

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Create a Consistent
Regulatory Framework for the Guidance, Planning, and
Evaluation of Integrated Distributed Energy Resources.

Rulemaking 14-10-003
(Filed October 2, 2014)

**COMMENTS OF THE INDEPENDENT ENERGY
PRODUCERS ASSOCIATION ON AN
INTERIM GHG ADDER**

**INDEPENDENT ENERGY PRODUCERS
ASSOCIATION**

Steven Kelly, Policy Director
1215 K Street, Suite 900
Sacramento, CA 95814
Telephone: (916) 448-9499
Facsimile: (916) 448-0182
Email: steven@iepa.com

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In compliance with the schedule set forth in the Administrative Law Judge’s Ruling issued April 3, 2017 (Ruling), the Independent Energy Producers Association (IEP) is pleased to respond to the questions posed in the Ruling and comment on the Energy Division Staff Proposal for an Interim GHG Adder (Staff Proposal).

IEP appreciates that the adoption of Senate Bill (SB) 32 (2016) coupled with SB 350 (2015) imposes some practical considerations on the Commission with regards to its energy efficiency (EE) programs.¹ As early as the year 2000, the Commission was directed by statute to identify and plan to achieve “maximum feasible cost-effective energy efficiency” savings.² The

¹ Senate Bill 32 (“California Global Solutions Act of 2006”) directs the California Air Resources Agency (“CARB”) to adopt rules and regulations to achieve the maximum technically feasible and cost-effective greenhouse gas emissions reductions to ensure that statewide greenhouse gas emission are reduced by at least 40 percent below the statewide greenhouse gas emission limit no later than December 31, 2030. Pursuant to SB 350, the California Energy Commission, in collaboration with the Public Utilities Commission and local publicly owned electric utilities, shall establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas final end uses of retail customers by January 1, 2030. [Public Resources Code Section 25310(c)(1).]

² Assembly Bill 970 (2000) added Public Utilities (PU) Code Section 399.15(b), since superseded, which directed the Commission, in consultation with the California Energy Commission to “adopt energy conservation demand-side management and other initiatives in order to reduce demand for electricity and

SB 350 policy objective to double EE savings, i.e. double that which was achieved under the existing maximum feasible cost-effective EE standard in place since 2000, implies a conundrum: the Commission heretofore has been acquiring all cost-effective EE savings, and now the legislature wants the Commission to double the EE savings (as long as it is cost-effective). In this context, the proposed GHG Adder effectively represents additional “value” not heretofore identified or analyzed associated with avoided GHG emissions that result from EE investments. As a result of adopting the adder now, the Commission will enlarge the potential EE that will be identified in the upcoming EE Potential Study (due August 2017). In the intermediate and longer-term, the GHG Adder will rationalize investments in EE programs that heretofore may not have been determined as “cost-effective” per the statutes.

IEP is concerned that this proposal is premised on the perceived necessity of showing that doubling the EE potential savings is cost-effective, even if the investment in additional EE programs may not appear cost-effective when compared with alternative pathways to achieve the 2030 GHG emission reduction goals. The determination of the cost-effectiveness of resources is complicated and ought to be assessed in comprehensive manner. IEP is not convinced that expedited adoption of a GHG Adder, even on an interim basis, is in the best interests of the Commission or ratepayers.

Importantly, while SB 350 directed the Commission to identify all potentially achievable cost-effective electricity energy savings and establish efficiency targets for an electrical corporation to achieve the doubling of EE savings target as prescribed in subdivision (c) of Section 25310 of the Public Resources Code,³ the legislature also directed the Commission to be practical in its pursuit of this objective. For example, the legislature determined that *if* the

reduce load during peak demand periods. These initiatives included Section 399.15(b)(2), with an admonition “to ensure that these systems achieve the maximum feasible cost-effective energy efficiency.”

³ PU Code Section 454.55(a).

Commission concludes the targets established for electrical corporations established in Section 454.55(a) are not cost-effective, feasible, or pose potential adverse impacts to public health and safety, then, notwithstanding subdivision (c) of Public Resources Code Section 25310, the Commission *shall* revise the targets to the level that optimizes the amount of energy efficiency savings (emphasis added).⁴

As noted above, PU Code Section 454.55(b)(2) provides the Commission the flexibility to modify its targets if the targets cannot be achieved cost-effectively. As discussed below, IEP has a number of concerns regarding the staff's assumption and the implications of adopting the staff proposal for a GHG Adder (even on an interim basis).

