

APPENDIX A

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA



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Utility Cost and Revenue Issues Associated
with Greenhouse Gas Emissions.

Rulemaking 11-03-012
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**THE DIVISION OF RATEPAYER ADVOCATES'
PROPOSAL FOR USING CAP-AND-TRADE
ALLOWANCE REVENUES**

DIANA L. LEE
Attorney for the
Division of Ratepayer Advocates
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102
Phone: (415) 703-4342
Email: diana.lee@cpuc.ca.gov

JORDAN PARRILLO
Regulatory Analyst for the
Division of Ratepayer Advocates
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102
Phone: (415) 703-1562
E-mail: jordan.parrillo@cpuc.ca.gov

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I. INTRODUCTION

Pursuant to the Assigned Commissioner and Administrative Law Judge's Joint Scoping Memo and Ruling, issued in this rulemaking on September 1, 2010 (Scoping Memo), the Division of Ratepayer Advocates (DRA) responds to the issues on which the Scoping Memo requests comment and presents its proposal for using cap-and-trade allowance revenues.

DRA's proposal would return 90 percent of the anticipated revenue to ratepayers whose rates increase because of the cap-and-trade program in the form of annual rebate checks. DRA proposes to allocate the remaining 10 percent of the allowance value to administrative expenses and to help fund the "Consolidated Financing Program," a mechanism that would finance energy efficiency improvements. The purpose of the Consolidated Financing Program would be to fund, develop, and implement a variety of financing mechanisms that will leverage several-fold the capital raised from ratepayers with private capital to make low interest loans or financing available for energy efficiency projects, thereby addressing a significant market barrier to implementing more costly energy efficiency improvements.¹ Using a portion of the allowance value to allow customers to finance energy efficiency projects would remove a significant barrier to more costly energy efficiency projects, resulting in decreased energy use and therefore decreased greenhouse gas emissions in furtherance of the ultimate goal of the California Global Warming Solutions Act of 2006, Assembly Bill (AB) 32.

It is important to educate customers about the bill impacts of the cap-and-trade mechanism, including the resulting rate increases for some customers, the use and return of allowance value, and ways that customers can mitigate rate increases. DRA's proposal to return the allowance value to customers whose bills increase because of the cap-and-trade program would be an opportunity to educate customers about cap-and-trade bill impacts and ways to mitigate them in furtherance of AB 32's goals. The incremental cost of such education is unknown, especially given the existence of ongoing utility educational and customer outreach efforts with which the message about cap-and-trade bill impacts should be coordinated. The Commission should therefore direct the Utilities to submit information about existing educational and outreach efforts, including energy efficiency, low income, demand response, the

¹ The Division of Ratepayer Advocates' Comments In Response to Administrative Law Judge's Ruling Requesting Comments Regarding 2013 Bridge Funding and Mechanics of Portfolio Extension 2013, *(continued on next page)*

California Solar Initiative, and proposals for the most cost effective way to implement additional outreach needed about the impact of California's cap-and-trade program on their electric rates, including ways they could mitigate bill impacts. It is possible that given ongoing funding through the Utilities' general rate cases that little or no incremental costs will be required for educating customers about the impacts of the cap-and-trade program. Regardless of the cost, it is critical that customers be educated about the program. To the extent that there are incremental costs of educating customers about bill impacts, those costs should be recovered from the 10 percent of the allowance value that DRA proposes not be returned directly to ratepayers.

II. DISCUSSION

A. **The Commission should direct the Utilities to use GHG allowance revenues to promote the goals of AB 32, consistent with principles of fair ratemaking.**

The Commission recognized in Decision (D.) 08-10-037 that all auction revenues should be used for purposes related to AB 32.² Determining the best use of GHG allowance revenue for the benefit of electricity ratepayers requires the Commission to balance a number of sometimes conflicting objectives. In balancing these objectives, the Commission should strive to implement the California Air Resource Board's (ARB) cap-and-trade regulation³ in the manner most consistent with the overall goals of AB 32: Below, DRA ranks the key policy objectives identified in the Scoping Memo⁴ as well as two additional proposed policy objectives:

- the equitable return of GHG revenue based on the proportional economic impact;
- educating customers about the cap-and-trade program, its impact on their rates, and ways they can mitigate that impact.

