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

Order Instituting Rulemaking to Address Utility Cost and  
Revenue Issues Associated with Greenhouse Gas  
Emissions.

R. 11-03-012  
(Filed March 24, 2011)

**REVISED PROPOSAL OF THE NATURAL RESOURCES DEFENSE COUNCIL  
(NRDC) SIERRA CLUB CALIFORNIA, THE GREENLINING INSTITUTE  
(GREENLINING), UNION OF CONCERNED SCIENTISTS (UCS), LOCAL  
GOVERNMENT SUSTAINABLE ENERGY COALITION (LGSEC), NATIONAL  
CONSUMER LAW CENTER (NCLC), CLIMATE PROTECTION CAMPAIGN (CPC),  
CALIFORNIA HOUSING PARTNERSHIP CORPORATION (CHPC), AND  
COMMUNITY ENVIRONMENTAL COUNCIL TO ALLOCATE GREENHOUSE GAS  
ALLOWANCE REVENUES**

January 6, 2012

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Exhibit 2: Climate Change, Extreme Heat, and Electricity Demand in California

Exhibit 3: Pie in the Sky? The Battle for Atmospheric Scarcity Rents

Exhibit 4: Cap and Dividend: How to Curb Global Warming While Protecting the Incomes of American Families

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## **1 Introduction**

Pursuant to Rule 1.1 and 1.10 of the California Public Utilities Commission's (Commission) Rules of Practice and Procedure, the Natural Resources Defense Council (NRDC), Sierra Club California (Sierra Club), Greenlining Institute, Union of Concerned Scientists (UCS), Local Government Sustainable Energy Coalition (LGSEC), National Consumer Law Center (NCLC), Climate Protection Campaign (CPC), California Housing Partnership Corporation (CHPC), and the Community Environmental Council (SBCEC) (collectively "Joint Parties") respectfully submit this revised proposal based on the "Assigned Commissioner and Administrative Law Judges' Joint Scoping Memo and Ruling" (Scoping Memo) dated September 1, 2011, the "Joint Administrative Law Judges' Ruling Adopting Modified Schedule" dated November 16, 2011, and the "Administrative Law Judges' Ruling Extending Deadline" dated December 28, 2011, to allocate revenues generated from the sale of emission allowances by the three investor-owned electric utilities (Utilities) subject to the jurisdiction of the Commission.

NRDC is a non-profit membership organization with nearly 100,000 members in California and has a longstanding interest in minimizing the societal costs of the reliable energy services that Californians demand.

Sierra Club is a national, California-based non-profit membership organization with 150,000 members in California, with an interest in increasing energy efficiency and renewable energy to reduce greenhouse gas emissions.

The Greenlining Institute is a national policy, organizing, and leadership institute working for racial and economic justice. The organization's mission is to empower communities of color and other disadvantaged groups through multi-ethnic economic and leadership development, civil rights, and anti-redlining activities.

The Union of Concerned Scientists (UCS) is a national, non-profit, membership organization with over 14,000 members in California and is devoted to building a healthier environment and a safer world through the use of rigorous scientific analysis, innovative thinking and committed citizen advocacy.

The Local Government Sustainable Energy Coalition (LGSEC) is the only statewide organization that formally represents the interests of local governments before California's

energy and environmental regulatory agencies. Members are leaders among local governments in energy efficiency, renewable energy, climate action planning, sustainability and related issues.<sup>1</sup>

The National Consumer Law Center (NCLC) was established in 1969 with the mission of advocating on behalf of low-income consumers in the economic marketplace. In addition to focusing on many other consumer issues, NCLC has long worked on a range of energy and utility issues, with the goal of ensuring that low-income households have access to essential utility services and to energy efficiency programs. NCLC actively participated in the public policy discussions around the Waxman-Markey bill and other climate change legislation that came before Congress, particularly on the issue of how to allocate sufficient revenues to low-income customers to address bill impacts and to mitigating the effects of climate change.

The Climate Protection Campaign (CPC) is a California-based non-profit organization which focuses on public policy that will significantly reduce greenhouse gas emissions through increasing energy efficiency, developing renewable energy and other means.

The California Housing Partnership Corporation (CHPC) is a statewide organization dedicated to assisting nonprofit and government housing agencies to create, acquire, green, and preserve housing affordable for lower-income households, while providing leadership on housing preservation policy and funding. CHPC is also the convener of the Green Rental home Energy Efficiency Network (GREEN), a coalition of over 35 organizations committed to increasing access to energy efficiency resources for very low income residents of multifamily rental properties in California and ensuring that publicly assisted properties serving the state's lowest income households receive an equitable distribution of these resources.

The Community Environmental Council is a member-supported environmental non-profit organization formed in Santa Barbara in 1970 and is the leading environmental organization in the Central Coast region of California. In 2004, the Council shifted its primary focus to energy and transportation issues and is spearheading a regional effort to wean Central Coast communities from fossil fuels, on a net basis, during the next two decades. The Council is almost unique in combining on the ground work on a number of energy and climate change-

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<sup>1</sup> The LGSEC is a statewide membership organization of cities, counties, associations and councils of government, special districts, and non-profit organizations that support government entities. Each of these organizations may have different views on elements of these comments, which were approved by the LGSEC's Board. A list of our members can be found at [www.lgsec.org](http://www.lgsec.org).



related issues with concurrent work on state and federal policy issues. The Council's state policy work is directly informed by experience with what has worked, or is likely to work, at the local level. More information on the Council and its energy programs may be found at [www.cecsb.org](http://www.cecsb.org).

The Joint Parties represent a wide and diverse array of interests pertinent to this proceeding, including a strong focus on environmental and consumer protection. We are mindful of the Commission's request for parties to work together to avoid duplication and leverage expertise in developing allocation proposals.<sup>2</sup> We are also mindful of the Commission's request for parties to submit revised proposals in sufficient detail to enable the proceeding to move forward productively.<sup>3</sup> With those principles in mind, we note where consensus was not possible among the Joint Parties on a specific component of the proposal rather than avoid the issue entirely.

We urge the Commission to consider this proceeding in the broader context of California's plan to transition to clean energy under AB 32. Revenues generated from the sale of emission allowances present a unique opportunity to both unlock additional clean energy solutions in the power sector and cushion the impact of carbon mitigation policies on utility customers in a manner that retains strong incentives to conserve energy. While the cap-and-trade program is set to begin auctioning allowances in 2012, which will require the Commission to resolve this proceeding in a timely manner, we ask that the Commission consider allocation proposals with the long-term benefits of utility customers in mind. An approach focused exclusively on short-term viability will forego opportunities to maximize the benefits of allowance revenues for customers over the long-run.

Through a unique partnership among state agencies, local governments, the Utilities and the private sector, California's groundbreaking climate policies have positioned the state as a global leader in developing clean energy solutions, and provided the state with a competitive advantage in fostering a vibrant clean energy economy and workforce. We encourage the Commission to apply the same forward-thinking in this proceeding.

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<sup>2</sup> R.11-03-012, "Assigned Commissioner and Administrative Law Judges' Joint Scoping Memo and Ruling," (Scoping Memo) at 12 (Sept. 1, 2011).

<sup>3</sup> Id.

## 2 Summary of Changes from Initial Proposal

Updates to our revised proposal are summarized as follows:

### ➤ Overall Allocation (p.19)

- In response to direction at the initial proposal workshop, we explain further our proposal that the Commission use the floor price in ARB's cap-and-trade rule as a benchmark to determine the total amount of revenue set aside for investment purposes and direct customer return.
  - First, we propose the Commission direct a portion of projected revenues *based on the floor price* to investment purposes 'off the top.' Because the total revenues available will ultimately depend on the auction clearing price, using the floor price as a benchmark will enable the Commission to know in advance the amount of revenue set aside for investment and plan accordingly.
  - Second, after the initial set aside for investment, we propose all *additional* allowance value *above* the floor price be set aside for direct customer return. This will provide a built-in cost containment mechanism to ensure that as allowance prices rise, the total revenue set aside to offset customer costs rises commensurately. Using a schedule of allowance prices that tracks current projections out to 2020, we estimate roughly 70% of allowance revenues would be made available for direct customer return under our proposal, mirroring closely the EAAC's recommended breakdown between investment and consumer relief.
- In light of our revised proposals for how to return revenues to individual customer classes (discussed below), we present a modified framework for how the Commission should allocate revenues amongst our recommended uses.
  - Step 1: Set aside a portion of revenues for investment in carbon mitigation activities under the approach described above and outlined in Section 6;
  - Step 2: Allocate revenues to EITE customers under the formula proposed in section 5.3.2; and
  - Step 3: Allocate all remaining revenues to residential customers.

### ➤ Direct Customer Return (p.22)

- Residential Customers (p.27)
  - In lieu of providing residential customers a menu of choices on how to receive their share of allowance revenues, as initially proposed, we recommend a simpler approach that provides all residential customers with a lump-sum

transfer to offset increased electricity costs and indirect costs from carbon pricing in the general economy.

- While we continue to support ways of engaging customers in the return of allowance revenues, we conclude the added cost and complexity of providing a range of options would likely outweigh any additional benefit.
  - We also recognize standard customer response rates could result in the default option emerging as the *de facto* choice for the majority of customers, furthering diminishing the benefits of providing customers greater choice.
  - Parties' to the Joint Proposal initially diverged on whether rebates provided to residential customers should vary in amount by indicators such as climate zone or remain uniform across households. Parties to the revised proposal arrived at consensus that the rebate amounts should vary by household, taking into account (to the extent possible) factors such as geographic location and heat source that factor significantly into households' electricity needs.
- EITE customers (p.29)
    - In line with ARB's intent and the Commission's objectives in this proceeding, we elaborate on our initial proposal to address indirect leakage risk and propose a framework to allocate revenues to customers identified by ARB as energy intensive and trade exposed (EITE).
    - We propose EITE customers receive direct rebates to cover indirect costs associated with electricity purchases based on their historical consumption, the leakage assistance factors developed by ARB, and the Utilities' forecast incremental rate impacts on EITE customers' rate schedules. By relying on historical usage patterns, the proposed methodology will retain stronger incentives for EITE customers to maximize efficient electricity consumption.
  - Other non-residential customers (p.23)
    - We propose the Commission set aside allowance revenues to mitigate costs on non-EITE, non-residential customers through targeted efficiency programs rather than direct rebates or rate credits. Absent leakage risk, we find no justification consistent with ARB's design principles underlying the cap-and-trade program to subsidize electricity costs to commercial and industrial customers.

➤ Rate and Bill Impacts (p.30)

- In support of our proposal to invest a significant share of allowance revenues in programs to reduce utility customers' electricity consumption, we draw attention to a recent study examining the impacts on utility customers in states participating in the Regional Greenhouse Gas Initiative (RGGI). The study found that while carbon pricing in the power market tends to increase electricity rates in the near term, electricity consumers overall – including households, businesses, and government users – enjoyed a net *reduction* in electricity bills as a result of investments in energy efficiency.

➤ Legal/Jurisdictional (p.33)

- Finally, we respond to a legal issue raised at the initial proposal workshop that the Commission lacks authority to invest allowance revenues in the manner we propose. As we explain, our investment proposal does not purport to create a separate research entity that would run afoul of AB 1338 or otherwise exceed the bounds of the Commission's authority. Rather, we propose the Commission direct a portion of allowance revenues to ramp up programmatic investments in areas that have long been within the Commission's jurisdictional purview.

➤ Investment Proposal (p.35)

- In support of our proposal to invest a significant share of allowance revenues in carbon mitigation strategies, we provide additional clarity on the proposed conceptual framework, suggested process, and strategic areas that the Commission should prioritize.
  - In light of some confusion as to the nature of our investment proposal, we have dropped the terminology used in the initial proposal of a "Carbon Trust." Although the term Carbon Trust was only intended as a shorthand reference to the concept of investing a portion of allowance revenues, it conveyed to many parties the idea of a separate entity or institute that would administer allowance revenues. As that is not our proposal, we have modified our language accordingly.
  - We also provide recommended next steps for the Commission to oversee allocating auction revenues for investment. Overall, we propose the Commission initiate a follow-up phase to this proceeding to develop an investment framework and direct funding amounts to specific program areas (and initiate a similar process in advance of each three-year compliance period under the cap-and-trade rule).
- We recommend the Commission prioritize investment in three broad categories: (1) expanding energy efficiency programs beyond the Commission's current portfolio, including developing innovative financing strategies to support emerging clean

energy technologies and implementation strategies; (2) expanding low and moderate energy efficiency programs; and (3) enabling better interconnection, integration and support for distributed renewable generation.

- Under each strategy, we highlight a series of carbon mitigation activities facing market barriers that auction revenues could help address, and identify opportunities to supplement current programs to capture additional, untapped energy savings.
- We also propose the Commission ensure that investments under each strategy are additional to programs and expenditures otherwise necessary to meet existing legal and regulatory requirements, prioritize investments in California's most impacted and disadvantaged communities and non-commercial entities that provide vital social services such as local governments, schools, universities, hospitals, federal and agencies, and community-based organizations.

### **3 Proposal Summary**

Our proposal is summarized as follows:

#### **3.1 Policy Objectives**

- We support the objectives the Commission has identified to guide parties' allocation proposals, and propose one additional objective that we believe rounds out the appropriate criteria on which to base allocation decisions – *proposals should facilitate customer understanding, engagement and support for California's climate programs.*
- We also encourage the Commission to assess proposals against the collective set of objectives identified in this proceeding, and ask the Commission to prioritize proposals that advance a greater number of objectives over those that address only a select few.

#### **3.2 Overall Allocation**

- We urge the Commission to devote a substantial share of allowance revenues to ramp up investments in new and existing programs and technologies designed to target barriers in the market for low carbon solutions that pricing carbon will not overcome. To make good on California's long-term climate objectives at least cost, it will be imperative that we achieve the Commission's ambitious goals for energy efficiency and distributed generation, and which will substantially reduce energy costs for utility customers across sectors in the long-run
- We propose the Commission use the Auction Reserve Price ('floor price') schedule in the Air Resources Board's (ARB) proposed cap-and-trade rule as a benchmark to determine the

minimum total amount of allowance revenues to allocate for investment.<sup>4</sup> Following this apportionment, the Joint Proposal calls for the Commission to allocate all additional allowance revenues directly to customers (which we forecast will constitute the majority of revenues over the course of the program).

### **3.3 Direct Return to Customers**

- Following the initial allocation for investment (step 1), we propose the Commission return revenues to customers who ARB has categorized as energy-intensive and trade-exposed (EITE) to address indirect emissions from electricity purchases (step 2). We propose the allocation take the form of rebates tied to historical electricity consumption, ARB's leakage assistance factors, and the Utilities' forecast incremental rate impacts on EITE customers' rate schedules. We propose the Commission mitigate cost impacts on non-residential, non-EITE customers through targeted efficiency programs rather than direct subsidy.
- At step 3, we propose the Commission return all remaining revenues to residential customers (including low income households) in the form of a separate off-bill rebate, varying in amount to take into account (to the extent possible) factors such as geographic location and heat source that factor significantly into households' electricity needs.

### **3.4 Investment in Carbon Mitigation Activities**

- We propose the Commission set aside allowance revenues in each year of the program to make targeted investments in clean energy programs and technologies designed to overcome existing market barriers to carbon mitigation solutions. We recommend the Commission prioritize investment in three broad categories: (1) expanding energy efficiency programs beyond the Commission's current portfolio, including developing innovative financing strategies to support emerging clean energy technologies and implementation strategies; (2) expanding low and moderate energy efficiency programs; and (3) enabling better interconnection, integration and support for distributed renewable generation.
- In collaboration with local governments and community-based organizations, programs funded with allowance revenues would be made available to all utility customers, including Community Choice Aggregator (CCA), Direct Access (DA) and commercial/industrial customers, and would prioritize opportunities in California's most impacted and disadvantaged and provide vital social services such as local governments, schools, universities, hospitals, federal and agencies, and community-based organizations.

