ALJ /VUK/smt 4/23/2021

FILED
04/23/21
01:24 PM

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

Summary

This ruling invites comments on a consultant report for energy savings and total system benefit goals for energy efficiency program administrators (PAs) from 2022 to 2032. "Energy savings goals" refers to the amount of electricity and natural gas – measured in kilowatt hours (kWh), therms, and kilowatts (kW) – that PAs should achieve through their post-2021 energy efficiency portfolios; these goals are currently expressed as first-year net annual kWh, kW and therm metrics. "Total system benefit" refers to the net benefits to the electric and gas systems (*e.g.*, energy, capacity, greenhouse gas reductions), as calculated via the Commission's cost-effectiveness policies based on the Avoided Cost Calculator (ACC) benefits, of energy efficiency programs; "total system benefit" is expressed as a net present dollar value. The consultant report would revise fuel-specific energy savings goals adopted by the Commission in Decision (D.) 19-08-034, and estimate new goals related to total system benefit, which will guide PAs' future portfolio filings.

Comments will be due May 21, 2021 with reply comments due May 28, 2021.

1. Background

Public Utilities Code Sections 454.55 and 454.56(a) require the California Public Utilities Commission (Commission), 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-2021 energy efficiency goals using the draft "2021 Energy Efficiency Potential and Goals Study" (draft 2021 study) that Guidehouse has prepared for the Commission. The draft 2021 study is attached as Appendix A to this ruling.

The Commission, in D.19-08-034, adopted energy efficiency savings goals for 2020 and beyond, based on the 2019 Energy Efficiency Potential and Goals Study.[1] The draft 2021 study updates the energy savings potential forecasts of the 2019 study, with new savings estimates from fuel substitution, sensitivity analyses that assess possible impacts of demand response (DR)-enabled technologies, and the economic impacts of the COVID-19 pandemic. Throughout the development of the study, Commission staff and Guidehouse engaged stakeholders in a series of informal meetings through CEC's Demand Analysis Working Group. Stakeholders were invited to provide informal verbal and written comments on various methodological and data input questions for the study.

[1] The 2019 Energy Efficiency Potential and Goals Study was developed by Navigant Consulting, Inc. In October 2019, Guidehouse acquired Navigant Consulting, Inc.

For fuel substitution, the study compares eligible fuel substitution measures[2] with all possible energy efficiency measures in terms of source energy savings (technical potential) and cost-effectiveness (economic potential). The study then determines which fuel substitution measures save more than energy efficiency measures, and vice versa, and combines the savings from both sets of measures to determine overall potential.

For the DR-enabled technology sensitivity, the study assesses the cost-effectiveness of energy efficiency technologies that have DR co-benefits (*e.g.*, smart thermostats) using a theoretical approach that looks at program enrollment as representative of the relative interest in incentives (energy efficiency only vs. demand response only vs. combined energy efficiency and demand response). The core scenarios in the study do not consider these DR co-benefits.

For COVID-19 impact sensitivities, the study adjusts residential and some commercial building stock as well as customer adoption preferences for all residential and commercial customers, and then estimates savings with and without these adjustments to estimate the impact of COVID-19.

The study also includes results from optimization of the RESOLVE model used in the Commission's integrated resource planning (IRP) proceeding, using energy efficiency supply curves (*i.e.*, bundles of energy efficiency measures) developed through the energy efficiency potential methodology. The IRP is a planning roadmap to meet forecasted annual peak and energy demand, assuming an established reserve margin, through a combination of supply-side and demand-side resources. Like previous studies, the draft 2021 study runs a

[2] Eligible fuel substitution measures are those that reduce emissions and source energy.

set of scenarios for energy savings potential, but it also provides energy efficiency supply curves for IRP optimization and includes both results for side-by-side comparison.

The draft 2021 study includes three non-IRP scenarios that reflect varying assumptions regarding cost-effectiveness and adoption levers (*i.e.*, level of program engagement, incentive levels, and impacts of financing). Scenario 1 sets the cost-effectiveness screen (expressed as a total resource cost (TRC), result) to 1.0 and assumes a business-as-usual level of adoption. Scenario 2 differs from Scenario 1 only with respect to the cost-effectiveness screen, which is set at a TRC of 0.85 and Scenario 3 sets the cost-effectiveness screen to a TRC of 0.85 and assumes an aggressive level of adoption. The draft 2021 study refers to Scenario 2 as the reference scenario, which is staff's recommended scenario on which to base post-2021 goals, for reasons discussed below.