1. **Preserve the carbon price signal in retail rates**

The cost of carbon under the cap-and-trade regulation should be reflected in the prices faced by end use consumers and should be transparent to those ratepayers. This policy objective is the most important, because as the Scoping Memo acknowledged:

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filed, June 16, 2011 in R.09-11-014, p. 7.

² D.08-10-037, p.227.

³ ARB, Cap-and-Trade Regulation, September 2011 Discussion Draft.

“putting a price on greenhouse gas emissions, and having those costs reflected in prices faced by end users serves as a key catalyst for shifting resource and consumption choices of the California economy to reflect the socially optimal level of emissions as defined by the targets established in AB 32.”⁵

The Commission in D.08-10-037 recognized the importance of not suppressing the price signal when it stated “[i]t is imperative that any mechanism implemented to provide bill relief be designed so as not to dampen the price signal resulting from the cap-and-trade program.”⁶

The Economic and Allocation Advisory Committee (EAAC), a panel of economists established by the ARB and the California Environmental Protection Agency to advise ARB on this important issue, cautioned that using allowance value to prevent electricity rate increases would “undercut a main purpose of AB 32: to provide incentives for reduced electricity consumption (and associated emissions reductions).”⁷ EAAC further explained that

“reducing the change in electricity prices has the unfortunate effect of encouraging electricity consumption. This would lead to greater emissions associated with electricity generation, resulting in higher allowance price, which would affect other sectors of the economy. It is crucially important that the cap-and-trade program provide strong price signals to encourage the rapid replacement of inefficient capital, but these signals are lost if consumers do not observe changes in product prices.”⁸

The Utilities have proposed to return the revenues to customers on a volumetric basis by using the revenues to directly reduce a delivery rate component of retail rates.⁹ If, as the Utilities propose, the price of carbon is masked by imbedding the allowance revenue in retail electricity rates, the cap-and-trade regulation would result in the churning of millions of dollars without providing end use consumers with an incentive to use less electricity. Essentially, if the carbon price signal is suppressed in retail rates, the cap-and-trade program will increase wholesale

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⁴ Scoping Memo, 8-9.

⁵ Scoping Memo, Attachment A, p. A-3.

⁶ Scoping Memo, Attachment A; .A3; D.08-10-037, p.227.

⁷ Economic and Allocation Advisory Committee, “Allocating Emissions Allowances Under a Cap-and-Trade Program: Recommendations to the California Air Resources Board and California Environmental Protection Agency,” (EAAC Report) March 2010, p.66.

⁸ EAAC Report, March 2010, p.43.

⁹ Joint Motion of PG&E, SCE, and SDG&E for Interim Decision to Authorize use of GHG Allowance Revenues for 2012 Electricity Rates, p.3.

electricity prices due to the cost of GHG allowances, and then offset those increased prices in retail rates, less the administrative costs of implementing and complying with the program, with the revenue from selling the freely allocated GHG allowances. Although the Utilities and other load serving entities will see the price signals in wholesale electricity rates that will lead to a shift in resource procurement and consumption choices, other parts of the California economy will be blocked from this effect, and may not adjust their consumption accordingly.

California has established a goal of reducing GHG emissions 80 percent below 1990 levels by 2050.¹⁰ Although AB 32 does not mandate that reduction by law, it reflects California's policy for the future. If the cap-and-trade regulation is pursued as a long-term mechanism to reduce emissions to those 2050 levels, the long-term supply of GHG allowances will decline to reflect those levels, and the price of buying allowances to cover GHG emissions will rise. It is likely that as the long-term market evolves, the ARB will decrease the amount of freely allocated allowances to the utilities.¹¹ Masking the price of carbon by using GHG revenues to reduce retail electricity rates now creates the potential for more significant price increases if and when the free allocation of allowances is eventually reduced long-term. The Commission should therefore implement a long-term strategy that will transition to a future carbon-constrained economy by including the price of carbon that is set by the cap-and-trade market within the price of electricity.

