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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

**ADMINISTRATIVE LAW JUDGE'S RULING INVITING COMMENTS ON
DRAFT POTENTIAL AND GOALS STUDY FOR 2024 AND BEYOND**

This ruling provides notice of a draft 2023 Potential and Goals Study that will inform the California Public Utilities Commission's (Commission or CPUC) adoption of energy efficiency goals for 2024 and beyond. Parties are invited to file comments on the draft study, and address the questions included in this ruling, no later than May 8, 2023, and reply comments no later than May 18, 2023.

1. Background

Public Utilities Code Sections 454.55 and 454.56(a) require the CPUC, in consultation with the California Energy Commission (CEC), to identify potentially achievable cost-effective electricity and natural gas efficiency savings and establish efficiency targets for electrical or gas corporations to achieve. Commission staff recommends that the Commission set post-2023 energy efficiency goals using the draft "2023 Energy Efficiency Potential and Goals Study" (draft 2023 study) that Guidehouse has prepared for the Commission. The draft 2023 study is included as Attachment 1 to this ruling.

The Commission, in Decision 21-09-037, adopted energy efficiency savings goals for 2022 and beyond, based on the 2021 Energy Efficiency Potential and Goals Study. The draft 2023 study updates the energy savings potential forecasts of the 2021 study, with the following key updates:

- Updated avoided costs;
- Inclusion of fuel substitution program data from 2022 investor-owned utility (IOU) budget filings;
- The California Air Resources Board's (CARB) proposal for a "zero-emission standard for space and water heaters," which would ban the sale of natural gas-burning heating, ventilation, and air conditioning (HVAC) and water heating appliances starting in 2030;
- Federal Inflation Reduction Act (IRA) tax credits for energy efficient equipment in both residential and non-residential premises; and
- Behavioral, retrocommissioning and operational (BRO) programs introduced multiple Home Energy Reports (HERs) participant bins representing refined assumptions for energy savings through expanded delivery of HERs.

Throughout the development of the study, Commission staff and Guidehouse engaged stakeholders in a series of informal meetings. Stakeholders were invited to provide informal verbal and written comments on various methodological and data input questions for the study.

As with most scenarios in previous studies, the draft 2023 study uses a Total Resource Cost benefit to cost ratio of 0.85 as the cost-effectiveness screen. The draft 2023 study includes four scenarios that reflect varying levels of adoption levers (i.e., tax credits, incentive levels and fuel substitution), with Scenario 1 reflecting the most conservative assumptions and Scenarios 3 and 4 reflecting the most aggressive assumptions.

- Scenario 1: Energy efficiency incentive levels capped at 50 percent, “reference” assumptions for fuel substitution. IRA tax credits not considered.
- Scenario 2: Conservative assumptions for IRA tax credits, energy efficiency incentive levels capped at 50 percent, “reference” assumptions for fuel substitution.
- Scenario 3: Conservative assumptions for IRA tax credits, energy efficiency incentive levels capped at 75 percent, aggressive assumptions for fuel substitution.
- Scenario 4: Aggressive assumptions for IRA tax credits, energy efficiency incentive levels capped at 50 percent, “reference” assumptions for fuel substitution.

2. Overview of Draft 2023 Study Results

In comparison to the 2021 study, overall achievable total system benefit (TSB) increases by approximately 60 percent in Scenario 1 and approximately 230 percent in Scenario 4. Because the TSB metric reflects the benefits that accrue over the life of an intervention, energy efficiency equipment is the key driver of TSB as opposed to BRO measures, which tend to have short effective useful lives. Fuel substitution has a relatively low overall impact on TSB in Scenarios 1, 2 and 4, though the model indicates a potential for significant growth in later years (of the draft 2023 study period).

