for public purpose programs should even be considered for assessment in the IRP in the first place. EE is at the top of the loading order (still California's governing policy for EE resources). EE is at the top because there are a lot of reasons to prioritize EE due to the many benefits that go well beyond the current EE cost-effectiveness testing framework, which uses a total resource cost test. Furthermore, public purpose programs such as market transformation, emerging technologies, and needs-based efficiency (such as the Energy Savings Assistance (ESA) programs and other low-income assistance programs) should not be held to a strict standards set forth through the IRP process.

The EE categories that should be considered for integration with other resources would include EE interventions that are able to deliver grid-related benefits (such as meeting peak load reduction needs due to increasing duck curve issues) and local capacity/distribution issues. To that end, the Council recommends that the CPUC consider bifurcating the EE resource into two categories: (1) public purpose which is not subjected to a cost-effectiveness criteria and thus would not be applicable for IRP and (2) grid needs (either at the system level or for meeting local capacity/distribution needs) which would be fully tested relative to other non-EE resources through the IRP.
process. Indeed, we believe this is the direction that ED staff has proposed in its recent IRP white paper.³

5. 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?

   The CPUC should engage in cross-agency discussions with the CEC about shifting the responsibilities of conducting every other year EE potential and goal studies to the CEC. In that role, the CEC would conduct a statewide EE potential study that covers all of California (IOU and POU territories). Indeed, such a change may necessitate legislative action. The study would also drill down to show the potential for the IOU territories in particular. Further, the CEC should be responsible for setting EE goals that are in line with statewide doubling goals set forth in SB350. The CPUC could then identify how much of the potential and goals would be attributable to public purpose programs and how much would be in the category of grid relief (and subject to full IRP integration with other resources).

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

   The Council has no comments at this time.

6. 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?

   The Council has no further comments to offer at this time.

   The Council Appreciates the opportunity to provide these comments, and looks forward to continued dialogue regarding the potential and goals study.

APPENDIX B
The Council’s Informal Comments on Potential & Goals Study Workshop, April 27, 2020
(2 PAGES)

April 27, 2020

The Council’s Informal Comments on Potential & Goals Study Workplan

The California Efficiency + Demand Management Council (The Council) appreciates the opportunity
to provide these informal comments on various aspects of the Potential & Goals (P&G) study workplan
presented by the CPUC and its P&G study consultant Guidehouse during the 2021 P&G Study kickoff
workshop held by webinar on 4/16/20. Our comments address several questions posed throughout
the presentation materials presented by the Guidehouse team during the workshop. It should be noted
that we are in the process of preparing comments on the March 12th Ruling by ALJ Kao. Some of our
comments reflected here may also be included in those comments and by no means should the CPUC
consider the comments presented here as being entirely inclusive of our broader comments that we will
submit on May 22nd.

1. What is a Potential Study? (Slide 26): While there is little debate as to how a potential study
process moves from technical to economic to achievable, we have concerns about a few of the
transitions along the way. First, when considering the economic potential, it is indicated that a
CPUC Cost Effectiveness Screen is applied. We have concerns that there are significant limitations
in the current manner by which the CPUC interprets cost-effectiveness for energy efficiency,
including most importantly a greater than 1.25 TRC test result requirement for all measures to be
considered in the estimation of economic potential. We believe this requirement is far too punitive.
The purpose of the measure-level cost effectiveness screen is to give all measures a reasonable
chance for inclusion in the economic and achievable potentials. As such, the economic screen
should err on the side of being more inclusive. Further, we find fault with the CPUC’s current
requirement to include all measure costs, regardless of whether they are directly related to the
purpose of saving energy. This means that high measure costs without the allowance of
Corresponding non-energy benefits means that more measures will fail the economic screen and
displays find their way to economic or achievable potential. We would like to see these
methodological flaws corrected in the current study. Further, we believe it is appropriate to reduce
EE measure costs when there are situations of measures where co-benefits exist between EE and
DR programs.