2. The equitable return of revenue based on the proportional economic impact

While a purpose of the cap-and-trade program is to reflect a price signal that will lower the consumption of electricity, the ARB and the Commission have recognized that it is important to mitigate the impact on electricity ratepayers.¹² Utility customers will face a range of cost impacts due to the price of carbon,¹³ and for residential customers, the burden of these costs will

¹⁰ Executive Order S-3-05 by the Governor of the State of California.

¹¹ Allocation to the IOUs under the current cap-and-trade regulation declines from 2013 to 2020. ARB, Cap-and-Trade Regulation: July 2011 Discussion Draft Appendix A: Staff Proposal for Allocating Allowances to Electricity Distribution Utilities, pp.8-11.

¹² ARB, Proposed Regulation to Implement the California Cap-and-Trade Program, Part 1, Volume 1, Staff Report: Initial Statement of Reasons, October 28, 2010, p.II-31 and II-32; D.08-10-037, p.227.

¹³ See Tables 3, 4, and 5 in DRA's Proposal on Illustrative Examples of AB 32 Cost and Credit Allocation for PG&E, SCE, and SDG&E.

be borne exclusively by customers with upper tier usage because state law restricts the allocation of such costs to lower tier usage.¹⁴ Determining the cost burden of the cap-and-trade regulation to electricity ratepayers and how to reduce that cost burden with the GHG revenue is an important objective in considering the best way to use revenue allowance for the benefit of ratepayers.

To the extent that revenues from the sale of GHG allowances allocated to the electricity sector are used for bill relief, those revenues should be returned to ratepayers based on the proportional economic impact of GHG costs in their electric bills. The most equitable way to achieve this is to distribute allowance revenues proportionately with each customer's bill impacts. Calculating the amount of revenue that is returned to each ratepayer by following the GHG costs to those ratepayers under cap-and-trade is a transparent and straight forward methodology. The equitable return of revenue based on the proportional economic impact of the cap-and-trade program on electricity ratepayers should be evaluated by how accurately and equitably it directs GHG revenues to the ratepayers that face costs from the implementation of the cap-and-trade regulation.

3. Educating customers about the rate impact of the cap-and-trade program and how they can mitigate impacts

California's cap-and-trade program, which requires that the Utilities use the allowance value for the benefit of their customers, provides the opportunity for the Utilities to educate ratepayers about the impact of the cap-and-trade program on their bills, and how consumers' energy choices can impact their bill as well as GHG emissions. Educating customers about the cap-and-trade program, including bill impacts, and ways to reduce bill impacts while furthering the goals of AB 32 is an important aspect of any proposal to use GHG revenues for the benefit of ratepayers. The Commission should ensure that the plan to use allowance revenue for the benefit of ratepayers takes advantage of the opportunity to educate consumers, and that the outreach about the cap-and-trade program is leveraged with education and outreach related to other ongoing programs, including energy efficiency, the California Solar Initiative and any other billing changes, such as those related to time variant pricing.

The Utilities' Joint Motion for Interim Decision to Authorize use of GHG Allowance

¹⁴ Public Utilities Code Section 739.9; *see also* Joint Motion of PG&E, SCE, and SDG&E for Interim
(continued on next page)

Revenues for 2012 Electricity Rates cited the "extensive, prolonged and sophisticated communications and outreach"¹⁵ efforts that would be necessary to educate customers about the cap-and-trade program, and claimed that "time has already run out for such an extensive statewide communications effort."¹⁶ The Utilities contended that they "have other significant customer communications needs to educate customers on rate changes planned for this same period, which would need to be carefully coordinated with the GHG cost communications in order to avoid confusing customers."¹⁷ There is no need to complete outreach and education regarding GHG bill impacts before the cap-and-trade program begins. Instead, there will be ongoing opportunities to educate customers about California's efforts to reduce GHGs and the goal of the cap-and-trade program, including when customers' monthly bills are impacted by the purchase of allowances and once again when GHG revenues are returned to customers. The monthly bills and return of allowance revenue to customers provide opportunities to explain the bill impacts of the cap-and-trade program, and the relation of the customer's energy usage on the bill.