We present our modified proposal under the structure suggested by the Commission for the first track of this proceeding.<sup>5</sup> Section 4 begins with a discussion of the policy objectives the Commission should consider when evaluating proposals, including how the Commission should

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<sup>4</sup> Sierra Club California proposes the Commission allocate additional allowance value for investment based on the market price.

<sup>5</sup> Scoping Memo at 12-13.

evaluate and compare proposals against the relevant objectives. Section 5 then outlines the details of our proposal, including the apportionment of allowance revenues between investment and direct customer return (section 5.2), prioritization and form of direct return by customer class (section 5.3), rate and bill impacts (section 5.4), and legal and jurisdictional issues (section 5.5). Section 6 outlines our rationale for investing allowance revenues, identifies priority investment strategies and opportunities, and recommends next steps for the Commission to implement an investment program. Section 7 weighs our proposal against the Commission’s policy objectives. Finally, Section 8 assesses how our proposal comports with guidance from ARB and past Commission decisions regarding allowance revenues.

## **4 Policy Objectives**

### **4.1 The Commission Should Evaluate Proposals to the Extent They Facilitate Customer Understanding, Engagement and Support for California’s Climate Programs**

We strongly support the seven objectives identified by the Commission, which we feel comprise essential criteria the Commission must consider in evaluating allocation proposals. In addition to the objectives identified by the Commission, we ask the Commission to consider one final objective: to compare and evaluate proposals to the extent they facilitate customer understanding, engagement and support for California’s climate programs. We believe this objective encompasses two additional considerations that are not fully captured in the Commission’s seven objectives.

First, including this objective would put greater emphasis on the degree to which an allocation proposal engages with and communicates to customers the role and benefits of allowance revenues as part of California’s comprehensive package of policies to address climate change. The Commission has recognized the importance of communicating the challenges posed by climate change and the connection to customers’ energy usage through the return of allowance revenue.<sup>6</sup> We ask the Commission go one step further and recognize the importance of communicating to customers the *benefits* of California’s climate policies, both in the form of direct return of allowance revenues and investments funded with allowance revenues. As ARB

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<sup>6</sup> Scoping Memo, Appendix A, at A-10 (recognizing the unique “opportunity the use of allowance revenues offers to further general [public] understanding of the nature of climate change and the role of consumer’ energy choices therein.”).

Chair Mary Nichols has noted, the ultimate success of AB 32 is contingent on the extent to which consumers see and realize demonstrable benefits of the program.<sup>7</sup>

We see tremendous opportunity to communicate the benefits of the program to consumers through the return of allowance revenues, which will play an integral part in shaping public reaction to the program. For this to occur, however, the benefits must be visible and understandable. If allowance revenues are returned to customers through rate credits, as currently proposed by the Utilities, the vast majority of customers will be left entirely in the dark, both to the program writ large and the benefits of allowance revenues. Marketing efforts might help raise awareness, but if bill relief measures are detached from any requirement of customer action or any tangible benefit, we feel that such efforts would largely go unnoticed. On the other hand, engaging customers in the process by providing separate rebates, matched up with educational materials explaining the program and identifying energy and conservation opportunities, we feel will promote better understanding of climate change and how customers' energy choices can help reach the targets of AB 32.

To encourage broad public support and engagement with California's climate programs, we also submit that the Commission must ensure all residential customers share in the benefits of allowance revenues. Returning allowance revenues to only certain residential customers will undermine the public's reception of the program, particularly when the Commission had identified (in Objective #3) the importance of recognizing that allowance revenues constitute a public asset.

Coupled with the seven objectives the Commission has already identified, we believe adding this additional objective will provide the Commission the right set of criteria on which to base allocation decisions.

#### **4.2 The Commission Should Evaluate Proposals Against the Full Set of Policy Objectives, With Priority Given to Proposals that Advance the Most Objectives**

We submit that proposals should be evaluated against the full array of objectives identified by the Commission. In our view, many of the Commission-identified objectives represent prerequisites that any proposal must achieve to be considered by the Commission.

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<sup>7</sup> Mary Nichols, California Air Resources Board Chairman, "AB 32: Delivering on the Promise," prepared remarks at the California Independent System Operator Stakeholders Symposium (Sept. 7, 2011), available at: [http://www.arb.ca.gov/newsrel/2011/11\\_9\\_7\\_nichols.pdf](http://www.arb.ca.gov/newsrel/2011/11_9_7_nichols.pdf).



These objectives reflect Commission precedent or are called out specifically in the language of AB 32 or ARB's cap-and-trade rule. Objective 1 (preserve the carbon price signal), for example, is the product of past Commission guidance on allowance revenues and mirrors the conclusion of every expert body that has considered the question of how to allocate allowance revenues from California's cap-and-trade program.<sup>8</sup> Similarly, Objective 6 (maintain competitive neutrality across load serving entities) is required by ARB's proposed cap-and-trade rule,<sup>9</sup> while Objective 2 (prevent economic leakage) and Objective 4 (reduce adverse impacts on low income households) are addressed specifically in the language of AB 32.<sup>10</sup>

The remaining three Commission-identified objectives – Objective 3 (distribute revenues equitably recognizing the public asset nature of the atmospheric carbon sink), Objective 5 (correct for market failures that lead to underinvestment in carbon mitigation activities and technologies), and Objective 7 (achieve administrative simplicity and understanding) – and the additional objective we propose (facilitate customer understanding, engagement and support for California's climate programs), while not required by law or prior Commission mandate, similarly embody key objectives that every allocation methodology should advance. Returning allowance revenues equitably and in a manner that facilitates customer understanding of the program (both the reasons behind it and its benefits), will be critical to the success of this proceeding and California's broader climate initiatives. Likewise, the ability of California to make good on its long-term climate objectives at least cost will be contingent on overcoming market barriers and market failures in carbon mitigation activities. As we discuss in detail in Section 6, allowance revenues provide a unique opportunity to make strategic investments in programs and technologies to reduce emissions that pricing effects alone will not achieve, and which will be essential to provide enduring bill relief to customers in a carbon-constrained economy.

Accordingly, we urge the Commission to prioritize proposals that credibly advance each objective over proposals that address only a select few. In particular, we advise the Commission to reject proposals that achieve certain objectives at the expense of others. For example, we urge

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<sup>8</sup> See Section 5 below.

<sup>9</sup> ARB, "Proposed California Cap On Greenhouse Gas Emissions And Market-Based Compliance Mechanisms Regulation, Including Compliance Offset Protocols," § 95892(d)(4), available at: <http://www.arb.ca.gov/regact/2010/capandtrade10/2ndmodreg.pdf>.

<sup>10</sup> Cal. Health & Safety Code §§ 38562(b)(2), 38562(b)(8). For these two objectives, however, we suggest the appropriate inquiry is not so much whether preventing economic leakage or reducing adverse impacts are important objectives, but whether leakage and/or adverse impacts are likely to occur.

the Commission to reject relatively simple proposals that can maintain competitive neutrality across load serving entities, but which do not preserve the price signal, return allowance revenues to low income households, or correct for market failures. At this stage, it is premature for the Commission to conclude it must forsake certain objectives to accomplish others. Each objective reflects an important component of a well-designed plan to distribute allowance revenues. We ask the Commission to weigh and compare proposals to the extent they advance the collective set of objectives identified in this proceeding.

## **5 Joint Parties' Allocation Proposal**

Our proposal is designed with the Commission's objectives squarely in mind. We propose that the Commission set aside a substantial portion of allowance revenues each year for strategic investments in carbon mitigation programs and technologies, and return remaining revenues directly to customers in a manner that is visible, equitable, and which respects the incidence of carbon pricing in the economy.

### **5.1 Proposal Overview**

We propose that the Commission allocate allowance revenue according to the following general framework, described below and illustrated in Figure 1.

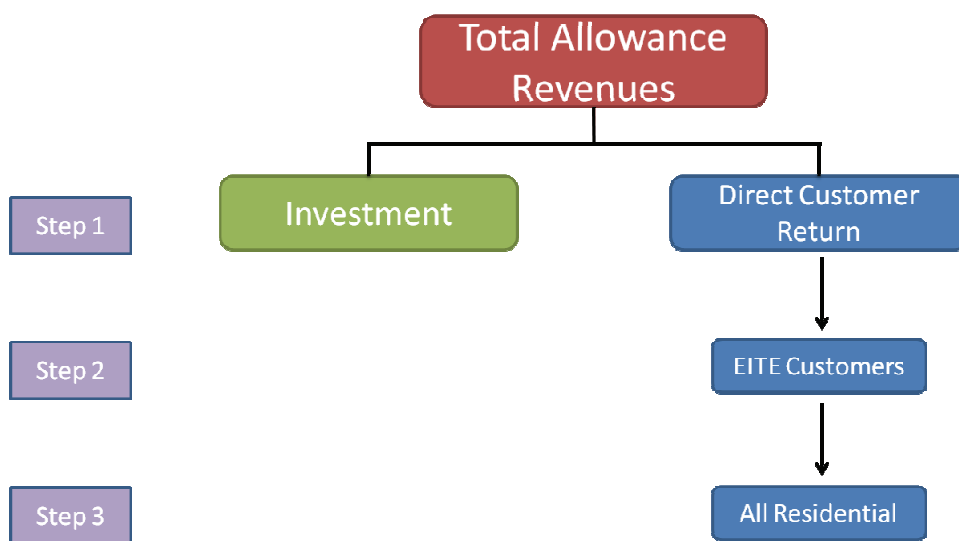
- Step 1: Allocate a portion of total allowance value each year to make targeted investments in programs and technologies to overcome existing market barriers to carbon mitigation solutions (advancing Objective #5).
  - Programs would be available to DA and CCA customers (advancing Objective #6), as well as commercial, government, non-profit and industrial customers;
  - Program delivery would work with local governments and community-based groups;
  - Programs would prioritize customers for whom electricity costs are a substantial portion of their income or revenues and providers of vital services such as non-profit hospitals, non-profit organizations that own/operate government assisted housing, schools and local and federal government sectors; and
  - Programs would include a focus on expanding current and developing new programs designed to address the unique set of barriers facing California's low income population (advancing Objective #4).<sup>11</sup>
- Step 2: Provide allowance revenues to EITE customers to account for increased electricity costs associated with the purchase of emission allowances (advancing Objective #2).

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<sup>11</sup> These barriers are examined in detail in Appendix A.

- EITE entities identified by ARB would be eligible to receive an additional rebate under a proposed formula that relies on ARB’s leakage assistance factors, the Utilities’ forecast incremental generation costs on EITE customers’ rate schedules, and each EITE entities’ past usage to retain strong incentives for future reductions in consumption.
- Step 3: Return all remaining revenues to residential customers to offset both direct costs in the form of higher electricity rates, and indirect costs in the form of higher prices for carbon-intensive goods and services (the incidence of which will largely fall on consumers).
  - Allowance revenues would be returned to residential customers (including CCA customers) through a separate, lump-sum transfer, adjusted per household (to the extent feasible) to address equity concerns resulting from differential rate impacts (advancing Objectives #1 and #6); and
  - Allowance revenues would be returned to *all* residential customers, including low income households, and in a manner not exclusively tied to consumption (advancing Objectives #3 and #4).

**Figure 1: Allocation Framework**



## 5.2 Step 1: Proposed Allocation of Allowance Revenues for Investment and Direct Return to Customers

This section outlines the methodology used to determine the initial allocation of allowance revenues dedicated for investment and allowance revenues available for direct return to customers. Section 5.3, below, outlines our proposal for allocating allowance revenues directly to EITE customers and residential customers.

At the outset, we propose that the Commission use the Auction Reserve Price schedule (commonly referred to as the “floor price”) in ARB’s proposed cap-and-trade regulation as the benchmark for apportioning allowance value between direct bill relief and investment. Using the floor price as a benchmark provides two key advantages. First, it will enable the Commission to know in advance the total amount of revenues that will be allocated to investment each year. As the floor price is predetermined in ARB’s final rule (starting at \$10/ton in 2013 and rising at 5% year plus inflation),<sup>12</sup> keying the total amount of revenues allocated for investment to the floor price will provide a stable and predictable funding stream to enable informed planning and smart program design. In contrast, relying on a fixed percentage of total revenues would pose challenges as the total amount of funding available would depend in large part on the auction clearing price. Second, using the floor price provides a built-in cost containment function to mitigate the direct impacts of carbon pricing in the power market. If allowance prices hover near the floor price, the cost burden on customers will be relatively minor, and a higher percentage of the overall allocation should be earmarked for investment. On other hand, should market prices rise above the floor price, the Joint Proposal calls for all additional allowance revenues to be returned directly to customers.<sup>13</sup>

Table 1 provides an overview and illustration of how this approach would work under a schedule of hypothetical market prices. As the table shows, if market prices deviate significantly from the floor price, the total percentage of allowance value directed towards bill rebates will rise accordingly. We believe this strikes the appropriate balance between dedicating a steady stream of funding for investment and ensuring sufficient allowance revenue is available to offset costs passed through to utility customers.

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<sup>12</sup> ARB, “Proposed California Cap On Greenhouse Gas Emissions And Market-Based Compliance Mechanisms Regulation, Including Compliance Offset Protocols,” § 95911(b)(6), available at: <http://www.arb.ca.gov/regact/2010/capandtrade10/2ndmodreg.pdf>.

<sup>13</sup> Sierra Club and LGSEC proposes that half of additional allowance revenues above the floor price be returned to customers, and half be set aside for investment.

**Table 1: Proposed Allocation of Allowance Revenues between Investment and Direct Customer Return**

<b>Proposed Allowance Value (AV) Allocation</b>	<b>(A) Total Allowances to Utilities (M)</b>	<b>(B) Floor Price (in ARB regulation)</b>	<b>(C) Market Price (Illustrative)</b>	<b>(D) Total AV (A) x (C) (\$M)</b>	<b>(E) Investment (%) of AV at Floor Price</b>	<b>(F) Investment (A) x (B) x (E) (\$M)*</b>	<b>(G) Direct Return (D)-(F) (\$M)</b>	<b>Total AV for Direct Return (G)/(D) (%)</b>
2013	64.6	\$10.00	\$15.00	\$969.00	75%	\$482.83	\$482.83	50%
2014	63.1	\$10.70	\$20.00	\$1,262.00	75%	\$505.20	\$753.86	60%
2015	62.0	\$11.45	\$25.00	\$1,550.00	75%	\$530.48	\$1,013.87	66%
2016	59.8	\$12.25	\$30.00	\$1,794.00	75%	\$548.16	\$1,241.76	69%
2017	57.6	\$13.11	\$35.00	\$2,016.00	75%	\$564.51	\$1,444.94	72%
2018	55.7	\$14.03	\$40.00	\$2,228.00	75%	\$583.63	\$1,634.98	74%
2019	54.5	\$15.01	\$45.00	\$2,452.50	75%	\$611.69	\$1,833.43	75%
2020	53.7	\$16.06	\$50.00	\$2,685.00	75%	\$643.60	\$2,028.06	76%
<b>TOTAL</b>	471.0	--	--	\$14,956.50	--	\$4,470.11	\$10,433.72	70%

\*Note: We propose that a marketing budget to communicate and administer a rebate program for residential customers come out of funds allocated for investment (expected to constitute a higher share in the early years).