The 2021 study included a significantly greater amount of fuel substitution savings than the draft 2023 study, due in large part to inclusion of fuel substitution program and budget data in this study cycle (i.e., data that was not available for the 2021 study). This results in overall achievable energy and gas savings that are lower in the draft 2023 study, specifically for Scenarios 1, 2 and 4. For Scenario 3, the draft study applies specific adoption parameters to fuel substitution measures, which is the same approach taken in the 2021 study. This

results in a significantly higher calculated achievable potential and relatively lower energy efficiency potential compared to Scenarios 2 and 4.

In all scenarios, electric savings from energy efficiency equipment increase relative to the previous goals. Higher statewide potential for rebated energy efficiency measures is driven primarily by the residential and industrial sectors. Commercial sector savings decreased slightly in Scenario 1 but were higher in Scenarios 2 through 4. BROs savings forecasts are lower due to the additional Home Energy Report bins included in the draft 2023 study.

Assumptions included in Scenarios 2, 3, and 4 indicate that IRA tax credits will have a measurable impact on both energy efficiency and fuel substitution adoption. Achievable potential for energy efficiency equipment increases when accounting for the IRA, and fuel substitution potential on an electric energy basis increases significantly in Scenarios 2, 3 and 4. IRA tax credits have the primary impact of making more measures cost-effective, and the provision for additional eligible tax credits for residential heat pumps and heat pump water heaters represent the primary driver of increased potential across sectors for fuel substitution between Scenario 1 and the remaining three IRA-inclusive scenarios.

3. Questions to be Addressed in Comments

Parties are invited to comment on any and all aspects of the draft study; at minimum, we seek responses to the following specific questions:

1. Commission staff proposed four scenarios that attempt to capture a reasonable range of energy efficiency potential for 2024-2034. Which scenario – either in the draft study or an alternative recommendation – is most appropriate to inform 2024–2034 goals? Please justify your recommendation.

2. The federal IRA, which includes provisions for tax credits to reduce the cost of purchasing energy efficient equipment in both residential and non-residential premises, was passed into law in August 2022.
 - a. Should a scenario that includes the impact of the IRA be selected for the energy efficiency goals? If so, which IRA scenario should be used and why?
 - b. What are the pros and cons of adopting the IRA Reference scenario?
 - c. What are the pros and cons of adopting the IRA Aggressive scenario?
3. What policy or implementation implications (*e.g.*, design/scope of evaluation studies) would need to be considered if a scenario inclusive of the IRA is chosen for energy efficiency goals?
4. Fuel substitution potential is modeled in two levels – “Reference FS” & “Aggressive FS” – which was accomplished by modifying two main levers: 1) adoption parameters (Awareness, Willingness, Sensitivity, Stock Turnover), and 2) incentive cap on incremental cost for measures.
 - a. Which fuel substitution sensitivity level is most appropriate to inform goals?
 - b. What are the pros and cons of adopting the Reference FS scenario?
 - c. What are the pros and cons of adopting the Aggressive FS scenario?
5. In 2022, the CARB published a state implementation plan (SIP) memo to propose a “zero-emission standard for space and water heaters,” which would ban the sale of natural gas-burning HVAC and water heating appliances starting in 2030. Do you agree with the way the 2023 Potential and Goals Study modeled the impact of this policy decision?

6. In March 2023, the Bay Area Air Quality Management District (BAAQMD) voted to adopt a ban on the sale of natural gas-powered water heaters and furnaces beginning in 2027. Should future cycles of the study model regionally specific, more aggressive policy decisions such as the BAAQMD's?
7. The installation of fuel substitution measures can require infrastructure upgrade costs on a customer's property – for example, a customer may need to upgrade their electrical panel to accommodate additional load from a heat pump water heater. Does the methodology the study uses reasonably estimate these costs?
8. Do you agree with the data assumptions and methodology used in the study? If not, please provide justification and indicate which alternative publicly available data sources should be used, and/or specific alternative methodological approaches.

IT IS SO RULED.

Dated April 17, 2023, at San Francisco, California.

/s/ VALERIE U. KAO

Valerie U. Kao

Administrative Law Judge

ATTACHMENT 1
2023 Energy Efficiency Potential
and Goals Study - Public Draft