Much as cap-and-trade is a backstop to ensure that California reaches its 2020 goal of reducing emissions to 1990 levels,¹⁸ the educational value of pricing carbon and returning the GHG revenues to ratepayers can act as a backstop to communicate a coordinated message regarding California's aggressive efforts to reduce GHG emissions through various policy measures. Educating consumers about the cap-and-trade program is important to the program's ultimate success,¹⁹ so the Commission should evaluate the projected costs of returning the

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Decision to Authorize use of GHG Allowance Revenues for 2012 Electricity Rates, p.2, footnote 2.

¹⁵ Joint Motion of PG&E, SCE, and SDG&E for Interim Decision to Authorize use of GHG Allowance Revenues for 2012 Electricity Rates, May 11, 2011 (Joint Motion), p.3.

¹⁶ Joint Motion, pp.3-4.

¹⁷ Joint Motion, p. 4.

¹⁸ The firm limit on emissions established by the cap-and-trade program will help ensure that statewide emissions will meet the AB 32 target of reducing emissions to 1990 levels by 2020, even if implementation of the complementary measures, such as the RPS, result in less emissions reductions than currently anticipated.

¹⁹ California Air Resources Board Chair Mary Nichols observed in remarks to the California Independent System Operator Stakeholders Symposium, delivered September 7, 2011, that in order to succeed over the long-term, the cap-and-trade programs must "deliver demonstrable benefits for California."

http://www.arb.ca.gov/newsrel/2011/11_9_7_nichols.pdf

allowance value on a fixed basis either with a tangible off-the-bill rebate or with a clearly defined line item on a bill and the outreach associated with each, and consider the most effective way to communicate the cap-and-trade message to ratepayers.

4. Reduce adverse impacts on low-income households

It is important that the Commission ensure that any approved proposal to allocate the GHG revenue minimizes the impact on low-income ratepayers of the cap-and-trade program's implementation in the electricity sector. California electric customers subscribing to the rate discount available to customers at or below 200% of the Federal Poverty level use less electricity on average than the California electric customers paying the non-discounted rate for residential customers.²⁰ It is therefore important that low income ratepayers who face higher electric bills as a result of GHG costs receive bill credits with as little time lag as possible in order to reduce the risk of potential service disconnections that may result from higher electric bills.

It is important for the Commission to define the appropriate scope of adverse impacts from implementation of the cap-and-trade program in the electricity sector. Low income ratepayers whose energy use is in Tier 3 may pay higher rates because of the cap-and-trade program, and in that case, they should receive bill credit to mitigate GHG compliance costs with the minimal possible time lag. Some low income customers will not experience higher electric bills as a result of GHG costs, because Section 739.1(b) limits the rates that Utilities can charge low-income customers. The allocation of GHG allowance revenue to bill relief should be limited to customers who face higher electric bills as a result of the cap-and-trade program.

The EAAC report notes that "households will be affected through changes in gasoline and other energy prices and through changes in the price of goods and services that use energy in production" and that lower income households spend a greater fraction of their income on carbon intensive goods.²¹ The Scoping Memo therefore suggests that a solution is to allocate GHG allowance revenue "to address the disproportionate cost burden that carbon pricing may impose on lower income households."²² DRA recommends instead that the Commission should direct GHG allowance revenue directly to customers who produce goods and services, through direct

²⁰ PG&E, SCE, and SDG&E Annual CARE Reports filed annually in A.08-05-022.

²¹ EAAC Report, March 2010, p.39.

²² Scoping Memo, Attachment A, p. A-7.

bill relief, thereby reducing the need to raise prices that would impact all ratepayers, including low income ratepayers. In addition, it is appropriate to consider relief for low income customers in the ongoing Energy Savings Assistance Program and California Solar Initiative (CSI) proceedings.