Second, when considering achievable potential, it is indicated that achievable potential represents
the EE that is expected to be adopted by programs. We have concerns that the previous methods
of Bass Diffusion and payback acceptance by which Guidehouse has used to predict customer
uptake as a result of program interventions are severely limited and not reflective of all of the
parameters needed to carry out such an assessment. We believe these methods lead to a
significant undercounting of achievable potential and as such must not be considered as the only
means for predicting program adoption for the current potential study. While we were pleased that
Guidehouse intends to update their method for calculating customer uptake,1 we have yet to see
any details. We encourage Guidehouse to incorporate an experience-based approach that will
serve to enhance any model-based estimates of the EE that is expected to be adopted by
programs. To that end, we are offering to host a forum with the Guidehouse study team and our
third-party program implementation members. These program experts can provide insights and

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1 As referenced on Slide 53.
perspectives on the program design features that must be considered to bring about maximum levels of participation. Further, we encourage Guidehouse to reach out to utilities and implementers from other regions of the country that are experiencing more successful levels of EE program participation that we have seen in recent years here in California.

2. **Residential & Commercial Measure Characterization (Slide 41):** We were pleased to see that Guidehouse intends refresh the measure list to capture a greater range of high impact measures. However, we are concerned that a simple “refresh” of the existing measure list will ultimately leave out several promising residential & commercial measures that prior potential studies have left out due to CPUC policies. These measures included broader categories of BROS measures for residential and commercial applications that were initially proposed in the 2018 study but were ultimately excluded in the final potential analysis. Further, we have concerns that by only taking a measure-based approach for the residential & commercial sectors there is no possibility that packages or groups of measures that would ultimately be delivered through Custom or NMEC programs will ever be included in the estimates of residential & commercial potential.

3. **Industrial & Agricultural Measure Characterization (Slide 43):** We were pleased to learn that Guidehouse is currently in the process of conducting a primary data collection study to gather California-specific data on market penetration, saturation and adoption characteristics within the industrial & agricultural sectors. However, the slide indicates that primary data collection results will be the only data source used for the top-down analysis of industrial & agricultural potential. We believe that this approach limits the amount of potential since the primary data effort is only inclusive of 6 segments. California’s industrial & agricultural sectors are numerous and diverse and stretch well beyond any 6 segments that Guidehouse intends to center its industrial & agricultural focus for this study. In addition, as we noted in our informal comments submitted to the CPUC on December 10, 2019 in response to the October 30-31, 2019 P&G workshop, using historical programmatic accomplishments from other states will be a useful guide, particularly for states that don’t have the same restrictive policies regarding custom projects and industry standard practice baselines that California currently has in place. We urge Guidehouse to reach out to many of its colleagues and potential study industry experts from other consultancies who are collecting data and conducting potential studies in other states to learn from those experiences and apply data sources that can be used to better inform top-down industrial and agricultural potential estimates.

4. **Normalized Metered Energy Consumption (Slide 44):** According to our understanding of Section 6 the SB 350 Clean Energy and Pollution Reduction Act of 2015, all energy efficiency savings must be measured taking into consideration the overall reduction in normalized metered electricity and natural gas consumption where these measurement techniques are feasible and cost effective. Given the important role that NMEC-based programs will play in the future, we would like to see Guidehouse consider conducting a separate all-NMEC scenario for NMEC energy savings potential applied across the board and applicable in the situations specified for the most common residential and commercial situations. However, for industrial, we would like to see this scenario stretch beyond just SEM programs and look at all applications of industrial/agricultural efficiency, including all top-down approaches suggested in Slide 43 (i.e., generic custom and emerging technologies).

The Council Appreciates the opportunity to provide these comments and looks forward to continued dialogue regarding the P&G study. If you have any questions, feel free to reach out to me by email at gwickler@cedmc.org or by phone at 925-286-1710.

Sincerely,

Greg Wickler
Executive Director
California Efficiency + Demand Management Council
APPENDIX C
Detailed Summary of Representative Market Facilitation EE Programs
(7 PAGES)

In this appendix, we highlight three of California’s market facilitation programs, describing their role in achieving energy saving goals and whether they are still necessary for achieving savings with support from research studies. These examples are offered to illustrate the importance of market facilitation programs as part of the broader non-resource program construct.

Program 1: Workforce Education & Training

The Energy Centers, as part of the WE&T program, offer training and education to workers that serve commercial and residential customers with the goal of achieving energy savings and demand reduction in the state. Training and education is provided through displays, equipment testing, technical consultations, technology demonstrations, tool lending, and courses. Courses include classes, workshops, educational seminars, and interactive training exhibits.