While there is agreement amongst the Joint Parties on using the floor price as the mechanism to fix the apportionment of allowances between investment and direct customer return, there is a range of opinion among the parties on the percentage of revenues that should be dedicated to each end (in column (E)). NRDC, UCS, CHPC, LGSEC, the Community Environmental Council, and Sierra Club California<sup>14</sup> support a higher percentage in favor of investment to support early and sustained investments in carbon mitigation solutions and clean energy program, whereas NCLC, Greenlining, and CPC support a higher percentage towards direct customer return to ensure energy costs remain affordable, particularly for low-income customers, and to mitigate increases in the cost of other goods and services that will gradually occur as AB 32 is implemented. The proposed schedule in column (E) reflects a compromise position, although we wish to emphasize that every party to this proposal urges the Commission to set aside revenues for uses other than direct bill relief.

<sup>14</sup> Sierra Club California, LGSEC and the Community Environmental Council also propose that in addition to revenue at the floor price set aside for investment, at least 50 percent of the incremental revenue above the floor price also be allocated for investment. Given that the Commission has previously recognized that utility allowance value should further the purposes of AB 32,<sup>14</sup> increasing energy efficiency, decreasing the cost of and removing barriers to emerging technologies and renewable energy, and environmental justice communities.

### **5.3 Proposed Methodology to Return Allowance Revenues Directly to Customers**

Following the initial set aside of allowance revenues for investment (step 1), we propose the balance of revenues be directly returned to customers. From that remaining share, which we forecast will constitute the majority of allowance value over the course of the program (see Table 1 above), we propose that the Commission return allowance revenues to EITE customers to offset indirect emissions associated with electricity purchases (step 2) and all remaining revenues be made available to residential customers (step 3).

At step 2, we propose the Commission make revenues available to entities that ARB has classified as EITE in the cap-and-trade rule to prevent economic and emissions leakage (advancing Objective #2). As highlighted at the initial proposal workshop, returning allowance revenues to cover indirect emissions of EITE industries is consistent with ARB's intent in designing the cap-and-trade program. Our recommendation to return revenues to EITE customers ahead of residential customers is contingent, however, on the Commission adopting our proposed methodology (described in section 5.3.2 below), or a substantially similar framework, that ensures the total amount of revenues provided to EITE customers to offset indirect emissions does constitute a significant share of the total revenue allocation. Should the Commission adopt an alternate methodology that would provide significantly more revenues to EITE customers, we strongly recommend residential customers receive priority status.

At step 3, we propose the Commission return all remaining revenues to residential customers to offset both the direct costs in rates and indirect costs from carbon pricing in the general economy. As presented in Tables 3 & 4 below, we forecast the allocation remaining for residential customers under this approach will constitute the majority of total revenue allocations, and will be more than enough to offset the projected incremental costs of the cap-and-trade program on residential customers (calculated as the total projected incremental generation costs assigned to the residential sector under the Utilities' System Average Percentage Change (SAPC) methodology)<sup>15</sup> (see Table 2, below).

We believe it is appropriate to provide residential customers the bulk of allowance revenues as the burden of carbon pricing will largely fall on households, and disproportionately

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<sup>15</sup> "Joint Exhibit of Pacific Gas & Electric Company (U 39 E), Southern California Edison Company (U 338 E), and San Diego Gas & Electric Company (U 902 E) Pursuant to June 2, 2011 Administrative Law Judge's Ruling" (June 20, 2011).

on low-income households, who will bear the brunt of both the economic impacts of a carbon-constrained economy and the impacts of climate change (advancing Objective #4). Residential customers also have the only credible claim to an ownership interest in the atmospheric commons, and rightfully deserve precedence over commercial interests in allocating public revenues (advancing Objective #3). Returning allowance revenues off-bill will also preserve the carbon price signal in retail rates, consistent with ARB's intent in designing the cap-and-trade program (advancing Objective #1). Finally, we feel providing separate rebates will afford the Commission a better opportunity to communicate the program to customers, and enable the Commission to leverage existing demand side management (DSM) programs designed to overcome market barriers and provide sustainable bill relief to customers (advancing Objective #5).

In lieu of a direct subsidy, we propose the Commission provide relief to non-EITE, non-residential customers (prioritizing commercial entities that provide vital social services such as schools, universities, hospitals and federal, state and local government agencies, and nonprofit organizations that own/operate government assisted housing) through targeted efficiency programs. To send the right incentives to encourage emission reductions, the carbon price should be reflected in higher prices for carbon-intensive goods and services. Unlike EITE and residential customers, providing substantial allowance revenue to commercial and industrial customers would, in most instances, either undercut that price signal (if the revenues were used to dampen prices), or result in windfall profit (if the revenues were retained). Accordingly, we encourage the Commission to prioritize other uses of allowance revenues ahead of direct return to these customers.

Table 2 and Table 3 illustrate this approach for the residential sector allocation using the format offered by Pacific Gas & Electric Company (PG&E) in its June 20, 2011 Joint Exhibit.<sup>16</sup> Figure 2 provides a snapshot of the total revenue allocation under this approach, using the allowance price schedule in Table 1.

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<sup>16</sup> "Joint Exhibit of Pacific Gas & Electric Company (U 39 E), Southern California Edison Company (U 338 E), and San Diego Gas & Electric Company (U 902 E) Pursuant to June 2, 2011 Administrative Law Judge's Ruling," (June 20, 2011).

**Table 2: PG&E Allocation in 2013**

PG&E (2013)	Bundled SAP Allocation Factor	Additional Generation Costs	Total AV for Direct Customer Return
<b>TOTAL AV: \$373,620,000 (A)</b>		<b>\$315,073,746 (B)</b>	<b>\$186,810,000 (C)</b>
<b>Residential</b>	38.6%	\$121,618,466	<b>\$172,810,000 (E)</b>

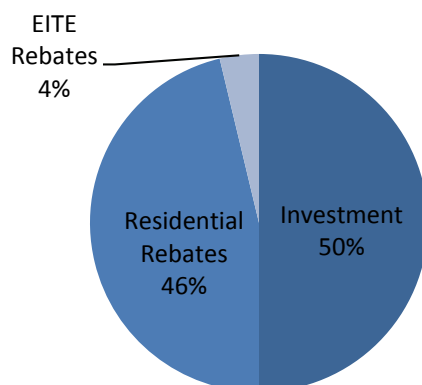
**Table 3: Direct Customer Return Proposal (PG&E, 2013)**

<b>Total Allowance Value in 2013 (PG&amp;E)</b>	<b>\$373,620,000 (A)</b>
<b>Total AV for Investment</b>	<b>\$186,810,000</b>
<b>Total AV Available for Direct Customer Return</b>	<b>\$186,810,000 (C)</b>
<b>Energy Intensive Trade Exposed (EITE)</b>	
· Allocation to EITE customers ( <i>forecast</i> )	<b>\$14,000,000 (D)</b>
<b>All Residential</b>	
· Total revenue available for rebates	<b>\$172,810,000 (E)</b>
· Number of households	4,627,002
· Avg. household dividend amount in 2013 <sup>1</sup>	\$37.35
· Range of rebates <sup>2</sup>	\$20 - \$60

<sup>1</sup>This represents the avg. rebate amount per household in 2013

<sup>2</sup>As discussed in Section 5.3.1 below, the Joint Parties propose the actual rebate amounts vary to better account for legitimate variation in energy needs among households throughout California

**Figure 2: Revenue Allocation Breakdown (illustrative) (PG&E, 2013)**





- (A) Denotes PG&E's total allowance value (AV) in 2013, calculated from PG&E's allowance allocation in 2013 under ARB's cap-and-trade final rule (25M),<sup>17</sup> multiplied by a hypothetical market price of \$15/ton.
- (B) Denotes the total forecasted incremental generation costs PG&E forecasts it will incur to procure generation on behalf of its customers as a result of the cap-and-trade program. The methodology we use is the same as that presented by the Utilities' in their June 20, 2011 filing (including a 10% offset in forecast generation costs to account for PG&E's DA and CCA customers), except in one respect. Under ARB's methodology for allocating allowances to the Utilities, ARB forecasts that each Utility will receive allowances in excess of their anticipated customer cost burden in each year of the program.<sup>18</sup> Through the sale of these allowances at auction, the Utilities will generate allowance value in excess of what they will require to fully offset any cost impacts on their retail customers. At a minimum, the Utilities should not include these allowances in computing their forecast generation costs, as they do not represent emissions that the Utilities will need to account for on behalf of their customers. Accordingly, our proposal subtracts each Utility's excess allowance allocation before calculating forecast incremental generation costs from the program.
- (C) Denotes the total amount of allowance revenue available for direct customer return to EITE and residential customers following the initial allocation for investment under the formula presented in Table 1 (note Tables 2-5 look only at costs and revenues from one Utility, PG&E, whereas Table 1 includes all three Utilities).
- (D) Denotes the total amount of allowance revenues allocated to EITE customers, which is calculated as the aggregate sum of each eligible customer's allocation (described in section 5.3.2 below). As the aggregate total reflects a rough projection at this time, the total allocation figure is presented only by means of illustration.
- (E) Denotes the amount of allowance revenue available for residential customers, who will receive all remaining revenues following the initial set aside for investment and EITE allocation.

The effect of using the floor price as the benchmark to allocate allowance revenues between investment and direct customer return becomes evident in comparing Tables 2 & 3 (which forecast costs/revenues in 2013) and Tables 4 & 5 (which forecast costs/revenues in 2015). As allowance prices rise over the course of the program, as we expect, allowance revenues will yield higher sums that can be made available for residential rebates.

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<sup>17</sup> ARB, "Final Regulation Order: California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms," Table 9-3, available at: <http://www.arb.ca.gov/regact/2010/capandtrade10/finalrevfro.pdf>.

<sup>18</sup> ARB, "Proposed California Cap On Greenhouse Gas Emissions And Market-Based Compliance Mechanisms Regulation, Including Compliance Offset Protocols," Appendix A: Staff Proposal for Allocating Allowances to the Electric Sector, p.12 (July 27, 2011), available at: <http://www.arb.ca.gov/regact/2010/capandtrade10/candtappa2.pdf>.

**Table 4: PG&E Allocation in 2015**

<b>PG&amp;E (2015)</b>	<b>Bundled SAP Allocation Factor</b>	<b>Additional Generation Costs</b>	<b>Total AV for Direct Customer Return</b>
<b>TOTAL AV: \$599,300,000 (A)</b>		<b>\$525,993,624 (B)</b>	<b>\$393,440,450 (C)</b>
<b>Residential</b>	38.6%	\$203,033,539	<b>\$ 379,440,450 (E)</b>

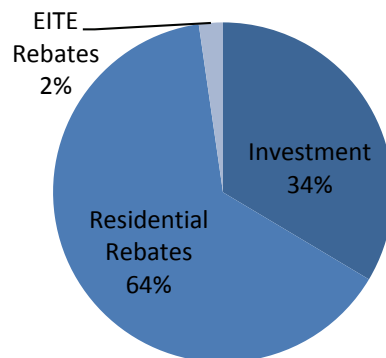
**Table 5: Direct Customer Return Proposed Hierarchy (PG&E, 2015)**

<b>Total Allowance Value in 2013 (PG&amp;E)</b>	<b>\$599,300,000 (A)</b>
<b>Total AV for Investment</b>	<b>\$205,860,000</b>
<b>Total AV Available for Direct Customer Return</b>	<b>\$ 393,440,450 (C)</b>
<b><i>Energy Intensive Trade Exposed (EITE)</i></b>	
· Allocation to EITE customers ( <i>forecast</i> )	<b>\$14,000,000 (D)</b>
<b><i>All Residential</i></b>	
· Total revenue available for rebates	<b>\$ 379,440,450 (E)</b>
· Number of households	4,627,002
· Avg. household rebate in 2015 <sup>1</sup>	\$82.01
· Range of rebates <sup>2</sup>	\$40 - \$120

<sup>1</sup>This represents the avg. rebate amount per household in 2015

<sup>2</sup>As discussed in Section 5.3.1 below, the Joint Parties propose the actual rebate amounts vary to better account for legitimate variation in energy needs among households throughout California

**Figure 3: Revenue Allocation Breakdown (illustrative) (PG&E, 2015)**



### 5.3.1 Proposal for Returning Allowance Revenues to Residential Customers

*Return allowance revenues through off-bill rebates, varying in amount in proportion to geographic and other factors that can normalize for legitimate variation in electricity usage*

We propose that the Commission return allowance revenues to residential customers in the form of an off-bill rebate, rather than through rates as proposed by the Utilities. Providing allowance revenue to customers outside of rates will preserve the carbon price signal at the retail level, advancing a fundamental objective of this proceeding (Objective #1) and in accordance with previous Commission policy on this issue (see Section 8 below). We also propose, to the extent feasible, the Commission provide rebates to residential customers in advance of forecast rate increases. For example, if the Utilities' forecast rate increases are set to go in effect January 1, 2013 (following final decisions in each of their respective 2012 EERRA proceedings), we propose the Commission return revenues collected from the two scheduled auctions in 2012 in advance of that date. The frequency with which residential customers should receive rebates will ultimately depend on a host of factors at issue in this proceeding, however, including how much revenue is set aside for residential bill relief, which households are eligible to receive a rebate, etc. Accordingly, we recommend the Commission consider the question of how often to provide rebates (i.e., monthly/annually, or periodically when revenues reach a predetermined amount) after deciding these other threshold issues.

We are mindful, however, of the variable rate impacts residential customers will experience depending on their consumption patterns due to certain legal restrictions (including SB 695).<sup>19</sup> We therefore recommend the Commission vary the rebate amounts per residential household in proportion to factors that correlate to higher electricity needs (e.g., by climate zone, heat source, etc.). Working with the Utilities, we are confident the Commission can develop a methodology – similar to the baseline allowances that determine residential tiers – to ensure households who may experience higher bill impacts despite meaningful efficiency and conservation efforts receive a proportionally larger refund. This can address the equity concerns highlighted by the Utilities without relying on a volumetric return that indiscriminately rewards end-use electricity consumption with a higher share of allowance revenues.

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<sup>19</sup> Codified at Cal. Pub. Util. Code §§ 739.1, 739.9.

We further recognize that communicating and marketing a rebate program to customers will take both time and money, yet as described above, we feel this education will be critical in any event to ensure the long-term success of the program and California's overall climate goals. As noted in Table 1, we propose the budget to market and implement a rebate program come out of the portion of allowance revenues set aside for investment. We also recognize there is a cost associated with providing cash rebates, and encourage the Commission to explore providing direct rebates through EFT cards, similar to those used today to access Social Security payments, which the Economic and Allocation Advisory Committee (EAAC) recommended as an option to lower administrative costs.<sup>20</sup>

Finally, while we appreciate that customers move in and out of Utility service territories, and providing periodic returns of allowance revenues may create difficulties for the Utilities in matching customer benefits and costs, we do not find these concerns insurmountable. For example, for customers that provide a forwarding address, the Utilities could provide a rebate check for any outstanding value that had accrued. For customers who do not, outstanding revenue would be allocated for investment (similar to the doctrine of *cy pres* in the context of class action settlements). We recognize the Utilities are uniquely situated to offer recommendations in this area and encourage their input on how to mitigate these concerns.