5. Prevent economic leakage

Emission intensive, trade exposed (EITE) industries in California, as identified by ARB analysis,²³ are entities that cannot increase their prices due to increased costs due to GHG compliance because they operate in a global market in which their competitors do not face similar costs. Such industries should be protected from competition by firms outside of the cap-and-trade regime, and which, as a result, do not bear GHG compliance costs. Although the ARB has recognized the importance of this objective by allocating allowances to EITE entities to cover approximately 90 percent of their direct emissions, it is important for the Commission to protect these same EITE entities from indirect emissions, or the increased costs of electricity under cap-and-trade. This is an important policy objective because failure to prevent California firms from moving to a jurisdiction where GHG emissions are not yet regulated will result in decreased tax revenue and loss of jobs for California without reducing GHG emissions.

6. Maintain competitive neutrality across load serving entities

The Commission's implementation of the cap-and-trade program should not alter the relative competitive position of utilities, energy service providers (ESPs), and community choice aggregators (CCAs). Thus, it is important that the return of revenue to customers should be implemented in a competitively neutral way, and any programs funded with allowance revenues for the benefit of ratepayers must be available to customers of the Utilities, Community Choice Aggregators or Electric Service Providers.

7. Correct for market failures that lead to underinvestment in carbon mitigation activities and technologies

Rectifying market failures that result in underinvestment in carbon mitigation activities and technologies is an important goal that should be addressed in using allowance revenue for

²³ ARB, Cap-and-Trade Regulation, Appendix K: Leakage Analysis.

the benefit of ratepayers. The Commission recognized in D.08-10-037 that “the foundation for success to reduce GHG emissions in the electricity sector is more energy efficiency and further development of renewable energy sources such as wind, solar, geothermal, and biomass.”²⁴ The legislature acted this year to increase the use of renewable energy sources when it enacted the 33 percent Renewables Portfolio Standard that requires load serving entities in California to serve 33 percent of their retail load with renewables by 2020.²⁵ However, significant barriers remain to optimal investment in energy efficiency, notwithstanding the \$3.1 billion energy efficiency portfolios²⁶ administered by PG&E, SCE, SDG&E and SoCalGas for the 2010-2012 portfolio cycle.

Recently, the Energy Division released “Energy Efficiency Financing in California: Needs and Gaps Preliminary Assessment and Recommendations,” a report that concluded that “achieving levels of energy efficiency consistent with California’s goal will require a capital investment of approximately \$4 billion per year”- while noting that current levels of energy efficiency investment appears to be approximately half that amount.²⁷ A significant barrier to achieving higher energy efficiency goals is the lack of appropriate cost-effective financing mechanisms.²⁸

Although the Utilities have implemented some energy efficiency On-Bill financing programs for commercial, local government, and industrial customers, there are currently no financing programs for residential customers within the Utilities’ energy efficiency portfolios. DRA has therefore recommended in Rulemaking (R.)09-11-014, the Commission’s rulemaking “examining the Commission’s Post-2008 Energy Efficiency Policies, Programs, Evaluation, Measurement and Verification Issues” that the Commission establish a Consolidated Financing Program within a separate phase of that proceeding.²⁹

²⁴ D.08-10-037, p. 6.

²⁵ Senate Bill (SB) 2 (1x), Simitian), stats. 2011, ch. 1, enacted April 12, 2011.

²⁶ Roughly 82% of the amount is for electric energy efficiency, D.09-09-047.

²⁷ Energy Efficiency Financing in California: Needs and Gaps Preliminary Assessment and Recommendations, Harcourt Brown & Carey, Inc, July 8, 2011, (Energy Efficiency Financing in California), p. 4 and Appendix C. Available at http://www.cpuc.ca.gov/NR/rdonlyres/B0EBFCA6-22B5-408D-96B8-6490A5A38939/0/EEFinanceReport_final.pdf.