Program Administrators work to teach customers how to identify energy savings opportunities and provide them the skills, tools and resources to act upon those opportunities.\(^\text{20}\) In our 25 years of experience evaluating energy efficiency programs, we have found that at least 50% of applicable evaluation reports include at least one recommendation concerning education and training. Most program theories identify knowledge as a key barrier. However--and this may be where the challenge lies--while program designers develop training activities to increase knowledge, the key is to have trainees apply that knowledge in a real-world setting.

- **Varied outcomes.** The sheer number of potential outcomes or changes that could potentially occur as a result of training are staggering. There are not only hundreds of energy saving actions and operations/maintenance changes that could occur as a result of the WE&T courses, but there are also additional training impacts, such as job placement, Knowledge, Skills, and Abilities (KSAs) development, and green job creation that deserve assessment as well. The large number and types of classes offered, partnerships, and policy mandates make it challenging to assess and measure the impacts of all the potential outcomes or changes that could occur.

- **Market actors apply what they learn many times.** Market actors who take courses likely apply what they learn across a number of projects that could be varied in size and scope. Unlike end-users who may apply what they learn in a single facility, market actors impact numerous facilities making it challenging to estimate the total savings associated with the training.

- **Attribution is indirect.** An education and training effort can have an indirect impact on energy savings; it could raise awareness, increase understanding of various actions, teach the participants about channels for obtaining equipment or resources to aid in taking action, or help individuals to persuade others within their organization, among other things. As such, there are several barriers that exist along the decision-making continuum

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(e.g., lack of measure/behavior knowledge; lack of inspiration; lack of implementation know how, etc.), which the courses may help attendees overcome.

The key roles and values that the WE&T Centers provide are:

- **Indirect Energy Savings**: Energy centers provide indirect energy savings that are similar in magnitude to savings from similar efficiency programs and influence commercial and residential participants to take a variety of energy saving actions. Based on the most recent impact evaluation of course attendees across CA's WE&T Energy Training Centers, as a result of behavior changes, evaluators estimated that the Energy Centers combined yearly gross impact was approximately 700 GWh with a net impact of 544 GWh. The Centers are responsible for annual gas savings of approximately 6 million net therms. Respectively, these electric and gas savings equate to approximately 267,000 and 30,000 metric tons of avoided carbon dioxide (CO2) emissions. The net savings of the Energy Centers are similar in magnitude to the savings achieved by other individual IOU programs that reach similar sectors and is estimated to provide an additional 5% to the overall projected energy impact of the portfolio (that is, 5% of 10,500 net annual ex ante GWh). Almost four out of five (77%) commercial respondents took actions to save energy at their facilities; while more than two out of five (43%) residential end-users took actions to save energy in their homes as a result of the course(s)\(^{21}\).

- **Reaching key market actors/workers with a wide array of courses and training opportunities**: Energy centers offer a wide array of courses and reach various key market actors and workers. From 2009 to 2011, Over the past three years, between 600-11,000 unique workers attended courses at each Energy Center. In addition, the Energy Centers offered between 30 and 300 unique courses depending on the center\(^{22}\).

- **An educational resource that can fill energy efficiency education gaps in the marketplace**: The Energy Centers provide educational resources and trainings to workers that would not have been available otherwise. More than half of course participants indicated that the Energy Centers are the only place they go for energy efficiency classes, trainings, or other ongoing career education, an indication that the Energy Centers are filling a need in the marketplace and playing a valuable role\(^{23}\).

- **A trusted third-party that can advise the marketplace on emerging technologies and core technologies supported by EE programs**: By providing information on new and core energy technologies, Energy Centers help workers stay competitive in the marketplace, deliver a higher level of service to customers, and advance or change their careers. Providing information on new technologies is the most important role that Centers serve. Most workers have been coming to the Energy Centers to primarily learn about new energy efficient technologies. Almost 80% of survey respondents indicated it was one of their reasons or goals for attending. The majority of course participants (81%) perceive the Energy Centers as a resource that helps them to “do their current job better” or “advance their careers.” When asked what specific career benefits participants


\(^{22}\) 2010-2012 WE&T Process Evaluation Volume I: Centergies Report ID# PGE0304.01.