#### *Return allowance revenues to all residential customers, including CARE customers*

We propose that the Commission provide rebates to all residential customers, including low income households enrolled in the California Alternate Rates for Energy (CARE) program. As highlighted above, we recognize the limitations of apportioning costs from AB 32 programs in the residential sector imposed by SB 695. However, as we document in Appendix A, excluding CARE customers from allocation proposals ignores the indirect costs that low income households will disproportionately incur from carbon pricing in the general economy. In addition, by returning the bulk of allowance revenues to residential customers, residential customers that will face direct costs from the program (i.e., non-CARE, usage above Tier 2) will still have a substantial share of allowance value available for bill relief.

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<sup>20</sup> Economic and Allocation Advisory Committee (EAAC), "Allocating Emissions Allowances Under a California Cap-and-Trade Program: Recommendations to the California Air Resources Board and California Environmental Protection Agency," ("EAAC Report") p.58 (March 2010) (noting that "EFT is widely used by state and federal agencies to distribute recurring payments to individuals"), available at: [http://www.climatechange.ca.gov/eaac/documents/eaac\\_reports/2010-03-22\\_EAAC\\_Allocation\\_Report\\_Final.pdf](http://www.climatechange.ca.gov/eaac/documents/eaac_reports/2010-03-22_EAAC_Allocation_Report_Final.pdf).

Ultimately, we see tremendous opportunity to communicate the nature and benefits of this program and other clean energy initiatives through the return of allowance revenues, including leveraging existing and new DSM programs designed to provide enduring customer bill relief (e.g., information concerning those programs could be packaged with customers' rebates). In contrast, returning allowance value through rate reductions masks the design, intention and benefits of pricing carbon in the electricity sector, and fails to meet the Commission's objectives in this proceeding.

### 5.3.2 Proposal for Returning Allowance Revenues to Energy Intensive Trade Exposed (EITE) Customers

Following the set-aside of revenues to residential customers, we propose the Commission allocate revenues to commercial and industrial customers that ARB has determined face leakage risk under the cap-and-trade program. Unlike most commercial entities, leakage risk firms arguably may not be able to fully pass on the indirect costs of carbon pricing in the power market (in the form of higher electricity rates) that their out-of-state competitors will not face. As preventing economic and emissions leakage is a core objective of AB 32, we propose leakage-exposed utility customers receive allowance revenues to cover indirect emissions associated with electricity usage. To maintain consistency, however, the Commission should ensure its allocation to EITE customers tracks any updates ARB undertakes to its leakage analysis.<sup>21</sup>

We propose customers classified as EITE by ARB receive allowance revenues based on a formula that accounts for EITE customers' historical consumption, leakage assistance factors in ARB's cap-and-trade rule, and incremental rate impacts forecast by the Utilities on the customer class to which each EITE customer belongs. Specifically, we propose each EITE customer receive an annual rebate calculated as follows:

$$Rebate = U \times C_I \times AF$$

Where:

- $U$  = 90% of each EITE customers' average historical electrical usage (2009-2011);
- $C_I$  = the incremental generation cost forecast by the Utilities for the customer class applicable to each EITE customer; and

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<sup>21</sup> We are working with ARB to ensure the revised leakage risk assessment evaluates the relative costs of producing goods for the California market, which must take into account transportation costs and the costs of meeting California specifications.

- AF = the leakage assistance factor assigned to each industrial sector under ARB's cap-and-trade rule to which that EITE customer belongs. The leakage assistance factor for all EITE entities is 1.0 in the first compliance period of the cap-and-trade program, but declines to 0.75 in the second compliance period and 0.50 in the third compliance period (for medium leakage risk sectors) and 0.50 in the second compliance period and 0.30 in the third compliance period (for low leakage risk sectors).

By way of example, assuming an incremental generation cost of \$0.0044 in 2013, an EITE customer with an average annual historical consumption of 750,000 kWh would receive a rebate of \$2,970 for that compliance year [calculated as:  $(750,000) \times (0.9) \times (\$0.0044) \times (1.0) = \$2,970$ ]. Likewise, if EITE customers in PG&E's service territory consumed, in aggregate, an average of roughly 3.5 TWh from 2009-2011, the sector-wide allocation in 2013 under the formula proposed would total roughly \$14 million. For Direct Access (DA) customers that ARB has classified as EITE, we propose the Commission apply the same formula as if they were a bundled customer; i.e., use the same generation cost factor applicable to the customer class to which that DA customer would otherwise belong. By relying on historical usage patterns, the proposed methodology will retain strong incentives for EITE customers to maximize efficient electricity consumption. By adjusting rebate amounts in accordance with ARB's leakage assistance factors, the proposed methodology also respects the varying degree of leakage risk ARB identified for California's industrial sectors.

#### **5.4 Rate and Bill Impacts**

Using the information and format provided by the Utilities in their joint June 20, 2011 filing, we provide a snapshot of potential near-term rate impacts from implementing our proposal. We note, however, that the impacts below do not account for any additional efficiency and conservation efforts spurred through price signals or achieved through efficiency programs funded with allowance revenues. As numerous macroeconomic models of the impacts of carbon pricing confirm, any additional costs in the form of higher generation costs can be more than offset through stimulated demand-side reductions.<sup>22</sup> Indeed, this has been the experience to date

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<sup>22</sup> See, e.g., EAAC Report; ARB, "Updated Economic Analysis of California's Climate Change Scoping Plan: Staff Report to the Air Resources Board," (March 24, 2010), available at: [http://www.arb.ca.gov/cc/scopingplan/economics-sp/updated-analysis/updated\\_sp\\_analysis.pdf](http://www.arb.ca.gov/cc/scopingplan/economics-sp/updated-analysis/updated_sp_analysis.pdf); Center for Resource Solutions, "Climate Policy and Economic Growth in California:

of the northeast states who participate in RGGI. A recent study looking at the economic impacts of carbon pricing in the RGGI states found that:

Although CO2 allowances tend to increase electricity prices in the near term, there is also a lowering of prices over time because the states invested a substantial amount of the allowance proceeds on energy efficiency programs that reduce electricity consumption. After the early impacts of small electricity price increases, consumers gain because their overall electricity bills go down as a result of this investment in energy efficiency. All told, electricity consumers overall – households, businesses, government users, and others – enjoy a net gain of nearly \$1.1 billion, as their overall electric bills drop over time (emphasis added).<sup>23</sup>

The study further found that Massachusetts benefited the *most* economically of any of the RGGI states, because it used the bulk of its money to help fund aggressive energy efficiency programs.<sup>24</sup>

We also note that rate trends over the long-run will ultimately be determined by a host of factors. Transitioning to lower carbon generation will decrease our vulnerability to swings in fossil fuel prices, for example, that put significant upward pressure on rates.<sup>25</sup> Maintaining the carbon price signal and investing in additional energy efficiency programs will also spur additional demand-side reductions that avoid rate increases otherwise necessary to finance new generation. To provide some illustration, however, we incorporate our proposal into the framework presented by the Utilities. The range of impacts below use data provided by Southern California Edison (SCE) in its June 20, 2011 Joint Exhibit.

***Table 6: Incremental Tier 3-Tier 5 Residential Rate Impact: SCE (2013)***

<b>SCE's Non-CARE T3-T5 sales as portion of res sales</b>	40.00%
<b>Joint Proposal incremental T3-T5 rate impact</b>	\$0.01481

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A Comparative Analysis of Different Economic Impact Projections,” (Dec. 3, 2009), available at:

[http://www.resource-solutions.org/pub\\_pdfs/Climate%20Policy%20and%20Economic%20Growth%20in%20California.pdf](http://www.resource-solutions.org/pub_pdfs/Climate%20Policy%20and%20Economic%20Growth%20in%20California.pdf). David Roland-Holst, “Energy Efficiency, Innovation, and Job Creation in California,” (October 2008), available at: [http://www.next10.org/next10/pdf/report\\_eijc/UCB\\_Energy\\_Innovation\\_and\\_Job\\_Creation\\_10-20-08.pdf](http://www.next10.org/next10/pdf/report_eijc/UCB_Energy_Innovation_and_Job_Creation_10-20-08.pdf).

<sup>23</sup> Analysis Group, “the Economic Impacts of the Regional Greenhouse Gas Initiative on Ten Northeast and Mid-Atlantic States: Review of the Use of RGGI Auction Proceeds from the First Three-Year Compliance Period,” p. 4-5 (Nov. 2011), available at:

[http://www.analysisgroup.com/uploadedFiles/Publishing/Articles/Economic\\_Impact\\_RGGI\\_Report.pdf](http://www.analysisgroup.com/uploadedFiles/Publishing/Articles/Economic_Impact_RGGI_Report.pdf).

<sup>24</sup> Id.

<sup>25</sup> See, e.g., id. (finding RGGI reduced the region’s payments for fossil fuels by over \$765 million).

Because we propose to return allowance revenues outside of rates, and to all residential customers (not just customers outside the scope of SB 695), residential customers whose usage exceeds Tier 2 will experience an incremental rate impact under our proposal (as seen in Table 6). But from a customer welfare perspective, we propose to allocate more than enough revenues to offset the direct costs forecast by the Utilities' on the residential sector (see Table 2 and discussion above). As seen in table 7 below, applying rebates will mitigate the overall impacts of carbon pricing – both direct and indirect – on residential customers from our proposal.

**Table 7: Illustrative bill impacts for residential and small commercial customers**

<b>SCE (2013) Forecast Bill Impacts (using summer baselines)</b>	<b>Monthly Usage (in kWh)</b>	<b>Incremental Bill Impact</b>	<b>Annual Bill Impact</b>	<b>Bill Impact After Rebate<sup>1,2</sup></b>
<b>Example 1: low usage</b>				
<b>Tier 1</b>	310	--	--	
<b>Tier 2</b>	93	--	--	
<b>Tier 3</b>	97	\$1.44	\$17.23	
<b>Tier 4</b>	0	--	--	
<b>Tier 5</b>	0	--	--	
<b>TOTAL</b>	500	\$1.44	\$17.23	<b>\$(3.23)</b>
<b>Example 2: medium usage</b>				
<b>Tier 1</b>	310	--	--	
<b>Tier 2</b>	93	--	--	
<b>Tier 3</b>	217	\$3.21	\$38.56	
<b>Tier 4</b>	310	\$4.59	\$55.08	
<b>Tier 5</b>	70	\$1.04	\$12.44	
<b>TOTAL</b>	1000	\$8.84	\$106.07	<b>\$66.07</b>
<b>Example 3: high usage</b>				
<b>Tier 1</b>	310	--	--	
<b>Tier 2</b>	93	--	--	
<b>Tier 3</b>	217	\$3.21	\$38.56	
<b>Tier 4</b>	310	\$4.59	\$55.08	
<b>Tier 5</b>	570	\$8.44	\$101.28	
<b>TOTAL</b>	1500	\$16.24	\$194.91	<b>\$134.91</b>
<b>Small Commercial</b>				
	750	\$4.47	\$53.60	\$53.60
	1500	\$8.93	\$107.21	\$107.21
	3000	\$17.87	\$214.41	\$214.41

<sup>1</sup> Avg. annual rebate under our proposal per residential household in 2013 would be \$40.22



<sup>2</sup>Assuming rebate range of \$20-\$60 per household (with low user receiving rebate of \$20, medium user receiving rebate of \$40, and high user receiving rebate of \$60 in this scenario), and all revenues available for rebate. Actual rebate amounts under our proposal would not correspond directly to usage.

We reiterate, however, that the forecast impacts above do not account for any bill reductions achieved through improved efficiency, which is a cornerstone of our proposal (as discussed below in Section 6), and has been shown in the RGGI states to produce net *reductions* in customers' energy bills across all sectors over the long-run.

## **5.5 Legal and Procedural Concerns**

### **5.5.1 Need for Commission-Approved Accounts & Existing Statutory or Commission Mandates that May Affect/Limit Implementation of the Joint Proposal**

To set aside allowance revenues for investment, as proposed, the Commission will need to establish accounts for allowance revenues to accrue in following each quarterly auction planned under ARB's cap-and-trade rule. We do not foresee any significant obstacles in the Commission authorizing and creating such accounts. We likewise do not foresee any statutory or Commission mandates that would inhibit the Commission from adopting our proposal. Rather, as discussed in Section 8 below, our proposal is designed to advance existing Commission policy on this issue.

### **5.5.2 Jurisdictional Limitations**

We recognize the Commission must act within its constitutional and statutory authority in allocating allowance revenues, including the limitations imposed by AB 1338. We are not proposing that the Commission establish a separate institute or entity that would fall within the prohibition of AB 1338, however, or otherwise exceed the bounds of the Commission's legal authority. Rather, we are proposing the Commission direct a portion of revenues to expand current programs and develop new programs in areas that have long been within the purview of the Commission's constitutional and statutory mandate.

Passed as a budget trailer bill in 2008, AB 1338 packaged together an array of disparate provisions touching on issues ranging from pesticide regulation to fire code inspections to water quality studies. One such provision addressed the Commission's decision in D.08-04-039, as

modified by D.08-04-054, to establish the California Institute for Climate Solutions (CICS). In pertinent part, AB 1338 provides that the Commission “shall not adopt or execute an order, or collect any rate revenues, in Rulemaking 07-09-008 (Order Instituting Rulemaking to establish the California Institute for Climate Solutions), and shall not adopt or execute any similar order or decision establishing a research program for climate change unless expressly authorized to do so by statute.”<sup>26</sup> AB 1338 did not modify in any way the Commission’s prevailing statutory authority.

Following the Governor’s approval of AB 1338, the Commission vacated its earlier decision to establish the CICS.<sup>27</sup> The decision reinforced, however, the appropriate construction of AB 1338 as one narrowly focused on prohibiting the Commission from creating a separate entity or institute relating to climate change. Having considered the legislative history of AB 1338,<sup>28</sup> the Commission concluded, for example, that the “Legislature intended only to require that we seek legislative approval prior to establishing any specific climate institute; it did not intend to preclude us for authorizing R&D funds that may be tangentially related to climate change in our management of various other programs” (emphasis added).<sup>29</sup>

Similarly, AB 1338 does not preclude the Commission from investing allowance revenues to supplement carbon mitigation programs simply because they are tangentially related to climate change. As outlined in Section 6 below, each of the areas of investment we recommend build off and supplement existing Commission-approved programs designed to ensure affordable and reliable electricity service for utility customers.

## **6 The Commission Should Devote Allowance Revenues to Make Targeted Investments in Carbon Mitigation Activities**

It is imperative that California maintain a steady, reliable, and expanded funding stream to address systemic market barriers to implementing low-cost carbon mitigation strategies. Although the state has a long and successful track record in investing in energy R&D, emerging

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<sup>26</sup> AB 1338 (Approved Sept. 30, 2008), available at: [http://leginfo.public.ca.gov/pub/07-08/bill/asm/ab\\_1301-1350/ab\\_1338\\_bill\\_20080930\\_chaptered.html](http://leginfo.public.ca.gov/pub/07-08/bill/asm/ab_1301-1350/ab_1338_bill_20080930_chaptered.html).

<sup>27</sup> CPUC, D.08-11-060, “Order Vacating Decision (D.) 08-04-039, as Modified by D.08-04-054, and Dismissing the Applications for Rehearing of Decision,” available at: [http://docs.cpuc.ca.gov/published/final\\_decision/94538.htm](http://docs.cpuc.ca.gov/published/final_decision/94538.htm).

<sup>28</sup> See, e.g., Sen. Rules Comm., Off. Of Sen. Floor Analyses, 3d reading of AB 1338 (2008-2009 Reg. Sess.) as amended Sept. 15, 2008, p. 2.