²⁸ Energy Efficiency Financing in California, p. 4

²⁹ The Commission’s November 25, 2009 Order Instituting Rulemaking R.09-11-014 announced the
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DRA explained that:

“[t]he purpose of the Consolidated Financing Program would be to develop and implement financing mechanisms that will make available to customers low interest loans where the capital is predominately, if not exclusively, provided by private sector financial companies. The Commission, between now and through the end of 2012, should determine which mechanisms should be developed and implemented. This action is consistent with the requirements of AB 758 and, if executed well, will provide the energy efficiency markets with significantly more capital to expand and sustain adoption of energy efficiency technologies, products and services. Participation of private capital in the energy efficiency markets will eventually reduce the need to raise capital from ratepayers.”³⁰

It is important to correct for market failures that prevent optimal investment in technologies and programs that will reduce GHG emissions. One way for the Commission to achieve this goal would be for the Commission to move forward with establishing a Consolidated Financing Program in R.09-11-014, and then directing allowance revenue to help fund that program.

8. Achieve administrative simplicity

It is important that any proposal to use GHG allowance value for the benefit of the ratepayers be understandable and straightforward to implement, but these objectives of simplicity must be weighed in the context of other objectives that DRA ranks higher on this list.

9. Distribute revenues equitably recognizing the public asset nature of the atmospheric carbon sink

This policy objective is based on the assumption that all citizens have an equal claim to the atmospheric property right, and that it is therefore important to distribute revenues from the sale of emission allowances equitably. DRA agrees that equitable distribution of revenues is important, but believes that equitable distribution must consider the extent to which citizens pay for use of the atmospheric property right to emit GHG. Currently, no one in California pays for the atmospheric property right to emit GHG. The cap-and-trade program will require electricity customers to begin paying for the right to emit GHG, but the current tiered rate structure will

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intent to consider financing issues within the rulemaking, but the issues have not yet been addressed in detail.

³⁰ The Division of Ratepayer Advocates' Comments in Response to Administrative Law Judge's Ruling Requesting Comments Regarding 2013 Bridge Funding and Mechanics of Portfolio Extension filed June 16, 2011 in R.09-11-014, p. 7 (footnotes omitted).

shield residential customers in Tiers 1 and 2 from GHG costs.³¹ GHG costs for electricity use will be paid by residential customers in Tiers 3 and above. Equitable distribution of revenues would recognize that customers who do not pay for the atmospheric right to emit GHG based on their electricity use should not receive bill credits for the return of revenue.

B. DRA's Proposal

DRA proposes that 90 percent of the GHG revenues should be used to provide bill relief for the electricity ratepayers that are paying for the increased costs of electricity due to the cap-and-trade program, with the remaining revenue used for administrative and outreach costs related to returning the revenue to ratepayers, and funding a Consolidated Financing Program that leverages this remaining revenue to facilitate the flow of private capital in energy efficiency markets to provide low interest loans and financing for customer projects.

1. Bill relief

DRA proposes that the Commission authorize bill relief in the form of an annual off-the-bill rebate. Through DRA's proposed approach, GHG revenues would be used to protect the utility customers who are actually paying the direct carbon costs imposed by the cap-and-trade regulation. The GHG revenues would follow the proportional costs similar to the Utilities Joint Motion on May 11, but the mechanism for returning revenues to ratepayers would differ. DRA's proposal to return the revenues through an annual rebate would preserve the price of carbon in the per kWh retail electricity rate, whereas the Utilities' proposal would return revenues to customers on a volumetric basis and eliminate the carbon price signal resulting from cap-and-trade. Creating a time lag between when ratepayers incur increased costs due to GHG (i.e. each month) and when they receive the benefits from GHG revenues (i.e. annually) will maintain a price incentive to reduce energy use. This time lag should not apply to CARE customers. To the extent that a Utility has CARE customers who pay higher electric bills because of GHG costs, they should receive monthly bill credits in order to minimize the risk that higher electric bills could result in service disconnections.