\(^{23}\) Ibid.
experienced after taking courses, 83% of participants said they experienced some type of career benefit. The most common career benefits that participants experienced were (1) staying competitive in the marketplace (64%) and (2) delivering a higher level of service to customers (60%). Smaller proportions of participants experienced other desirable career benefits: 33% gained new customers; 27% advanced careers within current companies; 19% advanced into a new industry; 14% found a job or changed jobs; and 6% received a pay increase and 5% received a job promotion.

Program 2: Emerging Technologies Program

The Emerging Technologies Program (ETP) has been offered since 1996. Over this period, the program’s tactics and approach have shifted to reflect changes in the emerging technology landscape as well as changing customer and utility needs. The California Statewide Emerging Technologies Program (ETP) is designed to support California’s ratepayer-funded programs in meeting California’s energy reduction needs by identifying innovative energy efficiency measures that deliver reliable energy savings. The ETP’s vision is to anticipate emerging technology trends, investigate and hand-off innovative, verified technologies to the PAs to support the achievement of California's ambitious energy savings and GHG reduction goals. The ETP operates within the larger California policy context seeking to support both legislative and regulatory, as well as utility and customer needs.

The key roles and values that ETP provides are:

**Identify innovative energy efficiency measures that deliver reliable energy savings.** ETP contributes to measure development through its support of the Program Administrator community, offering forums for PAs to exchange ideas and discuss new technologies. There is significant cross-utility collaboration in new measure development through formal channels such as ETP Forums, monthly ETP phone meetings, quarterly ETCC meetings and participation in technology consortia. From 2006-2014, ETP initiated 703 projects, resulting in 231 new measures in the portfolio reflecting approximately 94,000 MWh first year gross savings. Despite limited data quality, prior evaluations suggest that from 2010-2014, 122 measures from ETP projects were adopted into the EE portfolio provides about 2% of the 2013–2014 statewide ex ante claimed electric savings and slightly less therm savings. Notably, a forthcoming study will demonstrate the historical contribution of ETP to the EE portfolio from 2009-2017.

**Anticipate emerging technology trends, investigate and hand-off innovative, verified technologies to the PAs.** ETP’s focus on technical readiness and breadth of resources make it an effective accelerator of new technologies. Research studies show that ETP is a looked-to leader in its approach to assessing emerging technologies. They use a variety of tactics such as lab and field evaluation, demonstration showcases and test standard development. The ETP focuses on technical readiness. From 2010 through June 2014, 67% of all projects were lab evaluations, field evaluations, and scaled field placements, which are typically used by ETP to validate or accelerate technical readiness. The ETP has a broad array of tactics compared to peers.

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24 Ibid.
26 PY2013-2014 Emerging Technologies Program Targeted Effectiveness Study Report, Study ID CPU0112.01.
Compared to other ET-like programs, the ETP has the most tactics available to deploy and the greatest number of non-TA tactics\(^{27}\).

**Provide PAs with a comprehensive set of suitable technology options for new measures.** ETP can help familiarize PA with new measure technologies as they come to market. Research indicates that PA could more easily make the case for including or not including a technology in their program based on the information provided by ETP\(^ {28}\).

**Provide PAs with actionable market information to inform program delivery.** ETP helps facilitate PA involvement in creating new measures by providing information on the feasibility of emerging technologies. The IOUs provide a variety of support for EE technologies, approaches and practices. Specifically, through their Technology Assessments (130 initiated in the study timeframe), the IOUs verified energy savings claims, which is one of the main outcome expected of Technology Assessments. Through Demonstration Showcases (23 initiated in the study timeframe), the IOUs demonstrated and increased the visibility of these technologies. The ETP is also tested products and practices to determine the feasibility of emerging technologies in advance of codes and standards, and provided performance specifications\(^ {29}\).

**Confirm that technology development partners understand what measures the EE programs need.** ETP has strong potential to connect technology development partners by promoting a culture of objectivity, setting clear regulatory mandates, and allowing access to program funding. ETP has strong qualifications for building new pathways among TDAs and TD organizations with the goal of accelerating emerging technologies into utility EE programs and into the market. Specifically, these qualifications include a culture that promotes objective and agnostic perspectives on products and technologies, clear regulatory mandates to accelerate program and market entry for qualified new technologies, and access to program funding for assessments and the other ETP elements as a means to accelerate this process\(^ {30}\).