<sup>29</sup> D.08-11-060.

technologies, and renewable energy and energy efficiency, significant barriers remain to achieving even greater energy and utility bill savings that carbon pricing alone will not accomplish. The Economic and Technology Advancement Advisory Committee (ETAAC), for instance, an expert body convened under AB 32 to advise ARB on clean energy investment and R&D opportunities, documented in its final report the many barriers facing commercialization and deployment of low and zero greenhouse gas (GHG) technologies (including cost and market barriers, information barriers, government barriers and industry structure and infrastructure barriers).<sup>30</sup>

Based on the funding allocation methodology described above, we propose allocating funds for investment strategies that target market barriers holding back clean energy solutions for utility electricity customers in three broad categories: (1) expanding energy efficiency programs beyond the Commission's current portfolio, including developing innovative financing strategies to support emerging clean energy technologies and implementation strategies; (2) expanding low and moderate energy efficiency programs; and (3) enabling better interconnection, integration and support for distributed renewable generation (retail and wholesale). As the program develops, we recommend the Commission explore additional areas that could benefit from allowance revenue and convene a process to solicit stakeholder input. Finally, we propose the Commission employ two overriding principles in investing revenues under each investment strategy, and prioritize investment funds for non-commercial entities that provide vital social services such as local governments, schools, universities, hospitals, nonprofit organizations that own/operate government assisted housing, federal and state agencies, and community-based organizations to deliver additional clean energy programs and more effectively communicate with customers.

## **6.1 Overriding Principles**

### **6.1.1 Ensure Allowance Revenue Investments Do Not Simply Displace Expenditures Required Under Existing Law**

In allocating allowance revenues for investment, the Commission must ensure that investments in new and existing programs are additional to expenditures that are otherwise

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<sup>30</sup> "Recommendation of the Economic and Technology Advancement and Advisory Committee (ETAAC): Final Report," (February 14, 2008), available at: <http://www.arb.ca.gov/cc/etaac/ETAACFinalReport2-11-08.pdf>.

required to meet existing legal and regulatory requirements. As the Air Board recommended in its resolution adopting the cap-and-trade regulation, investing allowance revenues in clean energy projects should go “*beyond those already required by California law...*”<sup>31</sup> Accordingly, allowance value should not be applied toward energy efficiency programs unless they exceed the Utilities’ obligations under the loading order (as described below); and any allowance value applied toward renewable energy programs must be above and beyond requirements in existing law, particularly the limitation for each Utility on procurement expenditures for the Renewable Portfolio Standard.<sup>32</sup>

#### 6.1.2 Target Investments in California’s Most Impacted and Disadvantaged Communities

AB 32 directs that public and private investments be devoted “where applicable and when feasible ... toward the most disadvantaged communities in CA.”<sup>33</sup> Programs funded with allowance revenues should therefore attempt to address the needs of disadvantaged communities. Allowance value can be used to help communities reduce GHG emissions and toxic air co-pollutants, minimize health impacts through improved efficiency, and improve environmental quality. Programmatic efforts should focus on planning and intervention in poor and minority neighborhoods. Such intervention should prioritize communities at risk of heat island effects, poor housing quality, and lack of access to transportation. Investments should also be directed to communities in close proximity to highways, ports, power plants, and other geographic locales where air quality is the worst in the state, and to local government programs that benefit these communities. The Commission should consider prioritizing communities using maps overlaid with vulnerability models that demonstrate geographical vulnerability to impacts such as excessive heat, particulate matter and ambient ozone, and socioeconomic data. This kind of research, planning, and intervention will maximize GHG reductions and mitigation of localized impacts of climate change and climate policy.

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<sup>31</sup> ARB Resolution 10-42, December 16, 2010, at 13 (emphasis added).

<sup>32</sup> Public Utilities Code Section 399.15(b)(9)(c).

<sup>33</sup> Cal Health & Safety Code § 38565.

## 6.2 Allowance Revenue Investment Strategies

### 6.2.1 Energy Efficiency Delivery and Financing Strategies under a Carbon Mitigation (AB 32) Framework

California's energy efficiency programs are underfunded relative to what is needed to meet AB 32's emission reduction goals. The Commission has adopted the California Energy Commission's mid-case scenario for uncommitted efficiency savings, and the low-case for the "Big Bold Energy Efficiency Strategies" over the next decade as required planning assumptions in the Long-Term Procurement Proceeding.<sup>34</sup> All three scenarios demonstrate a significant shortfall in the energy efficiency programs achieving the emission reduction targets adopted by the ARB in the Scoping Plan.<sup>35</sup> The Scoping Plan targeted a reduction of 32,000 GWh of savings. The CEC Report reduced the statewide uncommitted efficiency target to 22,000 GWh statewide, of which the Utilities' share is 16,500 GWh, reflecting their percentage of statewide electricity delivery.<sup>36</sup> The mid-case scenario for the Utilities, 12,200 GWh, is in turn, roughly three-quarters of the 16,500 GWh share of the reduced target. Given this 4,300 GWh or higher annual shortfall, a greater level of investment to expand existing and develop new programs is needed to achieve the targeted reductions for energy efficiency.

In addition, although the Utilities currently operate a large and comprehensive portfolio of energy efficiency programs, the current programs are designed under a resource procurement framework – i.e., the current funding levels and cost-effectiveness parameters are structured in comparison to the avoided cost of acquiring the marginal supply side alternative. We propose the Commission allocate allowance revenues to efficiency programs under a carbon mitigation framework, consistent with AB 32, which will shift emphasis to programs designed to achieve energy savings over a longer payback period (i.e., greater than the 20 year procurement time

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<sup>34</sup>CPUC, "Assigned Commissioner and Administrative Law Judge's Joint Scoping Memo and Ruling," R.10-05-006, Attachment 1, Standardized Planning Assumptions for System Resource Plans, Load and Resource Tables (December 3, 2010); CPUC, "Corrections to December 3, 2010 LTPP Scoping Memo," R.10-05-006, p. 10 (February 10, 2011).

<sup>35</sup> Electricity and Natural Gas Committee. *Incremental Impacts of Energy Policy Initiatives Relative to the 2009 Integrated Energy Policy Report Adopted Demand Forecast*. CEC-200-2009-001-CTF, page 4.

<sup>36</sup> When CARB developed the Scoping Plan, CARB relied on the 2007 IEPR demand forecast, whereas the CEC report relies on the 2009 IEPR demand forecast, which was subsequent to the current economic downturn. This resulted in a downward revision of the 2020 forecast less than the original by 10,000 GWh, which was credited toward the Scoping Plan's efficiency target, but the assumption that demand reductions from a down economy are true efficiency reductions, is flawed.

horizon), and compare opportunities to the marginal abatement cost of other emission reduction opportunities needed to meet the emissions reduction goals of AB 32.

#### *Existing Utility Energy Efficiency Programs*

California's investor-owned utilities (IOUs) currently administer efficiency program portfolios funded at roughly \$1 billion/year through 2012. There is an ongoing general efficiency proceeding at the Commission designed to address remaining policy issues and to provide program planning guidance for the next portfolio cycle, as well as a low income efficiency proceeding to address the particular needs of that customer segment.<sup>37</sup> The low income and general efficiency proceedings (in which many parties to this Joint Proposal are active) will require close coordination to ensure that the potential programs allowed under our proposal are not duplicative of current programs, but rather expand programs beyond the constraints faced by the guiding policy rules in those proceedings. Long term procurement planning<sup>38</sup> will also need a modest level of coordination, as the potential energy savings achieved by the expanded efficiency offerings through our proposal will need to be integrated into future utility procurement plans.

#### *Rationale for Additional Investment in Energy Efficiency*

Our proposal represents an enhanced efficiency strategy as it is based on a different policy objective that requires additional programs and expanded policy rules with a modified policy framework. The current policy objective of integrating all cost-effective energy efficiency into the utilities procurement process (as carried out by these and other proceedings at the Commission and guided by the current policy rules) is intended to level the playing field of procurement options by encouraging the Utilities to procure efficiency similar to other resource options. This ensures that efficiency is used as a resource consistent with the state's loading order, and avoids investments in more costly and dirtier conventional generation and infrastructure. However, when looking forward to meeting our ambitious AB 32 climate goals in 2050, deciding how best to invest in efficiency requires a much longer time horizon than the current procurement practices allow for and the current policy rules are set up to support (the

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<sup>37</sup> Post 2008 efficiency planning proceeding: R.09-11-014  
<http://docs.Commission.ca.gov/proceedings/R0911014.htm> and A.11-05-017 et al.  
<http://docs.cpuc.ca.gov/published/proceedings/A1105017.htm>

<sup>38</sup> Current LTPP proceeding: R.10-05-006 <http://docs.Commission.ca.gov/Published/proceedings/R1005006.htm>

cost-effectiveness methodology in particular).<sup>39</sup> Long-term, enduring solutions also depend heavily upon the awareness, engagement and culture of community and individual behavior. While it is critical to maintain ongoing and consistent policies to integrate energy efficiency into the Utilities' procurement process, additional programs (including expanding local municipal and county government and community-based programs) and modified policy rules are needed to reach energy savings beyond those achieved by the current efficiency programs.

Because our proposal is based on using a source of funding derived from AB 32 regulations, not procurement funding, we propose allowance value revenues be directed towards investments in energy efficiency under a significantly expanded cost-effectiveness methodology and policy framework that better aligns efficiency efforts with California's long-term climate objectives. These proposed programs should still be integrated into the existing portfolio of programs to ensure they complement and leverage each other and so the customer perceives one easily accessible package of options. Furthermore, as noted above, the savings from these programs should also be incorporated into the integrated resource planning process to avoid unnecessary infrastructure investments.

*The Commission should expand energy efficiency programs using allowance revenues based on modified policy rules*

Modifying the policy rules and cost-effectiveness metrics for this source of funding will ensure that programs (existing and new) that move markets, build demand and workforce, serve underserved communities, and explore new and innovative ways of achieving energy savings can do so on a much larger scale than they are able to do under current rules and will be better valued for their long term carbon reduction impacts than is currently the case. Although the majority of parties agree that these programs are extremely valuable, some worthwhile programs are not cost-effective when measured by the current methodology. While the efficiency portfolio cost-effectiveness test is conducted for the entire portfolio, programs with low cost-effectiveness values reduce the overall cost-effectiveness of the portfolio. If too many of these types of programs are included, they often must be run on a smaller scale to maintain a cost-effective portfolio on aggregate.<sup>40</sup>

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<sup>39</sup> CPUC, "Energy Efficiency Policy Rules Version 4.0," (August 2008), available at: <http://docs.Commission.ca.gov/eFile/RULINGS/86262.htm>.

<sup>40</sup> LGSEC proposes that investing allowance revenues for additional energy efficiency should not include use of the Total Resource Cost test (TRC) currently used for IOU administrated programs to evaluate energy efficiency

Adjusting the current methodology to be based on a longer term horizon will support significantly expanded efforts to invest in efficiency programs that have value on a longer time horizon.<sup>41</sup> Furthermore, because the current portfolio is constrained in its ability to invest in these longer term programs, our proposal will ensure that programs are additive and complementary to the current general and low-income energy efficiency approaches. All energy efficiency programs should be fully integrated from the customer's perspective, but programs funded through AB 32 allowance value revenue should be designed to make the deep and long term reductions in energy consumption necessary to achieve California's commitment of 80-90% emissions reductions by 2050.

Accordingly, we recommend that all programs funded by allowance revenues be evaluated and approved based on updated policy rules as suggested below. In order to ensure that the investments support distinct efficiency programs that are either not feasible or very limited under current cost-effectiveness methodologies, input assumptions must explicitly value the benefit of future avoided energy use and accurately estimate the value of program contributions to the longer term goal of reducing energy consumption. While some parties to this proposal are concurrently advocating for modifications to the cost-effectiveness methodology in the general and low income efficiency proceedings, our recommendations below are slightly different to address the necessary longer term time horizon. We propose the following modifications to the current policy rules and the cost-effectiveness assumptions for programs funded specifically through allowance revenues that go beyond the design of the current efficiency programs.

#### Policy Rules

- 1) Modify all relevant policy rules to sufficiently emphasize and target investment for programs that are key to achieve long term, deep emissions reductions (e.g., programs that build longer term demand for energy efficiency, more fully develop an energy efficiency workforce and infrastructure, support more comprehensive approaches, further address customer attitude and behavior, and have more freedom to focus on innovations - both technologies and implementation approaches);
- 2) Reevaluate policy rules that limit rebates for early retirement of inefficient equipment and prioritize measures with the longest estimated useful lives;

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measures, noting that dropping this test will allow programs to support measures where the customer invests in part due to non-energy benefits such as comfort, improved indoor air quality, etc.

<sup>41</sup> Note: NRDC is an active participant in R.09-11-014 where the current cost-effectiveness methodology will be reviewed, evaluated, and potentially updated. NRDC plans to propose various recommendations to ensure that the cost-effective methodology accurately represents all of the benefits of energy efficiency in addition to the costs. LGSEC is also an active participant in this proceeding.



## Cost Effectiveness Inputs for Energy Efficiency

- 1) Use the societal discount rate (rather than the Weighted Average Cost of Capital (WACC), which is currently used to compare procurement resources) to sufficiently encourage and value – rather than heavily discount – future savings from efficiency programs;
- 2) Update the avoided cost of renewables beyond a 33% RPS in 2020, through a larger RPS goal in 2050;<sup>42</sup>
- 3) Escalate GHG avoided costs through 2050;<sup>43</sup>
- 4) Expand the current scenario analysis for key inputs to avoided costs (especially natural gas prices) out to 2050. The avoided costs for regular efficiency programs are highly dependent on current natural gas price forecasts, and those prices vary significantly over time. The fairly low natural gas price forecasts currently in place make it much less cost-effective to pursue some of the comprehensive long-term strategies that will be critical to reach long-term GHG reduction goals.

### *Recommended programs for investment under modified policy rules*

Based on an updated policy structure suggested above, we suggest that investments be focused in the following areas: (1) increased innovation, (2) more comprehensive approaches to existing building audits and upgrades, and (3) increased financing options for efficiency upgrades. Within each category, we propose examples of programs that would benefit from additional investment than currently available under the Commission’s existing portfolio of programs.

#### (1) Increased Innovation

To ensure a robust pipeline of cost-effective energy efficiency measures through 2020 and beyond, we need consistent investments in emerging technologies, pilot and demonstration projects, and later-stage research and development. These types of investments have uncertain short-term benefits, but are critical to enabling long term innovation, savings, and market transformation. Furthermore, they are significantly constrained by the current policy rules as many of these efforts have uncertain savings estimates and therefore could potentially bring down the cost-effectiveness of the overall portfolio. To encourage sufficient innovation, reasonable risks must be encouraged and investments made in programs that have value in pushing efficiency markets forward.

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<sup>42</sup> The general proceeding is evaluating the need to update the avoided cost of renewable energy through 2020.

<sup>43</sup> Currently, the GHG avoided costs are escalated only out to procurement time horizons.

