

October 1, 2009

Dr. Lawrence Goulder  
Chair, Economic and Allocation Advisory Committee  
California Air Resources Board  
1001 I Street  
Sacramento CA, 95814

Re: Southern California Edison Company's Comments to the Economic and Allocation Advisory Committee.

Dear Dr. Goulder,

Southern California Edison Company ("SCE") appreciates the opportunity to submit comments to the Economic and Allocation Advisory Committee ("EAAC") regarding its report to the California Air Resources Board ("CARB"). SCE recognizes the role that objective and high quality economic analysis must play in order for the State to develop an optimal approach to achieving its emission reduction goals. Additionally, it is crucial that California design its policies to facilitate compliance at the lowest possible cost. Allowances should be allocated with this goal in mind. Instead of extracting value from ratepayers and other regulated entities via an auction, allowances should be allocated in a manner that minimizes the economic burden of a cap-and-trade program. SCE's comments are focused on these two key areas: (1) the disposition of allowance value, and (2) the interaction between California's emission reduction efforts and broad policy instruments such as a federal cap-and-trade program.

A. **Allowance Value Should Be Allocated to Mitigate the Economic Burden of a Cap-and-Trade Program.**

Imposition of a greenhouse gas ("GHG") reduction program will cause some entities substantial economic harm. Other entities will not be affected and some will be positively affected. In order to most effectively achieve the State's emissions reduction goals, allowance allocation efforts should be based on mitigation of the economic harm caused by implementation of Assembly Bill ("AB") 32. Accordingly, SCE proposes that allowances be

allocated to those entities that experience economic harm due to the implementation of a GHG reduction program.

Economic harm is the difference in an entity's economic outcome under a cap-and-trade system as opposed to that entity's economic outcome under business as usual conditions. By identifying entities suffering economic harm and allocating allowances to such harmed entities, California can develop a cap-and-trade approach that produces emissions reductions at the lowest possible cost, and this cost will be borne equitably, as required by AB 32.<sup>1</sup> To do otherwise would mean that capital investments made prior to the enactment of AB 32 under law and rules that did not require pricing of GHG emissions may have to be prematurely abandoned. This would raise questions of equitable treatment,<sup>2</sup> as well as impose significant cost to the California economy. Distributing allowances on the basis of economic harm also ensures that windfall profits are not created because entities that have low GHG emissions, or that will receive increased revenue to offset their emissions costs, will receive allowances only to the extent they are harmed.

In the electricity sector, several parties will suffer the most economic harm due to a cap-and-trade program.

### 1. Independent generator economic harm.

First, independent generators will suffer economic harm. In the California Independent System Operator ("CAISO") wholesale electricity market, the marginal, or next most costly, generating unit sets the market clearing price. The market clearing price is the price paid to all generating units at a given point in time. Economic harm occurs when an independent generator has an emissions rate that is higher than the emissions rate of the marginal unit, which sets the market clearing price in this generator's market. In this case, the independent generator will incur emissions costs greater than the revenue received. The dollar value of economic harm

---

<sup>1</sup> See Cal. Health & Safety Code §§ 38562(a) ("[T]he state board shall adopt greenhouse gas emission limits and emission reduction measures by regulation to achieve the maximum technologically feasible and cost-effective reductions in greenhouse gas emissions."); 38562(b)(1) ("In adopting regulations . . . , the state board shall . . . [d]esign the regulations, including distribution of emissions allowances where appropriate, in manner that is equitable, seeks to minimize costs and maximize the total benefits to California, and encourages early action to reduce greenhouse gas emissions.") (emphasis added).

<sup>2</sup> AB 32 requires allowances to be distributed in an equitable manner. See Cal. Health & Safety Code § 38562(b)(1).

suffered by such generators will be determined by the difference in emissions rates between the generating unit's emissions and the market price-setting unit's emissions, multiplied by the price of emissions in the market, multiplied by the volume of power sold. In equation form this is expressed as:

$$(1) \quad \$_{IPP} = (E_{GEN} - E_{MKT}) \times P_{GHG} \times Q_{SOLD}$$

Where,

$\$_{IPP}$  is the economic harm suffered by an independent power producer ("IPP") selling into the market

$E_{GEN}$  is the generation unit's emissions rate

$E_{MKT}$  is the emissions rate of the marginal unit setting market prices

$P_{GHG}$  is the price of GHG emissions allowances as determined by the market clearing price from allowance trading; and