**Program 3: Marketing Education & Outreach**

Marketing, Education, and Outreach (ME&O) on a statewide level has a long history in CA. In 2012, the Commission established Energy Upgrade California as the brand for Statewide Marketing, Education, and Outreach (SW ME&O) activities to increase ratepayer awareness of energy efficiency, demand response, and distributed generation, and to offer ways for consumers to better manage their energy use. The SW ME&O governance structure calls for the IOUs, RENs, CCA, LGPs, and other stakeholder groups to play an active role in the implementation of the SW ME&O campaign. Furthermore, the IOUs, RENs, LGPs and CCAs also undertake individual marketing efforts to meet internal objectives.

To have an impact, the SW ME&O campaign must stand out in a complicated and crowded information environment in which consumers receive messages about energy management from numerous sources. Research supports this crowded environment. In a 2017 study, California

\(^{27}\) PY2013-2014 Emerging Technologies Program Targeted Effectiveness Study Report, Study ID CPU0112.01.

\(^{28}\) PY2010-2012 Emerging Technologies Program Targeted Effectiveness Study Report, Study ID CPU0066.03.

\(^{29}\) PY2010-2012 California Statewide ETP Evaluation Phase I Report, Study ID CPU0066.01.

\(^{30}\) California Statewide ETP Technology Development Actors Study, Study ID SCE0333.01.
residents were asked to identify brands, campaigns, or initiatives that encourage Californians to save energy. Respondents identified over 150 distinct brands or campaigns. Figure 2 displays all 150 brands; a larger and darker font illustrates the ones that are most frequently mentioned. More customers mention the IOUs, collectively, than any other brand. Energy Upgrade California was beginning to stand out, but it exists in a sea of brands. The 150+ brands in Figure C-1 exemplify the ME&O implementation and evaluation challenge. In this environment, it is difficult for program administrators to make their message stand out and for evaluators to detect the incremental impact of any single campaign.

Figure C-1. Customer Mentions of Brands, Campaigns, and Initiatives That Encourage Energy Saving

Note: Many brands were only named by one respondent and may have been fictitious.

The Statewide ME&O campaign plays an important role in increasing the broader market’s awareness and intent to take action, two critical elements in the Theory of behavior change continuum. Between 2018 and 2022, the Statewide ME&O Campaign is focused on raising awareness of Energy Upgrade California and the importance of energy management and increasing customers’ intent to take energy management actions, engage with information, and advocate on behalf of the energy movement.

Furthermore, having a statewide messaging mechanism has been extremely beneficial to the State especially during emergency situations. For example, in the current COVID-19 environment, the CPUC and state legislators have combined forces to quickly institute a COVID-response campaign that is fostering one uniform message to all CA residents helping them to identify ways to save energy while sheltering-in-place.

The key roles and values that Statewide ME&O provides are:
Raising awareness of Energy Upgrade California and the importance of energy management. Despite low unaided brand awareness, consumers able to recognize Energy Upgrade California show increasing familiarity with the initiative year-over-year. Customers who have been exposed to program marketing tend to have moderate to high levels of program awareness. Levels of program awareness and recall vary widely across campaigns ranging from 13% to 92% of targeted customers. Aided awareness of energyupgrade.ca.org increased significantly between April 2015 and November 2015 from 19% to 43%.

Increasing customers’ intent to take energy management actions, engage with information, and advocate on behalf of the energy movement. Customers exposed to the marketing campaigns tend to report that they have taken, or plan to take, intermediate or subsequent steps to participate or engage with the promoted program after exposure to the marketing. For example, in the two months since respondents were exposed to the marketing, 44% of SCE survey respondents, who were aware of the program, have taken at least one intermediate step toward participation. Resource programs can help bridge the gap between intent and action in energy management decision-making.

Figure C-2 shows the latest benchmark measurement of awareness and intent among residential customers that Opinion Dynamics conducted in October 2017.

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Figure C_2. Statewide ME&O Program, Awareness and Intent Benchmarks (2017)