- Example 1 - Zero Net Energy (ZNE): Achieving Zero Net Energy Buildings is a consensus goal of the Commission and CEC. However, because the state has yet to determine what the needed savings are to achieve this goal and the current code update is constrained by traditional policy rules, the success of this goal is uncertain. The state must first determine the savings needed to reach the ZNE goal and “work backwards” to invest in programs that specifically advance both innovative efficient technologies and new implementation approaches.
- Example 2- Staying ahead of technological change: California’s end-uses of energy (especially electricity) are constantly expanding, and it will be ever more important to stay ahead of these trends to meet AB 32 goals. Efforts to mitigate the trend of growing energy usage are often constrained in regular efficiency programs because of shorter-term view and lower near-term cost-effectiveness. For example, consumer electronics are consuming an ever increasing amount (and percentage) of electricity use. Less expensive models and expanded applications for air conditioning units are also causing a growth in energy use throughout California. Investments in programs and new technologies that target these types of end-uses and maximize efficiency to stay ahead of the growth trend are critical to meet long term emissions reductions goals.
- Example 3 - Grid integration technologies: Investments in smart grid, smart inverters, and energy storage facilities are examples of technology innovations which could be financed from utility allowance auction revenues. Additional renewable technology and grid integration programs may eventually make sense to fund through the use of allowance revenues, and the Commission should include consideration of additional programs as technologies mature.
- Example 4 - Waste gas to electricity: Methane is a high global warming potential GHG emitted from various sources throughout the state (including landfills, agricultural lands, wastewater treatment plants, and food processing facilities). Technologies that turn waste gas into electricity and will significantly lower emissions are ripe for funding. To use bio-methane cleanly requires cleaning up the gas, which entails significant costs. Fuel cells and thermal oxidation are two strategies for accomplishing this that hold particular promise.

## (2) More Comprehensive Approaches to Existing Building Upgrades:

In order to achieve targeted emissions reductions, significantly deeper efficiency improvements to existing buildings and equipment will be needed, using comprehensive approaches that achieve deep savings on each individual site. While the current low income and general energy efficiency programs are starting to address the changes necessary to achieve these reductions through program design that focuses on ‘whole building’ and performance based approaches, they are again limited by the policy rules of those proceedings. The result is that these programs are not yet achieving the demand needed, reaching enough buildings, or

achieving the level of savings necessary to reach California's long term emissions reductions targets.

It is harder and costlier to make efficiency upgrades to existing buildings and old equipment, much of which is quite inefficient, because owners do not often upgrade or replace inefficient building equipment, windows, insulation or HVAC equipment until they completely fail. An expanded effort to do comprehensive whole building retrofits and early retirement of equipment (e.g. prioritizing measures with long effective useful lives) is necessary and requires significant investment. Programs that ensure comprehensive approaches to achieve deep building energy savings, and are based on the lessons learned and progress made in the general efficiency proceedings, should be prioritized for investments from AB 32 revenues.

Furthermore, the Commission should set out interim goals for the Utilities to achieve penetration into existing building stock by working backwards from a goal of having 100% of the building stock currently in existence retrofitted by 2050.<sup>44</sup> Each AB 32 compliance period could serve as an opportunity to check compliance with the building stock retrofit timeline, and to adjust programs funded with allowance revenues in order to stay on path to 100% retrofit by 2050. We offer the following suggestions of programs that should be targeted.

- *Example 1-Energy Upgrade California (EUC)*: EUC is a great start to the larger effort required to address the challenges of implementing comprehensive whole home retrofits. However, it is not cost-effective on its own because of the relatively short-term view of the current efficiency program policy rules and cost-effectiveness test inputs. To make the necessary emissions reductions to achieve AB 32 and long term mandates, expanding this effort to get on a path to upgrade a very large portion of existing homes by 2050 will be key. Similarly, efficiency program policy rules do not encourage early retirement of long-lived existing equipment (e.g. furnaces in homes) because they usually assume that the energy savings achieved when equipment is replaced is only the difference between the new unit and either current code or standard market practice (not the old existing unit).
- *Example 2 – Energy Audits*: The vast majority of both single and multi-family residences have never had a comprehensive energy efficiency audit. Such whole building, investment-grade audits are essential to show households where their current energy needs are and what are the cost-effective ways to reduce both their electricity and gas

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<sup>44</sup> The Energy Efficiency Strategic Plan sets the following targets: 25% of existing homes have a 70% decrease in purchased energy from 2008 levels; 75% of existing homes have a 30% decrease in purchased energy from 2008 levels; 100% of existing multi-family homes have a 40% decrease in purchased energy from 2008 levels. In the commercial sector the Strategic plan set a goal of 250 million square feet (1/20th of existing space) per year through 2030 reach deep levels of energy efficiency improvements and clean, distributed generation through whole building approaches.

consumption. A primary objective of investing allowance revenues could be to subsidize a process, through which every residence in California is offered a whole-building assessment. This process could begin with a ‘prescreening’ to determine the appropriateness of embarking on a comprehensive, whole-building, investment-grade energy audit. Allowance revenues could be used for comprehensive energy efficiency audits – beyond what is currently available – for every residence in California. These audits should be provided at no cost for low-income families and multi-family buildings meeting the eligibility criteria for the federal low-income Weatherization Assistance Program (WAP).<sup>45</sup> Audits should also be provided at market-tested sliding scale subsidies for higher income households and multi-family buildings that do not meet the WAP multi-family eligibility criteria. These audits are essential to inform consumers and multifamily property owners of the most cost effective ways they can improve their comfort, while reducing energy expenses. The audits are also essential to inform consumers of the most cost-effective ways to spend their auction rebates. Similar audits, especially for small businesses, should also be prioritized for the business portion of auction revenue investments.

*Industrial Audit Measure* – the Commission should also work closely with ARB in the further development of the Industrial Energy Audit regulation, which will require facilities to implement the measures of an energy audit that are deemed to be cost-effective.<sup>46</sup> In the interest of ensuring that allowance value investments are additional to measures already required, any industrial energy efficiency programs should be carefully coordinated with ARB and current utility industrial efficiency programs to prevent redundancy and duplication. However, if an additional grant or loan program could boost certain measures that provide significant energy savings and air pollution and GHG co-benefits, but would otherwise not qualify as cost-effective, such opportunities should be carefully considered in cooperation with ARB.

- *Example 3 – Expand Multifamily Residential Programs*: The largest market for energy efficiency with significant potential is multifamily residences. Allowance revenues could fund multifamily energy efficiency “coordinators/expeditors” to provide a single point of contact for owners and managers. This expeditor could ensure a whole-building, performance-based approach for multifamily buildings including facilitating the energy audit process (discussed above) and assisting building owners in accessing the myriad of existing efficiency programs, rebates and financing options ensuring that existing programs are used to the maximum extent possible. Revenues could also be used to fund the gap between current program offerings and the subsidy needed to motivate owner/managers to make energy efficiency improvements. This could include multifamily efficiency measures currently not covered by existing efficiency programs such as furnace repair and replacement and water heater repair and replacement work for low-income multifamily rental properties. Depending upon the level of assistance

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<sup>45</sup> 75 Fed Reg 3847-3856 (Jan. 25, 2010) DOE final rule specifying how multifamily buildings can be determined eligible for WAP and March 6, 2010 DOE Weatherization Program Notice 1015, “Final Rule on Amending Eligibility Provisions to Multi-Family buildings for the Weatherization Assistance Program.” (HUD and the Department of Agriculture prepare lists of multifamily properties where at least 66 percent of units are occupied by families whose income is at or below 200% of the federal poverty level.)

<sup>46</sup> ARB, “Energy Efficiency and Co-Benefits Assessment for Large Industrial Sources - Regulatory Activities,” available at: <http://www.arb.ca.gov/cc/energyaudits/energyaudits.htm>.

provided by auction funds to address common systems/ common-area measures in multifamily housing, the property owners should ensure that the benefits accrue to the tenants.<sup>47</sup> (See Appendix “C”, attached, for more detail about the needs of multifamily buildings).

- *Example 4 – K - 12 Schools:* There are a number of market barriers and disincentives that inhibit schools from embracing high efficiency facilities, operations and maintenance, as well as school occupant behaviors, costing schools scarce funds and contributing to environmental degradation and poor health. Investment in transforming schools into high performance learning environments will have many benefits including: saving money through efficient use of resources in school facilities and operations; promoting the health and productivity of students and staff by ensuring a healthy learning environment and improving student academic achievement through learning that promotes high-efficiency behaviors and practices. Model green schools play an important role in helping to achieve the goals established by AB 32.<sup>48</sup> Unlike private industry, schools are more restrained in their capacity to pass on added utility costs, and public schools are heavily reliant on state funding with an average 80% coming from the state. In the past three years, state funding for K-12 education has dropped by \$18 billion. Considering there are 6.2 million students enrolled in over 10,000 schools, sound environmental practices will significantly benefit the welfare of all Californians.

### (3) Innovative Financing:

The Commission recently released a report on opportunities for expanded financing for energy efficiency.<sup>49</sup> The report outlined a number of ways that financing opportunities could be leveraged, expanded and improved through appropriate market intervention, proving concepts, and access to low-interest capital. Other financing programs such as on-bill financing/repayment, interest free loans, and tax rebates for clean energy projects could also be expanded to lower the upfront cost for customers wishing to adopt these measures. While some of these approaches build on existing programs, these programs are also not necessarily cost-effective under the currently limited constructs. Funding from allowance revenues could potentially provide initial capital to significantly expand this market and attract third party financiers to the market.

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<sup>47</sup> Dept. of Energy Weatherization Notice 10-15A (April 8, 2010); see also CA CSD, DOE WAP ARRA No.13, implementing DOE’s WAP Notice 10-15A.

<sup>48</sup> See *Schools of the Future, Advisory Team Report* (September 2011), at 42-47, attached as Exhibit 6 to the Supplemental Materials, filed concurrently herewith, and is available at <http://www.cde.ca.gov/ls/fa/sf/documents/sotfreport.pdf#search=schools%20future%20report&view=FitH&pagemo de=none>

<sup>49</sup> See “Release of CPUC Consultant Report on Energy Efficiency Financing in California,” (July 13, 2011), available at: [http://www.cpuc.ca.gov/NR/rdonlyres/B0EBFCA6-22B5-408D-96B8-6490A5A38939/0/EEFinanceReport\\_final.pdf](http://www.cpuc.ca.gov/NR/rdonlyres/B0EBFCA6-22B5-408D-96B8-6490A5A38939/0/EEFinanceReport_final.pdf).

Combined with the more comprehensive approaches to existing buildings discussed above, an on-bill finance/repayment program can address a building's remaining energy efficiency financing needs after all existing and proposed assistance programs have been accessed. Generally, on-bill finance/repayment programs rely on energy cost savings as the source of funding to finance the energy efficiency improvement costs. Auction revenues could be used as a source of the initial capital needed for energy efficiency improvements and/or as a loss reserve to partially guarantee (and thus incent) private capital into the energy efficiency sector. For residential rental buildings with multiple utility accounts for common areas, individual tenants and central systems, policy changes would be required. An on-bill finance/repayment program should meet the following conditions:

- Energy efficiency finance payments levied on utility bills should not exceed 80 percent of the estimated savings to mitigate any differences between projected and actual energy cost savings and to assure utility “bill neutrality”;
- Commission policy should prohibit the use of utility disconnections of low income ratepayers who fail to make the energy efficiency finance payments;
- Auction revenues should be used to establish a loss reserve to address instances when the actual savings are less than the on-bill payment amount or when low income ratepayers fail to make the energy efficiency finance payments;
- For rental housing, a mechanism should be established to ensure energy cost savings beyond those needed to make the on-bill payments are shared between the property owner/manager and the tenants.

In addition, allowance revenues could provide financing for development of a state-wide emerging technology plan. This would include identifying and testing emerging technologies, building of demonstration facilities and addressing other research and development implementation issues. Some portion of these funds could be used to finance programs for customers (e.g. residential, commercial, industrial, etc.) and municipalities, to lower the upfront costs of deployment of energy efficiency, renewable energy and advanced transportation technologies. Specifically, revenues could be directed towards property assessed clean energy (PACE) financing, consistent with the Legislative finding of AB 811 (and pending the resolution of litigation as applied to residential PACE loans).<sup>50</sup>

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<sup>50</sup> See Cal. Streets & Highways Code § 5898.14 (“The Legislature finds all of the following: (1)Energy conservation efforts, including the promotion of energy efficiency improvements to residential, commercial,

## 6.2.2 Low and Moderate Income Energy Efficiency

Investing auction revenue to expand the Utilities' low income energy efficiency program (Energy Savings Assistance Program, or ESA Program) as well as moderate income energy efficiency efforts will provide greater energy and bill savings to participating customers without compromising the ability of the ESA Program to ensure all of California's low income customers receive the benefits of energy efficiency. The ESA Program provides efficiency measures such as efficient refrigerators and weatherization services at no cost to qualified customers with incomes at or below 200 percent of the federal poverty guidelines.<sup>51</sup> The Commission's twin goals for the ESA Program are to provide a durable energy resource for the state, while affording all willing and eligible low income customers the opportunity to participate by 2020.<sup>52</sup> As currently structured, however, the ESA Program is struggling to meet both objectives. With limited funding, expanding the reach of the ESA Program to serve an increasing eligible population has compromised the ability of the Program to deliver meaningful energy and bill savings for participating customers.<sup>53</sup> Supplementing the ESA Program with allowance revenues can ensure that the program sustains its penetration targets while providing durable bill savings to customers.

There is also a gap between customers who qualify for low income efficiency and those who could afford upgrades based on the general efficiency rebates. This 'moderate-income'

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industrial, or other real property are necessary to address the issue of global climate change. (2) The upfront cost of making residential, commercial, industrial, or other real property more energy efficient prevents many property owners from making those improvements. To make those improvements more affordable and to promote the installation of those improvements, it is necessary to authorize an alternative procedure for authorizing assessments to finance the cost of energy efficiency improvements. (b) The Legislature declares that a public purpose will be served by a contractual assessment program that provides the legislative body of any city with the authority to finance the installation of distributed generation renewable energy sources and energy efficiency improvements that are permanently fixed to residential, commercial, industrial, or other real property.”).

<sup>51</sup> See generally the ESAP homepage at <http://www.cpuc.ca.gov/PUC/energy/Low+Income/liee.htm>.

<sup>52</sup> CPUC, D.07-12-051 in R.07-01-042, “Decision Providing Direction for Low-Income Energy Efficiency Policy Objectives, Program Goals, Strategic Planning and the 2009-2011 Program Portfolio and Addressing Renter Access and Assembly Bill 2140 Implementation,” (Dec. 2007), at 3, available at: [http://docs.cpuc.ca.gov/word\\_pdf/FINAL\\_DECISION/77082.pdf](http://docs.cpuc.ca.gov/word_pdf/FINAL_DECISION/77082.pdf); CPUC, “California Long Term Energy Efficiency Strategic Plan,” at 25 (Sept. 2008), available at: <http://www.cpuc.ca.gov/NR/rdonlyres/D4321448-208C-48F9-9F62-1BBB14A8D717/0/EEStrategicPlan.pdf> and Jan. 2011 update, at 23, available at: [http://www.cpuc.ca.gov/NR/rdonlyres/A54B59C2-D571-440D-9477-3363726F573A/0/CAEnergyEfficiencyStrategicPlan\\_Jan2011.pdf](http://www.cpuc.ca.gov/NR/rdonlyres/A54B59C2-D571-440D-9477-3363726F573A/0/CAEnergyEfficiencyStrategicPlan_Jan2011.pdf).

<sup>53</sup> See “Response of the Natural Resources Defense Council (NRDC) to Pacific Gas and Electric Company, Southern California Gas Company, Southern California Edison Company, and San Diego Gas and Electric Company’s Applications for Approval of their 2012-2014 Energy Savings Assistance and California Alternate Rates for Energy Programs and Budgets” (June 20, 2011), available at: <http://docs.cpuc.ca.gov/efile/RESP/137889.pdf>.

segment requires unique program design to ensure that all customers are able to participate in programs if they choose. Currently there is a pilot in the general energy efficiency portfolios that attempts to address this segment.<sup>54</sup> As with the low income programs, there is insufficient funding to address these customers as the payments by utilities are often significantly higher than traditional general efficiency and therefore reduce the cost-effectiveness of the overall portfolio. Carrying out these types of programs within the modified policy framework would not only provide additional resources for such programs, but also enable deeper savings to be captured from these segments to help meet our 2050 AB 32 goals.