Questions on the Staff Proposed Interim Greenhouse Gas Adder

- 1. The Staff Proposal states that the most recent update of the avoided cost calculator did not reflect the cost impacts of the 2030 greenhouse gas targets, which will result in decreasing the amount of cost-effective energy efficiency potential. Explain why you agree or disagree with this assertion. If you agree, explain why this justifies adopting an interim greenhouse gas adder.**

The Staff Proposal presumes that the recently updated Avoided Cost Calculator fails to adequately capture the cost of GHG emissions abatement. The Staff Proposal states that, while the recently updated Avoided Cost Calculator embeds the most recent (lower) forecast of natural gas fuel costs, it does not reflect the cost impacts of 2030 GHG targets now in state law. As a result, the Staff Proposal concludes that the existing Avoided Cost Calculator output reveals reduced amounts of cost-effective EE that could be deployed to realize the SB 32 (and presumably SB 350) goals. The Staff Proposal concludes that this may negatively impact EE

⁴ PU Code Section 454.55(b)(2).

program budgets (“if GHG goals are ignored, EE budget are likely to suffer large cuts, based on current cost-effectiveness restrictions”).⁵

The Staff Proposal would utilize the RESOLVE model to derive a GHG Adder that would be included in the Commission’s EE cost-effectiveness calculation in order to quantify how much energy efficiency is cost-effective and achievable in the coming years. As stated in the Staff Proposal, the necessity of using a higher GHG Adder in the current EE cost-effectiveness methodology is due to the fact that the current distributed energy resource (DER) cost-effectiveness tests include only the value of GHG allowances utilities are required to buy as part of AB 32 Cap-and-Trade (C&T) program for 2020 targets.⁶ The staff presumes that the near-term cost of GHG allowances is not representative of the cost of reducing GHG emissions to the levels required by SB 32 (IEP notes that the question of the appropriate cost of emission reduction abatement has been raised by a number of parties in response to the release of the staff proposal regarding a Societal Cost Test).

In response to the Question #1 posed in the Ruling, IEP is not in a position today to comment on whether the avoided cost model properly reflects the cost of meeting the 2030 GHG targets. This is a complex question and requires a comprehensive assessment of the avoided cost model overall, which has yet to occur. Moreover, Question #1 posed in the Ruling may not be the relevant question. The more relevant questions for the Commission to address are: (1) should the Commission expedite changes to the existing avoided cost calculator/cost-effectiveness test and in doing so limit its consideration to only one of the many factors that goes into a cost-effectiveness test so as to affect the upcoming EE Potential Study (which may have implications for the level of Commission EE program funding in the future); and, if so, (2) should the

⁵ Staff Proposal, p. 2.

⁶ Staff Proposal, p. 1.

Commission rely on estimates of marginal abatement costs from RESOLVE to determine the cost-effectiveness of EE (and potentially other resources)?

a) Should the Commission expedite changes in the Avoided Cost Calculator, while limiting its consideration to a single factor, in order to affect the EE Potential Study?

The revision of a single factor in the cost-effectiveness methodology on an expedited basis may have secondary and tertiary effects that need to be considered. In comments on the Staff Proposal regarding use of a Societal Cost Test to determine the cost-effectiveness of resources, parties voiced a number of concerns and opinions that warrant additional consideration. Absent further comprehensive study, IEP does not believe that the upcoming EE Potential Study warrants a change in a single, isolated factor of the EE cost-effectiveness test, even if the proposal is for an interim GHG Adder. If the recent update of the avoided cost calculator, presumably based on the best information compiled by the Commission at the time of its recent adoption, does not properly reflect the cost impacts of the 2030 greenhouse gas targets, then the Commission should undertake a comprehensive update of all the factors and discrete variables in the avoided cost calculator simultaneously, rather than simply update a single factor as proposed by the Staff Proposal.

b) Should the Commission rely on estimates of marginal abatement costs from RESOLVE to determine the cost-effectiveness of EE?

The staff proposes to use an estimate of marginal abatement costs from RESOLVE as a GHG Adder in the cost-effectiveness test. With regard to the methodology underlying RESOLVE, it is IEP's understanding that RESOLVE considers a limited range of options to reduce GHG, i.e., essentially adding more renewable energy to the system. In addition, the estimated adder (e.g. \$250/tonne) derives from a simulation that is designed to meet a very tight

electricity sector-specific cap. For both of these reasons, i.e., that the particular simulations on which the Staff Proposal is proposing to rely do not consider a broad range of GHG mitigation strategies and assume dramatic additional GHG reductions from the electricity sector, the \$250/tonne estimate from the simulations may overstate future marginal abatement costs. As a result, even assuming a GHG adder should be based on marginal abatement costs (an issue raised by parties in response to the staff's proposal for a Societal Cost Test), whether the estimate endorsed by the Staff Proposal represents a valid measure of marginal abatement costs is unclear. By utilizing a potentially inflated estimate of marginal abatement cost, however, the Staff Proposal would increase the scope/scale of cost-effective EE identified in the upcoming EE Potential Study.