$Q_{SOLD}$  is the quantity of energy sold into the market by the IPP

Figure 1  
Illustration of Generator Burden

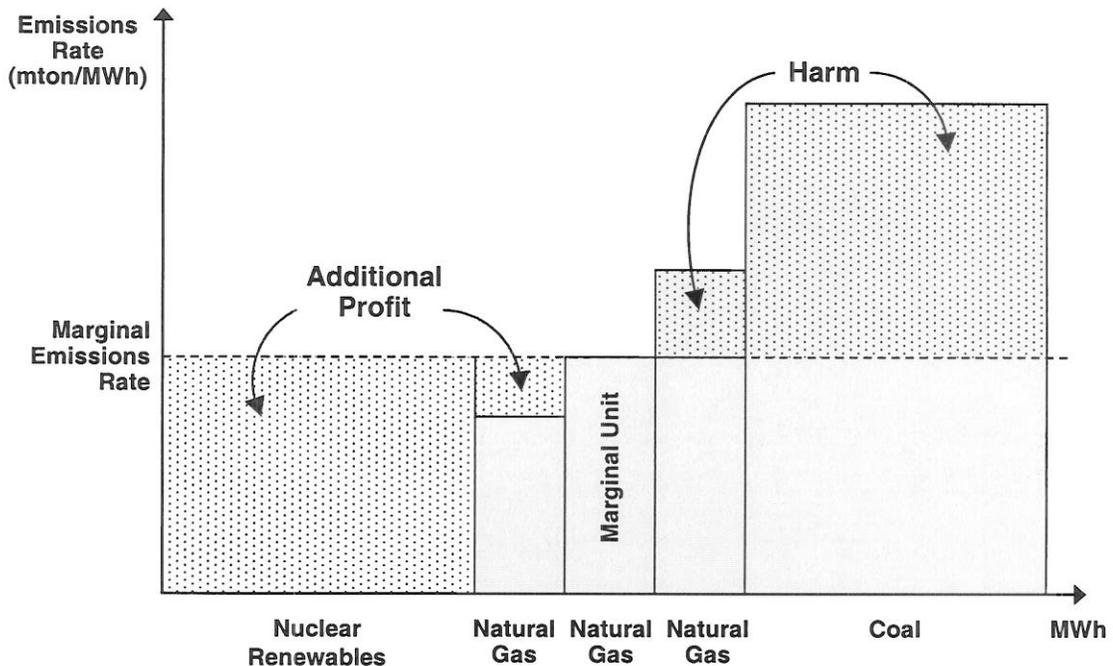


Figure 1 demonstrates the impact of a cap-and-trade program on independent generators. Note that generators with an emissions rate that is equal to or less than that of the marginal generating unit suffer no economic burden and as a result need no allowance allocation. The economic burden of their emissions obligations will be met by the higher price in the electricity market. However, those resources with a higher emissions rate than that of the marginal generating unit will incur an undue burden as a result of the cap-and-trade program and will need allowances to help mitigate this burden.

## 2. LSE ratepayer economic harm from market purchases.

Economic harm can also be suffered by an LSE (or its customers, typically, as the LSE passes on its costs to its customers in the form of higher rates) when the LSE purchases power from the market to meet its customers' needs, but the market price has increased as a result of GHG regulation.

A competitive electricity market will yield prices equal to the marginal cost of the last unit needed to clear the market. Absent GHG regulation, these marginal costs are typically determined by the generating unit's operating efficiency, fuel costs for this unit (typically natural gas for California), and any variable operations and maintenance costs incurred by operating the unit. As a result of GHG regulations, if the generating unit is responsible for acquiring allowances associated with its GHG output, then an additional marginal cost component will be the product of the marginal unit's GHG emissions rate and the market price of GHG allowances. This higher marginal cost will likely be reflected in market clearing prices. Thus, the economic harm suffered by an LSE purchasing from the market is the increased cost component related to GHG allowances reflected in market clearing prices. The magnitude of this economic harm can be expressed as:

$$(2) \quad \begin{aligned} \$_{MKT} &= (MC_{WITH} - MC_{WITHOUT}) \times Q_{PURCHASED} \\ &= E_{MKT} \times P_{GHG} \times Q_{PURCHASED} \end{aligned}$$

Where,

$\$_{MKT}$  is the economic harm suffered by an LSE buying power from the market

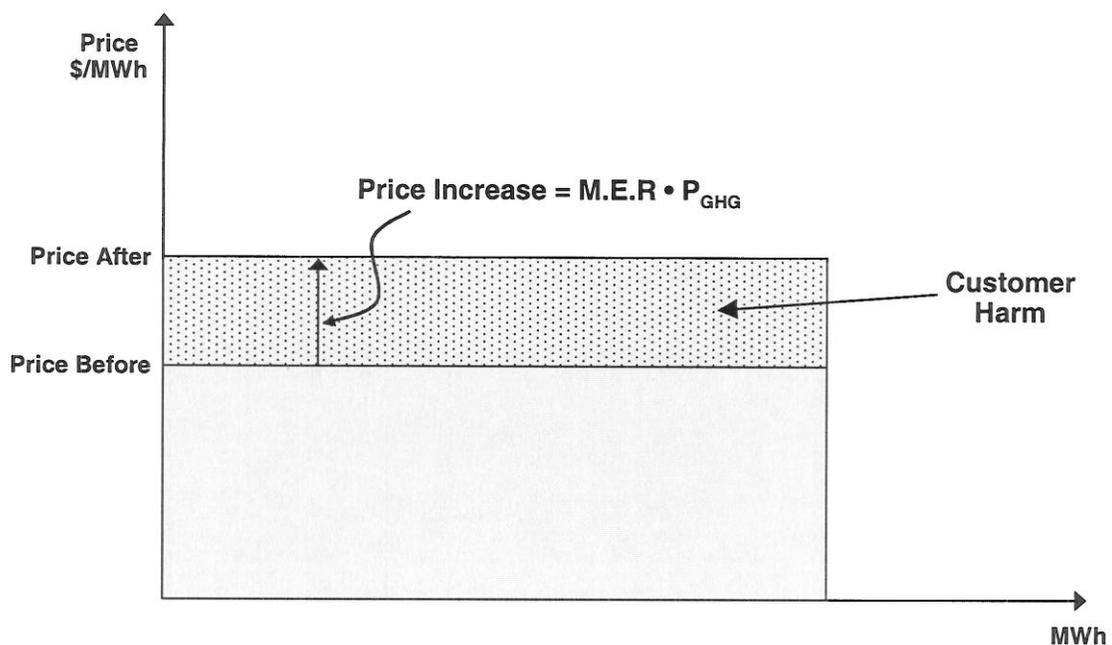
$MC_{WITH}$  is the marginal cost of the market with GHG rules in place