- *Example 1- Expand ESA Program and other low income energy efficiency programs*: Supplementing the ESA Program with additional funding from allowance revenues will enable the Program to achieve greater energy savings and produce long-term, sustainable bill relief to low income customers. Additional funding can be used to expand the suite of efficiency measures available to all participating customers and explore pilots to reach customer segments currently underserved by the ESA Program, including low income tenants in multi-family housing. See Appendix “C”, attached, for a more detailed listing of Multifamily Residential programs that are in furtherance of the goals of AB 32 and that benefit low-income Californians.
- *Example 2- Expand Moderate Income Programs*: Expanding the moderate income program would both address the concerns of certain customers bearing the majority of impact from additional climate strategies and ensure that the savings available in these buildings are fully captured.

### 6.2.3 Renewable Energy & Distributed Generation

Allowance revenues create an extraordinary opportunity to reduce the cost and expand the public and private market sectors for renewable energy in California. The benefits of this program could support distributed generation and extend to other renewable energy supporting technologies that have high initial cost that could be brought down over time by expanding the market.<sup>55</sup>

Increased distributed generation with smaller size projects (retail and wholesale), for example, can allow the economic benefits of the tens of billions of dollars in infrastructure

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<sup>54</sup> See: <http://www.cpuc.ca.gov/NR/rdonlyres/E29398ED-75C5-406E-AAA4-350C49284ACD/0/EE5GovernmentPartnershipProgram0710.pdf> , p.2.

<sup>55</sup> For instance, a recent report by Pike Research shows that small scale wind can be brought down in cost from \$5.40 per watt today to \$4.10 per watt by 2015 if the market size in the global market increases from 50 megawatts to 152 megawatts per year. See <http://www.renewableenergyworld.com/rea/news/article/2011/09/small-wind-industry-set-to-triple-by-2015-with-u-s-dominating-two-thirds-of-the-market>.



investment that will be made by the state's RPS program to flow into many communities around the state. In particular, installing large amounts of distributed generation could be coordinated with efficiency upgrades and targeted to low income communities in urban and rural areas that desperately need jobs and cleaner air.

The Governor has proposed a policy target of building 12,000 megawatts of new renewable distributed generation by 2020, and the state already has policies to support nearly 6,000 megawatts of renewable distributed generation including 3,000 megawatts in the GoSolar program, the 1000 megawatt Renewables Auction Mechanism (RAM), roughly 1000 megawatts for the Utilities' wholesale solar PV programs, and a 750 megawatt feed-in tariff program under SB 32. A significant objection to implementing large amounts of distributed generation is that the cost could be excessive, although the recent trend has been a faster than expected decline in the cost of solar PV and recent analysis by CAISO<sup>56</sup> has found that distributed generation can in fact be cheaper than central station facilities in the aggregate.

Recent dramatic reductions in the cost of solar panels have also brought down the cost of full installed systems of all sizes. However, smaller solar PV systems are significantly more expensive in California—closer to the high cost assumption in the RPS model. This high cost small scale solar is not a necessary market condition, but is due primarily to the fact that California's small scale solar PV market has only been partially transformed compared to what is possible today. This is in part due to the current policy tools that are focused on indirect reduction of cost through building market volume; another factor is that the volume itself in California is only about 150 megawatts of solar PV per year.

The ability to reduce the cost of small-scale solar, compared to what Californians pay today, to where it can compete with larger scale solar and provide savings for the RPS program, is dependent on transforming the market through steady investment. California's solar programs have made major progress in this to date, by reducing installed cost of small scale (less than 10 kW) solar PV systems by about 1/3 since 1998.<sup>57</sup> But there is much further room for cost reduction and market growth. A significant investment over the next decade to cover transitional above market costs, including funding a broad feed-in tariff program as a complement to net-

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<sup>56</sup> See CAISO's 33% by 2020 integration analysis: <http://www.caiso.com/2b73/2b73796015b90.pdf>. See slide 30 for the "environmentally constrained" scenario, which consists primarily of solar wholesale distributed generation.

<sup>57</sup> See <http://newscenter.lbl.gov/news-releases/2011/09/15/tracking-the-sun-iv/>.

metering programs,<sup>58</sup> could build upon the progress of the California Solar Initiative, and become a successor to that program, to further transform the small-scale distributed solar PV market.

We urge the Commission to consider substantial investments that can benefit communities around the state with the RPS program, while expanding participation in the RPS program, and establishing well-designed programs that can reduce the cost of small-scale distributed renewable generation and energy storage. This could also complement the efficiency measures the allowances can fund with small-scale distributed generation that can achieve ZNE homes and commercial buildings that will be essential to meeting high GHG reduction goals, and to fulfill the state's policies and commitments to ZNE buildings.

#### 6.2.4 Local Governments Play a Critical Role

We further recommend that a portion of the allowance revenues dedicated for investment be set aside for local governments for programs, implementation of climate action plans<sup>59</sup> and other uses that further the goals of AB 32. The propriety of this allocation is based on ARB policy,<sup>60</sup> the legislative history of AB 32 and expert reports.<sup>61</sup>

As California implements AB 32, local governments have the most direct connection to residential and business constituencies and the most experience with implementing programs and policies at the grass-roots level. Discrete characteristics that often drive community choices, behavior and culture are best known to local governments. As a result, local agencies are

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<sup>58</sup> Germany's success with its feed-in tariff program demonstrates that smart programs can dramatically reduce costs for solar and other renewable energy equipment. A similar program in California could very well result in similar cost reductions for non-module cost components of solar power, which are now dominating the cost equation because module costs have fallen so rapidly, due in large part to Germany and other similar programs around the world.

<sup>59</sup> California's utilities recently funded numerous climate action plans or energy action plans for cities and counties in their service territories. The Commission should renew and expand this program such that all communities in California have access to funds for such planning.

<sup>60</sup> *Climate Change Scoping Plan Appendices, Volume I*, p.49 : "Local governments are essential partners in achieving California's goals to reduce greenhouse gas emissions. They have broad influence and, in some cases, exclusive authority over activities that contribute to significant direct and indirect greenhouse gas emissions through their planning and permitting processes, local ordinances, outreach and education efforts, and municipal operations. Many of the proposed measures to reduce greenhouse gas emissions rely on local government actions."

<sup>61</sup> "Disadvantaged communities face especially pressing investment needs. To assist [these communities], allowance value can be used to reduce greenhouse gas emissions, minimize health impacts caused by climate change, and improve environmental quality[;] the allowance value could be channeled through a Community Benefits Fund or a similarly tasked entity t local governments...." (Allocating Emissions Allowances Under a Cap-and-Trade Program; *Recommendations to the California Air Resources Board and Allocation Advisory Committee* (March 2010), at p 69.

uniquely situated to develop, implement and communicate successful movements for lasting change in community conduct, specifically, patterns of energy consumption. The role of local governments in this regard singles them out as essential designers and implementers of programs that also seek to foster an overarching goal of the state's Strategic Plan, namely, successful market transformation that does not depend upon publicly-funded incentives.

*All* residents also benefit from local public programs, regardless of whether they are a homeowner, low income tenant or large energy user. Programs that are currently underway in many jurisdictions, and could be implemented with additional funds, include education and outreach, technical assistance, financing, local policy development and implementation. Failure to partner with local governments and community organizations in GHG reductions would perpetuate a system in which disenfranchised and vulnerable communities continue to be dependent upon utility and state funded programs to mitigate the increased costs of energy. Further, these same cities and counties will not realize the local environmental benefits of direct investment in strategies that reduce GHG emissions. It is at the local level, and under the operation of local governments and community-based organizations that problems and challenges from energy and resource use and conservation are first identified, and where lasting and accountable solutions are developed. Local governments must be part of the solution to continue to employ innovative programs, ordinances and investments that will reduce GHG emissions and provide resources for addressing the consequences of climate change.

Allowance revenues should also be allocated to local governments to educate customers about climate change, California's climate programs, behavior change and other information related to AB 32. It is important that there is public outreach, including in-person contact and events, telephone follow up and other effective efforts to communicate with the public. Many local municipalities have existing education and outreach departments. However, to achieve effective and lasting change, sufficient resources are necessary at the local government level to allow for merging and/or cross-support of programs, and the forum to share successes, outcomes, lessons learned, efficiencies, best management practices and innovation (see Appendix B, attached, for a more detailed listing of illustrative local government programs that are in furtherance of the goals of AB 32 and that benefit all utility customers).

## **6.3 Recommended Process**

### **6.3.1 Investment Proposal**

Following a final decision in the first phase of this proceeding, we recommend the Commission initiate a follow-up phase to develop an investment framework and allocate revenues to programs for the first compliance period under the cap-and-trade program (2013 and 2014).<sup>62</sup> Subsequently, in advance of each successive compliance period, we recommend the Commission initiate a similar proceeding to review investments made with allowance revenues over the previous three years, and chart a strategy to direct revenues and review policy guidance to various programs receiving allowance revenues over the next compliance cycle. Although specific allocation proposals should be integrated with the Commission's current proceedings addressing each respective investment strategy (as discussed below), we recommend the Commission periodically convene a separate, comprehensive review of all allowance revenue expenditures. During this review, the Commission should solicit stakeholder input to determine funding levels and policy guidance for programs receiving allowance revenues over the next cycle.

### **6.3.2 Investment Strategies**

To allocate allowance revenues under each investment strategy discussed above, the Commission should consider utilizing an application process similar to what guides the Utilities' current energy efficiency portfolios. In advance of each program cycle, the Commission would issue a guidance document providing policy direction and a budget funded from allowance revenues that would be available to supplement the Utilities' core programs and develop additional programs. The total revenues available for investment would be determined by the allocation methodology adopted in this proceeding; the total revenues available for each investment strategy would be determined by the Commission through the separate process proposed above. An application would then lay out a proposal under the modified frameworks proposed in the preceding discussion, which stakeholders could comment on as part of the same proceeding that governs the current programs.

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<sup>62</sup> Assuming the Commission sets aside a portion of allowance revenues for additional investment.

### 6.3.3 Coordination

Finally, we note that the Commission will need to monitor decisions by the Legislature and Governor's Office to allocate revenue generated outside the utility sector and accruing in the Air Pollution Control Fund. We recognize there is the potential for overlap with our recommended funding areas and do not recommend the Commission rigidly adhere to a given course regardless of the Legislature's decision-making. As there is considerable uncertainty surrounding the Legislative process, however, we are not persuaded that concerns over duplication should deter the Commission from moving forward with an investment program focused on carbon mitigation and electricity reduction strategies in the utility sector.

## **7 Our Proposal Advances the Commission's Objectives**

### **7.1 Objective 1: Our Proposal Preserves the Price Signal to Encourage Customer End-Use Efficiency and Conservation and Low Carbon Production Practices**

Our proposal ensures the carbon price signal embedded in retail rates is fully passed through to retail electricity customers. Our proposed return of allowance value will offset costs on residential and EITE customers from carbon pricing (through lump-sum transfers), but will not undercut the incentive for efficiency and conservation measures by tying customers' receipt of allowance revenues exclusively to consumption. Similarly, in lieu of direct subsidy, which could be used to dampen the price for carbon-intensive goods and services, we propose the Commission use allowance revenues to mitigate costs on non-EITE, non-residential customers through targeted efficiency programs.

### **7.2 Objective 2: Our Proposal Prevents Economic and Emission Leakage Without Overcompensating for Leakage Risk at the Expense of Other Important Objectives**

Our proposal recognizes the importance of designing the allocation of allowance revenues to prevent economic and emissions leakage by giving priority status to commercial and industrial customers ARB has classified as EITE. Under our proposal, EITE customers are eligible to receive additional rebates to offset indirect leakage risk in the form of higher electricity rates. While we support the objective of preventing leakage (from both an economic and environmental performance standpoint), we ask that the Commission tread lightly in

compensating for any leakage exposure above and beyond the free allocation of allowances and other measures that ARB is already proposing under the cap-and-trade rule. We have designed our revenue allocation to EITE customers with that in mind.

### **7.3 Objective 3: Our Proposal Ensures All Customers Share in the Benefits of Allowance Revenues, Independent of Energy Consumption**

Our proposal advances this foundational objective in three key respects. First, our proposal returns the majority of allowance revenues directly to residential customers, who have the only credible claim to an ownership interest in the atmospheric commons. Second, our proposal allocates allowance revenue to residential customers through a separate lump-sum transfer, which is not tied exclusively on a particular household's energy usage, to ensure high usage households do not receive a disproportionate share of a public asset based solely on their energy consumption. Third, our proposal allocates allowance revenues to *all* residential households, not only those non-CARE customers whose usage exceeds Tier 2.

### **7.4 Objective 4: Our Proposal Addresses the Disproportionate Impacts of Carbon Pricing and Climate Change on California's Most Vulnerable Households**

Our proposal ensures low income households are included in the allocation of allowance revenue. Although CARE households will not face direct costs resulting from the cap-and-trade program due to SB 695, low income households will still face indirect costs in the form of higher prices for certain goods and services from the imposition of carbon pricing throughout the economy (see discussion in Appendix A). In addition, although the Utilities report historic CARE participation rates, not all low income households are enrolled in the program and will therefore be exposed to direct costs. Accordingly, our proposal includes low income households in the class of residential customers eligible for direct return of allowance revenues.

### **7.5 Objective 5: Our Proposal Devotes Substantial Allowance Revenues to Fund Programs to Correct for Market Failures Holding Back Carbon Mitigation Activities and Technologies**

Our proposal is designed with this critical objective squarely in mind. By setting aside a portion of total allowance revenues each year for investment, our proposal provides a stable, reliable and predictable funding stream to expand on existing clean energy programs and develop

new programs, financing options and technologies targeted at overcoming market barriers that are holding back low-cost carbon abatement solutions.

#### **7.6 Objective 6: Our Proposal Ensures Direct Access and Community Choice Aggregator Customers Share Proportionately in the Benefits of Allowance Revenues**

Our proposal ensures DA and CCA customers are not disadvantaged in how the Commission allocates allowance revenue. As with bundled customers, residential CCA customers will be eligible for rebates under our proposed methodology. Similarly, commercial and industrial DA or CCA customers will be eligible for programs funded with allowance revenues, and DA or CCA customers classified as EITE under ARB's cap-and-trade regulation will be eligible for priority status in the allocation methodology for EITE customers.

#### **7.7 Objective 7: Our Proposal Fosters Customer Engagement and Understanding; and Embraces California's Leadership in Pioneering Climate and Clean Energy Programs**

We do not dispute that our proposal will require more work to implement than proposals that rely chiefly, if not exclusively, on returning allowance revenues through rate credits. The Scoping Memo wisely recognizes, however, the unique "opportunity the use of allowance revenues offers to further general [public] understanding of the nature of climate change and the role of consumer' energy choices therein."<sup>63</sup> This conclusion was echoed by the EAAC, which found that "[i]n terms of simplicity, dividends are an exceptionally transparent use of allowance value; transparency meaning that the allocation of the allowance value is relatively easy to describe and thus easily comprehended by the general public."<sup>64</sup>

Accordingly, we propose to return allowance revenues in a manner that will be easier for most customers to understand, and which will facilitate more effective opportunities to engage customers as part of the solution. We also encourage the Commission to apply the same leadership in this proceeding that California has applied to its climate policies writ large. New programs take time to develop, market and implement, but we are confident the Commission can appropriately phase in any aspect of our proposal that may require additional development. The cap-and-trade program is designed to extend well beyond 2020; we ask the Commission to consider allocation proposals under the same long-term perspective.