2. Overview of Draft 2021 Study Results

Based on the reference scenario, overall electric energy efficiency potential is comparable to or greater than the 2019 study results in 2022 and is moderately higher for the remainder of the study timeframe. First-year savings are driven to a great degree by behavioral, retro-commissioning, and operational programs (BROs), while savings from equipment rebates decline relative to the 2019 study. Overall gas energy efficiency potential in the reference scenario is also comparable to the 2019 study results in 2022 and 2023, and then also grows modestly for the remainder of the study timeframe, with similar trends in BROs and equipment rebate savings as for electric energy efficiency potential.

The study estimates program expenditures for resource programs. In terms of program expenditures, the reference scenario estimates approximately $300 million in 2022, compared to the 2019 study's estimate of $558 million, in

large part due to the lower forecast of equipment rebate savings. Program spending is estimated to increase to approximately $530 million in 2032, owing to growth in adoption and increasing electric avoided costs.

The portfolio TRC for all three scenarios is estimated, not including costs for non-resource programs, at or around 1.5 in 2022, compared to 1.27 in the 2019 study, and increasing to over 2.0 in 2032. Because of the higher portfolio TRC results, staff recommends setting a lower measure-level cost-effectiveness screen (0.85 TRC) for the reference scenario than was selected in the 2019 Study.

Estimated total system benefit is approximately $750 million in 2022 and increases more noticeably over time than first year energy savings, at least in part as a result of accounting for lifecycle savings. Because total system benefit accounts for lifecycle savings, the shorter-lived savings of BROs do not have as much of an impact as on the energy savings metrics.

Fuel substitution measures that passed the technical and economic screens consist mostly of residential heat pumps replacing heating and air conditioning in hot and dry climates in Southern California Edison Company's service territory. This measure had a TRC of approximately 0.85 and was included in Scenarios 2 and 3. Trends in long term electric avoided costs and gas avoided costs – namely, electric avoided costs increasing much more significantly than gas avoided costs – may pose a challenge to the economic potential of eligible fuel substitution measures.

The DR sensitivity analysis has a generally small impact on the entire portfolio, although it is certainly more pronounced for specific measures (*i.e.*, smart thermostats).

Impacts from COVID-19 are not estimated to significantly reduce energy savings potential – their effect results in less than a one percent impact on

fuel-specific goals in all three scenarios (and a slightly higher percent of total system benefit).

The draft 2021 study shows significantly lower results from IRP optimization than from Scenarios 1 through 3, likely as a result of energy efficiency "competing" with all other resources.

3. Questions to Be Addressed In Comments

Parties are invited to comment on any and all aspects of the draft 2021 study; however, at minimum, we seek responses to the following questions in parties' comments:

1. Commission staff proposed four scenarios that attempt to capture a reasonable range of energy efficiency potential for 2022-2032.
    a. Which scenario – either in the Guidehouse study or an alternative recommendation – is most appropriate to inform 2022–2032 goals? Please justify your recommendation.
    b. If you recommend the scenario based on IRP optimization for electricity, then which scenario (or other approach) should fuel substitution and natural gas energy efficiency be based on – and why?
2. D.19-08-009 specifies that we should subtract converted gas savings from fuel substitution measures and add those to electric savings goals, to set goals for fuel substitution. The draft 2021 study includes results that pre-assign fuel substitution potential to electric savings, as well as results that express fuel substitution savings in MM Therms reductions and GWh increases. Given that the study includes calculations that pre-assign forecasted fuel substitution savings to the electric sector and reductions to the gas sector, are there further steps that the Commission should consider when adopting goals?

3. The proposed decision issued on April 16, 2021 proposes to adopt total system benefit as the goals metric for energy efficiency resource portfolios beginning in 2024, and as an informational metric beginning in 2022. The study includes a methodology for calculating total system benefit and Appendix J.1.3 summarizes the definition of total system benefit as the "total net benefit that a measure provides to the electric and natural gas systems."

    a. Do you agree with this definition and the study's methodology for calculating total system benefit? If not, please identify an alternate definition and/or calculation methodology including inputs and data sources.

    b. For fuel substitution, the study uses a methodology that subtracts increased electric supply costs (using the marginal cost of supplying electric service, as estimated by the Avoided Cost Calculator) from gas and electric benefits to calculate total system benefit. Do you agree with the methodology used in the study to calculate total system benefit for fuel substitution? Why or why not? If you disagree, please provide an alternative calculation methodology.

4. Do the adjustments made to estimate COVID-19 impacts reflect an appropriate range of the pandemic's effects? Why or why not? Should these COVID-19 impacts be considered in goals adopted by the Commission – and if so, how?

5. 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.

6. Are there any other comments on the draft study?

IT IS RULED that:

Parties may file and serve comments on the draft 2021 study, and responsive to the questions in this ruling, no later than May 21, 2021. Parties may file and serve reply comments no later than May 28, 2021.

Dated April 23, 2021, at San Francisco, California.

/s/ VALERIE U KAO

Valerie U. Kao
Administrative Law Judge