IEP is concerned about the secondary and tertiary impacts of the Staff Proposal on long-term planning and, potentially, near-term EE programmatic budgets. Specifically, we are concerned that these impacts will occur irrespective of whether the EE potential identified by the Commission is actually cost-effective when compared to other resources that also displace GHG emissions (e.g., electrification of the transportation sector).

As noted above, SB 350 recognized the practical realities of doubling EE savings, and determined that if the Commission concludes the targets established for electrical corporations established in Section 454.55(a) are not cost effective or feasible, the Commission could adjust the targets. This provides the Commission the flexibility to fully consider what values should be included in or added to its existing cost-effectiveness tests, including values associated with a GHG Adder.

Importantly, the Commission need not act in an expedited manner, as recommended in the Staff Proposal, due to the impending release of the EE Potential Study in August 2017.

Simply put, the Staff Proposal seems to put the “cart before the horse.” Yet, to the extent that the Staff Proposal lead to higher estimates of Additional Achievable Energy Efficiency in long term planning than would otherwise occur, these estimates may obviate the opportunity to employ other GHG mitigation strategies such as clean generation. Moreover, to the extent that the assumed EE doesn’t materialize, attainment of the state’s GHG goals may be negatively impacted.

IEP stated in prior comments to the Commission that further research needs to be performed to fully understand the implications of the choices related to the consideration of environmental benefits and GHG adders in cost-effectiveness tests, including the Societal Cost Test.⁷ The latest Staff Proposal regarding an interim greenhouse gas adder reinforces our concerns and the necessity of further comprehensive analysis. Even though this step is proposed as an interim solution, once adopted, a precedent will be established. This is a concern.

2. The Staff Proposal recommends the use of a straight line function to the marginal abatement cost, as indicated by Energy Division’s preliminary Integrated Resource Plan model results, rather than the annual values produced by the same model. Explain why you do or do not support this recommendation.

The Staff Proposal would apply a straight-line function to the marginal abatement costs, beginning at a \$0/tonne value in 2020 and increasing to \$250/tonne value in 2030. This approach raises a number of concerns in regards to forecasting a resource’s cost-effectiveness over time.

First, these numbers need to be put in perspective. Assuming that the EE investment avoiding one tonne of GHG emissions displaced a thermal generating unit operating on the

⁷ Comments of the Independent Energy Producers Association on the ALJ Ruling Taking Comment on Staff Proposal Recommending a Societal Cost Test, p. 14 (submitted March 23, 2017); Reply of the Independent Energy Producers Association to Parties’ Comments on the Staff Proposal Recommending a Societal Cost Test, p. 5 (submitted April 6, 2017).

margin at a 7,000 heat rate,⁸ the proposed \$250/tonne GHG Adder translates into an electricity price valued at 9.2 cents per kWh or \$92.87/MWh.⁹ Effectively, this would be the value from an electricity price perspective of avoiding one tonne of carbon emissions from these units assuming they are on the margin. Whether 9.2 cents per kWh is reasonable is uncertain at this point, given the array of options to achieve similar carbon reductions. As a practical matter, in the context of realizing SB 32 GHG emission reduction goals, a tonne of GHG emission reductions is equivalent to a tonne of GHG emissions reduction. The critical question is how to realize a tonne of emissions reduction in the most cost-effective manner. Certainly, the Staff Proposal warrants a higher level of review, analysis, and scrutiny than has occurred to date in order to assess its reasonableness.

Second, the Staff Proposal argues that the GHG shadow price in RESOLVE currently does not reflect the cost of renewable energy contracts already in place.¹⁰ It is IEP's understanding that the staff proposes to correct for this situation by backcasting GHG abatement costs (beginning in 2030) to 2020, rather than using year-by-year RESOLVE marginal abatement costs. Setting aside the question as to whether the proper unit of analysis is marginal costs (versus embedded costs), IEP is concerned that the Staff Proposal would modify a single aspect of the RESOLVE model isolated from a review of all the other factors embedded in the RESOLVE model. Here again, it remains unclear what effect this has on modeling (and, hence, planning) outcomes. Accordingly, rather than adopt the Staff Proposal, the Commission should

⁸ IEP notes that the assumption that a thermal generating unit will be operating on the margin, particularly 100 percent of the time, is likely misplaced. Renewables are likely to be the marginal generating unit in significant hours over the course of a year.

⁹ IEP's calculation is based on the following: $117 \text{ lbs/MMBtu} * 7 \text{ MMBtu/MWh} * (1/2,204.62 \text{ t/lbs}) * \$250/\text{t} = \$92.87/\text{MWh}$.

¹⁰ Staff Proposal, p. 3.

undertake a comprehensive review of the RESOLVE model as well as the Avoided Cost Calculator to better inform its cost-effectiveness tests as a whole.