Table 1 below presents DRA's proposed breakdown of GHG revenues in 2013, including the administrative costs of returning the allowance revenue through annual rebates, as estimated

³¹ Public Utilities Code Section 739.9(a).

by the IOUs.³² Further information on the incremental administrative costs of annual rebates is provided in Appendix B.

From DRA's perspective these costs are outweighed by the potential long-term benefits of outreaching to customers through a tangible payment and furthering the general understanding of climate change, the cost of GHG emissions, and the impact of consumers' energy choices on their electric bills and on GHG emissions. This type of an outreach effort could be a cost-effective way to educate consumers and communicate a coordinated message regarding California's efforts to reduce GHG emissions.

Table 1. Illustrative Example of ARB Cap-and-Trade Allocation and Revenue in 2013 with Annual Rebate

	Allocation ¹	Allowance Price (per ton) ²	Allowance Revenue	Allowance Revenue for Direct Bill Relief	Administrative Costs of Annual Rebate ³	Remaining Allowance Value for Loan Program
PG&E	25,035,000	\$15.00	\$375,525,000	\$337,972,500	\$3,247,000	\$34,305,500
SCE	32,700,000	\$15.00	\$490,500,000	\$441,450,000	\$5,807,149	\$43,242,851
SDG&E	6,931,000	\$15.00	\$103,965,000	\$93,568,500	\$310,000	\$10,086,500

¹ ARB, Cap-and-Trade Regulation: July 2011 Discussion Draft Appendix A: Staff Proposal for Allocating Allowances to Electricity Distribution Utilities, pp.8-11.
² The ARB floor price for carbon allowances in 2013 is \$10/MT, however recent trading has been in the range of \$18-\$21/MT. Therefore DRA uses \$15/MT as a reasonable estimate of 2013 carbon allowance prices.
³ Data Responses: PG&E_GreenhouseGasOIR_DR_DRA_002; R.11-03-012 DRA-SCE-002_Response; Response of SDG&E to DRA-002.

DRA recommends that after the first compliance period ends ratepayers have the option of receiving a rebate check or applying a bill credit to their accounts once a year. At the time a customer receives the second annual rebate check, the customer could opt-in to receiving a bill credit for the subsequent years. For comparative purposes, Table 2 below shows the administrative costs of returning the allowance revenue to customers through an annual bill reduction, as estimated by the Utilities.³³ If the Commission determines that the cost of rebates is not a justified cost compared to the educational value, then DRA would support an annual bill reduction, in which the amount of revenue returned to a customer is applied as a separate line item credit once a year.

³² See Appendix A-1, IOU Data Responses: PG&E_GreenhouseGasOIR_DR_DRA_002; R.11-03-012 DRA-SCE Response; Response of SDG&E to DRA-002.
³³ IOU Data Responses: PG&E_GreenhouseGasOIR_DR_DRA_002; R.11-03-012 DRA-SCE-Response; Response of SDG&E to DRA-002.

Table 2. Illustrative Example of ARB Cap-and-Trade Allocation and Revenue in 2013 with Annual Bill Credit

	Allocation ¹	Allowance Price (per ton) ²	Allowance Revenue	Allowance Revenue for Direct Bill Relief	Administrative Costs of Annual Bill Credit ³	Remaining Allowance Value for Loan Program
PG&E	25,035,000	\$15.00	\$375,525,000	\$337,972,500	\$632,000	\$36,920,500
SCE	32,700,000	\$15.00	\$490,500,000	\$441,450,000	\$649,317	\$48,400,683
SDG&E	6,931,000	\$15.00	\$103,965,000	\$93,568,500	\$65,000	\$10,331,500

¹ ARB, Cap-and-Trade Regulation: July 2011 Discussion Draft Appendix A: Staff Proposal for Allocating Allowances to Electricity Distribution Utilities, pp.8-11.

² The ARB floor price for carbon allowances in 2013 is \$10/MT, however recent trading has been in the range of \$18-\$21/MT. Therefore DRA uses \$15/MT as a reasonable estimate of 2013 carbon allowance prices.

³ Data Responses: PG&E_GreenhouseGasOIR_DR_DRA_002; R.11-03-012 DRA-SCE-002_Response; Response of SDG&E to DRA-002.