$MC_{WITHOUT}$  is the marginal cost of the market without GHG rules in place; and

$Q_{PURCHASED}$  is the quantity purchased from the market.

Figure 2 shows the LSE ratepayer economic burden that results from the implementation of a cap-and-trade program. Note that SCE supports allocating allowance value to LSEs for final disposition to ratepayers in a manner that protects the integrity of the carbon price. As a result, the allowance value provided to mitigate the economic burden realized by ratepayers should not be manifest in any volumetric way.

**FIGURE 2**  
Illustration of Ratepayer Burden



**B. California Policy Must Recognize the Potential Impact of a Federal Cap-and-Trade Program.**

1. **Reductions Mandated by California From Sectors Covered by a Federal Cap-and-Trade Program Will Not Reduce Atmospheric GHG Emissions.**

Given the current congressional debate over a nationwide cap-and-trade program, EAAC should consider the interplay between such a program and California's emissions reductions efforts. A federal cap-and-trade program implements a national cap on emissions and issues a number of allowances to match the emissions allowed under the federal cap. Regulated entities must retire allowances to match their emissions. Every ton of reduced emissions increases the number of allowances available for other regulated entities under the cap. As a result, a CARB regulation that imposes direct reductions on California entities also regulated by the federal cap-and-trade program will increase the number of allowances available for other regulated entities under the federal cap. By freeing up allowances that would otherwise be used by California entities, direct regulations imposed on California entities will simply transfer emissions from California to other states, but will not reduce national emissions. In effect, additional California-specific rules will only serve to increase the cost of compliance for the California economy while freeing up allowances for use by regulated entities in other states.

While national emissions would remain constant despite direct measures imposed on California entities, the relative cost and competitive balance between California and other states would change. By increasing the supply of allowances available to regulated entities outside California, the price for allowances will be lower than the price in a scenario in which California entities had demanded a greater quantity of allowances. This would only serve to reduce the cost of compliance for outside regulated entities that are not subject to the California-specific measures. SCE encourages the EAAC to include a full evaluation of the potential impact of a federal cap-and-trade program on the efficacy of California's efforts.

2. **A Cap-and-Trade Program Without Geographic Preferences Will Provide the Optimal Structure for Developing New Technology.**

A broad, multi-sector, national cap-and-trade program will allow abatement resources to be directed to those reduction activities that offer the most efficient abatement opportunities. SCE urges regulators to exercise caution in recommending regulations that would restrict the extent to which a market-based solution such as a cap-and-trade program, can help promote the most efficient abatement opportunities possible. For example, offsets can provide real emission

reductions and efficiently encourage technology. Indeed, both the Scoping Plan and the report of CARB's Market Advisory Committee support the use of offsets without geographic restrictions.

SCE encourages the EAAC to look to policies that will encourage the most efficient abatement technology possible, regardless of the geographic region in which the abatement activities occur.

**C. EAAC Should Continue to Press for an Updated, High-Quality Economic Analysis of the Cost of Implementing AB 32.**

The EAAC can act to provide the type of high-quality economic analysis and recommendations that will help California implement AB 32 at the lowest possible cost to the State. The economic analyses that drove CARB's Scoping Plan have recently been questioned; effective and efficient implementation of AB 32 requires the highest quality, most accurate economic analysis.<sup>3</sup> SCE encourages the EAAC to provide updated and improved economic analysis and to continue to review the analyses used by CARB going forward.

The EAAC should consider the impact that the allowance allocation mechanism can have on the cost of implementing a cap-and-trade program, particularly if allowance value is extracted from regulated entities via an auction. SCE appreciates the opportunity to comment on the current activities of the EAAC and looks forward to being able to work collaboratively with the EAAC, California regulators and other stakeholders to implement AB 32 in the most effective and efficient manner possible.

Best Regards,



Gary A. Stern, Ph.D  
Director – Market Strategy and Resource Planning  
(626) 302-9645

---

<sup>3</sup> *Peer Review of the Economic Modeling Analysis of the AB 32 Draft Scoping Plan, Major Peer Review Comments and Air Resource Board Staff Responses*, November 2008.