Third, more generally, IEP is concerned that in an effort to meet the extremely challenging goal of doubling EE savings by 2030, the Commission (or at least certain parties) may be tempted to manipulate the cost-effectiveness analyses to justify funding additional EE projects. The Interim GHG adder proposed by staff is based on marginal abatement cost. While not necessarily opposing this choice,¹¹ IEP believes that more analysis ought to be conducted prior to adopting the Staff Proposal. For example, it is not clear to IEP whether adopting a GHG Adder based on the marginal abatement cost risks triggering an upward spiral in the avoided cost calculation embedded in the cost-effectiveness test. Hypothetically, assume a statute is passed that directs the Commission to adopt a GHG emission reduction strategy for which the avoided tonne of GHG is determined to cost 27 cents per kWh (i.e., nearly three times the \$250/tonne abatement cost revealed in RESOLVE). Does this become the “avoided abatement” input into the cost-effectiveness test? If so, could this value, which is embedded in the cost-effectiveness test, ultimately be used to justify higher EE investment irrespective of whether that additional, incremental EE investment is actually cost-effective compared to alternative emission reduction strategies? Before adopting a GHG adder for use in the EE cost-effectiveness methodology, even on an interim basis as proposed by staff, the Commission should acquire more

¹¹ In prior comments, IEP supported use of the Marginal Abatement Cost approach when compared to the Damage Cost approach. See “Comments of IEP ... on Societal Cost Test,” p. 13 (submitted March 23, 2017). IEP continues to prefer the Marginal Abatement Cost approach to the Damage Cost approach. However, after reflecting on parties’ comments related to the Societal Cost Test, we have concerns regarding the potential secondary and tertiary affects of the Marginal Abatement Cost approach as noted.

understanding is required as to how the proposed GHG Adder affects the cost-effectiveness methodology and how the cost-effectiveness methodology will affect future EE investment.¹²

3. The Staff Proposal contends that the interim greenhouse gas adder is needed as soon as possible to inform the energy efficiency potential and goals study. Explain why you do or do not support this timeline.

While IEP appreciates that the EE Potential Study is due for release in August 2017, IEP is not convinced that now is the time to modify the inputs into that study absent a more comprehensive analysis of the cost of achieving future GHG goals. As noted in the Staff Proposal, due to quantifiable changes in market conditions now reflected in the Commission's modeling/cost-effectiveness tests (e.g., lower natural gas costs), the cost-effectiveness of EE investment is lowered and, thus, is likely to undermine the ability of the market to deliver DERs in the future.¹³ Yet, all resources are impacted in a similar manner. Absent a more comprehensive approach to updating all the key inputs, adjusting the Avoided Cost Calculator now in order to improve the cost-effectiveness of a single resource risks undermining the Commission's ability to deliver for ratepayers the desired resources in a truly cost-effective manner.

As a final comment in response to the Ruling, the Staff Proposal regarding "Distributed Energy Resources Cost Effectiveness Evaluation: Societal Cost Test, Greenhouse Gas Adder, and Greenhouse Gas Co-Benefits" (released December 2016) initially raised the policy issue as to what, if any, GHG Adder ought to be employed in DER cost-effectiveness tests. Parties' comments and reply comments were submitted on March 23 and April 6, 2017, respectively.

The Ruling seeking comment on the Staff Proposal regarding an Interim Greenhouse Gas Adder

¹² From IEP's perspective, how the RESOLVE model would address the determination of marginal abatement costs in situation such as described remains unclear. A workshop on how RESOLVE addresses the determination of marginal abatement costs would be informative.

¹³ Staff Proposal, p. 4.

was released before reply comments were filed and full consideration was given to this issue. IEP has presented a number of concerns with both Staff Proposals, as discussed in more detail above. However, if the Commission determines that expediting consideration of a GHG Adder in the context of EE is a necessity, then IEP strongly urges the Commission to clarify in its final decision that a determination with regards to a GHG Adder for purposes of assessing the future potential of cost-effective EE is not dispositive of what, if any, GHG Adder ought to be applied in any other context, including the next phase of the EE proceeding, the broader Integrated Distributed Energy Resources proceeding, the Renewables Portfolio Standard proceeding, and the Integrated Resource Planning proceeding.

Respectfully submitted April 17, 2017 at San Francisco, California.

INDEPENDENT ENERGY PRODUCERS
ASSOCIATION

Steven Kelly, Policy Director
1215 K Street, Suite 900
Sacramento, California 95814
Telephone: (916-448-9499)
Facsimile: (916-448-0182)
Email: steven@iepa.com

By /s/ Steven Kelly

Steven Kelly

Policy Director for Independent Energy Producers
Association