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<sup>63</sup> Scoping Memo, Appendix A at A10.

<sup>64</sup> EAAC Report at 58.

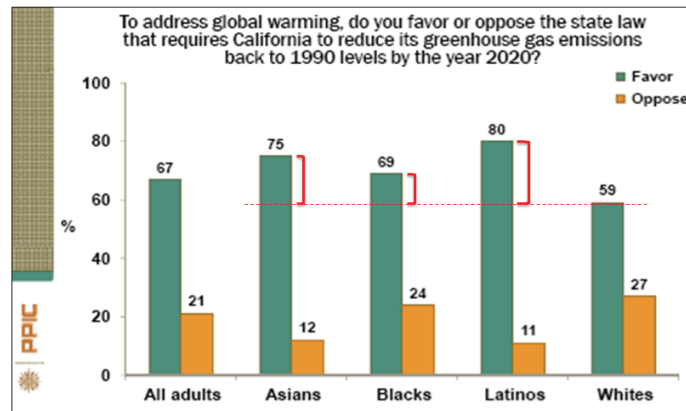
## **7.8 Objective 8 (proposed): Our Proposal Facilitates Customer Understanding, Engagement and Support for California’s Climate Programs**

We are concerned that allocating revenues to only certain residential customers (who will be predominantly wealthier under the Utilities’ proposal), will undermine the rollout of the cap-and-trade program and jeopardize its long-term viability. Similarly, we are concerned that returning allowance revenue through an incremental rate credit will leave the vast majority of customers entirely unaware of the benefit. We do not think keeping customers in the dark is conducive to the enduring success of the program. Rather, the long-term success of the program is contingent on customers understanding why California is taking steps to reduce carbon pollution, and how state regulators are designing those programs to ensure utility customers are part of the solution.

Consequently, we propose that the Commission engage customers through programs funded with allowance revenues and a rebate program that elevates the visibility of these revenues, allowing all customers to share in the benefits of allowance revenues. As carbon pricing is introduced in the economy, it is important to anticipate public reaction, and the Commission must be mindful of crafting a policy that creates customer buy-in. Investment programs funded through allowance revenues would target clean energy programs in all sectors and provide long-term bill relief to residential and customer/industrial customers alike. Rebates would similarly be available to all residential customers, including low income households and CCA customers, to broaden support for and engagement in California’s climate initiatives. To win broad public support, however, the Commission must pay particular attention to communities of color and other disproportionately vulnerable groups, particularly since polling data reflects great and growing support for AB 32 among communities of color.



### Support for California's Global Warming Solutions Act



Source: Public Policy Institute of California (July 2010)<sup>65</sup>

To maintain this commitment, the Commission must ensure that AB 32 implementation does not leave out these critical constituencies.

## 8 Our Proposal Supports Previous Commission and ARB Guidance on How to Allocate Allowance Revenues

Our proposal is designed to reflect the expert judgment of the Commission, ARB and various committees commissioned by ARB to advise on the question of how to allocate allowance revenue. In particular, our proposal advances three consensus recommendations of the Commission and ARB: (1) that the return of allowance revenues to utility customers should preserve the carbon price signal in retail rates; (2) that allowance revenues should be used to finance investments in carbon mitigation activities and technologies; and (3) that allowance revenues should mitigate the disproportionate impacts of carbon pricing and climate change on low income households.

### 8.1 Allowance Revenues Should Not Undermine the Incentive, Reflected in the Carbon Price Embedded in Retail Rates, to Promote Customer End-Use Efficiency and Conservation

The issue of how to allocate revenue generated from a California cap-and-trade program has been analyzed extensively by a host of expert bodies, including the ETAAC, EAAC, CEC,

<sup>65</sup> PPIC Statewide Survey, "Californians and the Environment," (July 2010), available at: [http://www.ppic.org/content/pubs/survey/S\\_710MBS.pdf](http://www.ppic.org/content/pubs/survey/S_710MBS.pdf). See also Louis Sahagun, "Latinos, Asians More Worried About Environment than Whites, Poll Finds," Los Angeles Times (November 20, 2010), available at <http://articles.latimes.com/2010/nov/20/local/la-me-poll-environment-20101120>.

the Commission and ARB. While the recommendations from these various entities on the most appropriate uses of allowance value have not been uniform, one aspect of them has remained constant – that any return of allowance value to electricity customers to offset bill impacts associated with the program should not undermine the incentive, reflected in the carbon price embedded in retail rates, to promote customer end-use efficiency and conservation.<sup>66</sup>

The joint CEC-CPUC proceeding that addressed this very question, for example, with the support of many parties (including, at the time, PG&E)<sup>67</sup> concluded that it is “imperative” that any mechanism providing bill relief through auction revenue be designed “so as to not dampen the carbon price signal” reflected in retail rates.<sup>68</sup> This conclusion was echoed by the EAAC, a blue-ribbon panel of economists convened by ARB to provide advice on this very question, which recommended bill relief to customers be served through lump sum transfers, as preventing rate increases “would undercut a main purpose of AB 32: to provide incentives for reduced electricity consumption (and associated emissions reductions).”<sup>69</sup> While the Utilities will face a price signal to the extent that the carbon price is reflected in wholesale electricity rates, we agree with the Commission and ARB that there is additional value in passing through the full carbon price to customers (and providing bill relief in other forms).<sup>70</sup>

Most recently, this view was reinforced by ARB in the Final Statement of Reasons (FSOR) accompanying final adoption of the cap-and-trade program. As ARB observed:

Compensation provided volumetrically (per megawatt-hour consumed) will not create the correct incentives for greenhouse gas reduction. Volumetric return of allowance value eliminates incentives for greenhouse gas reduction strategies such as conservation of electricity, efficient combined heat and power, and distributed electrical generation.<sup>71</sup>

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<sup>66</sup> CPUC, D.08-10-037 at 227; EAAC, “Allocating Emissions Allowances Under a California Cap-and-Trade Program:

Recommendations to the California Air Resources Board and California Environmental Protection Agency,” p.66 (March 2010); ARB, “Allowance Allocation” (Appendix J), at J-61.

<sup>67</sup> CPUC, D.08-10-037 at 224.

<sup>68</sup> Id. at 227.

<sup>69</sup> EAAC Report at 66.

<sup>70</sup> CPUC D.08-10-037 at 227; ARB, “Allowance Allocation” (Appendix J), at J-15 (noting “the creation of the cap-and-trade program is intended to embed a carbon price in *both* retail and wholesale rates of electricity,” because “[i]nserting the carbon price in retail rates will drive increased conservation and energy-efficiency.”).

<sup>71</sup> ARB, “California’s Cap-and-Trade Program: Final Statement of Reasons,” p.2307 (Oct. 2011), available at: <http://www.arb.ca.gov/regact/2010/capandtrade10/fsor.pdf>.

Accordingly, like ARB, “we do not agree...that return of value proportionate to electricity use is the correct incentive to reduce emissions”<sup>72</sup> and “continue to believe that rebates to residential customers should be made as separate payments, and not simply deducted from consumer bills” (emphasis added).<sup>73</sup> This view is shared by the EAAC, which recommended that “conferral [of allowance value] should be accomplished through financial transfers rather than through subsidized energy prices,”<sup>74</sup> and was endorsed previously by the Commission, which recognized that separate transfers “preserve the price signal for consumers to reduce their energy use, since by reducing energy use they would decrease their costs without affecting their dividend.”<sup>75</sup> We share the unanimous guidance from expert agencies and panels that allowance value should be returned to consumers outside of rates, to preserve the carbon price signal at the retail level and maintain appropriate incentives for additional efficiency and conservation.

## **8.2 Allowance Revenues Should Finance Investments in Carbon Mitigation Activities**

Our proposal is likewise designed to advance the consensus conclusion of the Commission, ARB, and expert advisory panels that allowance value should be used to finance investments in carbon mitigation activities. As the Commission has recognized, allowance revenues represent a critical funding stream to invest in emission reduction solutions like energy efficiency and renewable energy that further the goals of AB 32.<sup>76</sup> ARB’s Resolution accompanying the initial adoption of California’s cap-and-trade program in December 2010 envisions a similar framework.<sup>77</sup> Specific to the electricity sector, ARB directed its Executive Officer to work with the Commission to evaluate investing auction revenue in additional energy efficiency programs, renewable energy projects that achieve environmental and public health co-benefits, and programs to ensure benefits flow to low income customers and our state’s most disadvantaged communities.<sup>78</sup> In carving out a significant role for investment, the Resolution heeded recommendations from both EAAC and ETAAC that investing a substantial share of

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<sup>72</sup> Id.

<sup>73</sup> Id.

<sup>74</sup> EAAC Report at 65.

<sup>75</sup> D.8-10-037 at 229.

<sup>76</sup> D.08-10-037 at OP 15.

<sup>77</sup> ARB Resolution 10-42 at 13.

<sup>78</sup> Id.

allowance value will be necessary to overcome market barriers holding back energy efficiency and clean technology solutions.<sup>79</sup>

Investing allowance revenues from California's cap-and-trade program would also follow the successful track record of clean energy investments spurred by RGGI. The ten northeast states that participate in RGGI collectively invest more than half of all cap-and-trade auction revenues in clean energy programs,<sup>80</sup> which as of May 2011, had already generated over \$1 billion in energy savings for customers and contributed \$2.6 billion to economic growth in the region.<sup>81</sup> In California, allowance revenue provide the same opportunity to invest in deeper energy savings and carbon mitigation activities that will be required to achieve California's long-term climate objectives.<sup>82</sup>

### **8.3 Allowance Revenues Should Reduce Adverse Impacts on Low Income Households**

Finally, our proposal is designed to ensure low income customers share in the return of allowance revenues to mitigate the disproportionate impacts of carbon pricing and climate change on low income households (for a more comprehensive discussion of these impacts, see Appendix A). The Commission has explicitly recognized the importance of providing bill relief for low income customers.<sup>83</sup> Likewise, the Scoping Memo directs parties to explain "the degree to which the anticipated costs to low income households resulting from cap-and-trade *and climate change* are recognized and addressed, given the state's and the Commission's longstanding commitment to protect vulnerable communities from adverse outcomes."<sup>84</sup> As the Commission notes, "[j]ust as the costs of mitigation may disproportionately affect low-income households and communities, the costs of adaptation in response to the climate change that is likely to occur as a result of anthropogenic emissions will also be disproportionately felt by these

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<sup>79</sup> EAAC Report at 67, 70; ETAAC Report.

<sup>80</sup> RGGI, Inc., "Investment of Proceeds from RGGI CO2 Allowances," p.4 (Feb. 2011), available at: [http://www.rggi.org/docs/Investment\\_of\\_RGGI\\_Allowance\\_Proceeds.pdf](http://www.rggi.org/docs/Investment_of_RGGI_Allowance_Proceeds.pdf).

<sup>81</sup> Environment America, "A Program that Works: How the Regional Greenhouse Gas Initiative Is Helping the Northeast Shift to Clean Energy and Reduce Pollution from Fossil Fuels," attached as Exhibit 8 to the Supplemental Materials, and available at: <http://www.environmentamerica.org/uploads/ff/d3/ffd365c8418b89320de77bbb09fd99c1/A-Program-that-Works-vUS.pdf>.

<sup>82</sup> See, e.g., Gov. Schwarzenegger Executive Order S-3-05.

<sup>83</sup> D.08-10-037, Ordering Paragraph 15 (noting "we recommend that ARB require that all allowance auction revenues be used for purposes related to Assembly Bill (AB) 32, and that ARB require all auction revenues from allowances allocated to the electricity sector be used to finance investments in energy efficiency and renewable energy or for bill relief, *especially for low income customers*") (emphasis added).

<sup>84</sup> Scoping Memo, Appendix A at A7 (emphasis added).

groups, given their relatively limited access to capital.”<sup>85</sup> These directives echo requirements in AB 32, which directs state agencies to design regulations “in a manner that is *equitable*” and to “[e]nsure that activities undertaken to comply with the regulations do not disproportionately impact low-income communities.”<sup>86</sup>

## **9 Conclusion**

For the reasons discussed above, we request that the Commission adopt the proposal of the Joint Parties for allocating allowance revenues generated from the sale of emission allowances by the Utilities under ARB’s cap-and-trade program. Our proposal simultaneously creates incentives for consumers to lessen their carbon footprint, invests in programs that reduce GHG emissions and co-pollutants, protects economically vulnerable families, and advances California’s long-term vision to foster a vibrant and sustainable low carbon economy.

Dated: January 6, 2012

Respectfully submitted,

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<sup>85</sup> Id. at A8.

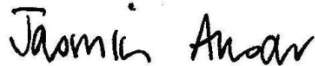
<sup>86</sup> Id. (emphasis added).



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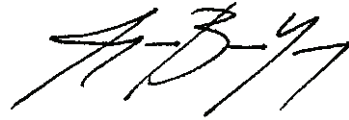
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**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Address Utility Cost and  
Revenue Issues Associated with Greenhouse Gas  
Emissions.

R. 11-03-012  
(Filed March 24, 2011)

**REVISED PROPOSAL OF THE NATURAL RESOURCES DEFENSE COUNCIL  
(NRDC) SIERRA CLUB CALIFORNIA, THE GREENLINING INSTITUTE  
(GREENLINING), UNION OF CONCERNED SCIENTISTS (UCS), LOCAL  
GOVERNMENT SUSTAINABLE ENERGY COALITION (LGSEC), NATIONAL  
CONSUMER LAW CENTER (NCLC), CLIMATE PROTECTION CAMPAIGN (CPC),  
CALIFORNIA HOUSING PARTNERSHIP CORPORATION (CHPC), AND THE  
COMMUNITY ENVIRONMENTAL COUNCIL TO ALLOCATE GREENHOUSE GAS  
ALLOWANCE REVENUES**

**NOTICE OF AVAILABILITY**

This is a Notice of Availability for the above-mentioned Revised Proposal and associated Appendices and Exhibits. As the electronic files exceed 3MB and the documents are more than 50 pages in length, they have been transmitted to parties on the Service List via [www.yousendit.com](http://www.yousendit.com). Requests for copies may be made to Shari Walker, Energy Program Administrator, Natural Resources Defense Council, 111 Sutter St., 20<sup>th</sup> Floor, San Francisco, CA 94104, Tel: 415-875-6179, e-mail [swalker@nrdc.org](mailto:swalker@nrdc.org).

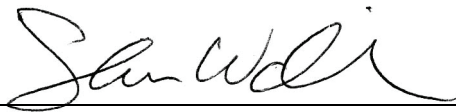
**Summary:**

We urge the Commission to consider this proceeding in the broader context of California's plan to transition to clean energy under AB 32. Revenues generated from the sale of emission allowances present a unique opportunity to both unlock additional clean energy

solutions in the power sector and cushion the impact of carbon mitigation policies on utility customers in a manner that retains strong incentives to conserve energy. While the cap-and-trade program is set to begin auctioning allowances in 2012, which will require the Commission to resolve this proceeding in a timely manner, we ask that the Commission consider allocation proposals with the long-term benefits of utility customers in mind. An approach focused exclusively on short-term viability will forego opportunities to maximize the benefits of allowance revenues for customers over the long-run.

Accordingly, we propose that the Commission set aside a substantial portion of allowance revenues each year for strategic investments in carbon mitigation programs and technologies, and return remaining revenues directly to customers in a manner that is visible, equitable, and which respects the incidence of carbon pricing in the economy.

Executed on January 18, 2012 at San Francisco, California.

A handwritten signature in black ink, appearing to read "Shari Walker", is positioned above a horizontal line.

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