2. Rate impact in 2013

DRA developed the illustrative rate impact examples in its proposal using the Rate Impact Model of PG&E, SCE, and SDG&E (IOU Rate Impact Model) filed on September 27, 2011.³⁴ DRA's proposal assumes the recommended allocation numbers to individual utilities from ARB's July 2011 Staff Proposal for Allocating Allowances to Electricity Distribution Utilities,³⁵ and an average \$15 per metric ton (MT) price of carbon allowances in 2013.³⁶

An important element of DRA's proposal is that both the cost of carbon under the cap-and-trade regulation and the return of allowance revenue should be transparent and understandable to ratepayers. To achieve this effect, DRA recommends that the incremental rate impact of the carbon cost (\$/kWh) and the incremental bill impacts (\$/month) of those costs are included as line items on monthly bills. This will facilitate better customer understanding of exactly what a customer is paying for carbon costs under cap-and-trade each month. Likewise, the return of revenue to customers through an annual rebate, or annual bill credit, must be a coordinated outreach effort to explain the bill relief benefits of the policy as designed by the ARB, as well as the importance of reducing energy consumption over time as those benefits decrease.

DRA's proposal includes a time lag between when a customer incurs costs due to carbon and when they receive the benefits from GHG revenue. This will require that the Commission

³⁴ Rate Impact Model of Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas & Electric Company Pursuant to Assigned Commissioner and Administrative Law Judges' Joint Scoping Memo and Ruling, September 27, 2011.

³⁵ ARB, Cap-and-Trade Regulation: July 2011 Discussion Draft Appendix A: Staff Proposal for Allocating Allowances to Electricity Distribution Utilities, pp.8-11.

³⁶ The ARB floor price for carbon allowances in 2013 is \$10/MT, however recent trading has been in the range of \$18-\$21/MT. Therefore DRA uses \$15/MT as a reasonable estimate of 2013 carbon allowance prices.

approve an Energy Resource Recovery Account (ERRA) sub-account to facilitate the accrual of GHG revenues that are expected from the IOU sales of allowances at each quarterly ARB action. The specifics of the ERRA sub-account would have to be developed through the course of this proceeding.

a) PG&E

Using the assumptions provided above, PG&E would receive \$375.5 million in allowance revenues, of which \$337.9 million (90 percent) would be returned directly to ratepayers under DRA's proposal. On the cost side, \$306.7 million in additional costs is assumed. This calculation assumes that ARB provided PG&E with an allocation of 9.24 percent in excess of its expected cost burden, as presented in the ARB Staff Proposal for Allocating Allowances to Electricity Distribution Utilities.³⁷ Consistent with the IOU Proposal,³⁸ the remaining value is discounted by 10 percent to reflect the fact that about 10 percent of total utility sales are represented by Direct Access (DA) and CCA customers, which do not purchase generation from the utilities.

Using the IOU Rate Impact Model, and displayed in Table 3, the \$306.7 million in additional generation costs is allocated to each customer class (column C) using the current bundled allocation factors for generation by customer class (column B), as presented in Option 1 of the IOU Rate Impact Model. These additional costs are then divided by the bundled sales (column D) by class to arrive at the \$/kWh generation rate increase (column E). The allocation to customer classes of the \$337.9 million in GHG revenues (column H) is performed in the same manner as the allocation of costs (i.e. using an equal percentage of functional revenues). Since the allowance revenues will be provided to DA and CCA customers in addition to bundled customers, this methodology imputes the generation revenue for DA/CCA customers based upon what those customers would have paid to PG&E if they were bundled customers, and then calculates the total generation revenue shares for bundled and imputed generation for DA and CCA (column G). The next step is to divide each customer class' allocation of the refund by the total sales (bundled, DA/CCA) by class (column I) which produces the \$/kWh credit applicable

³⁷ ARB, Cap-and-Trade Regulation: July 2011 Discussion Draft Appendix A: Staff Proposal for Allocating Allowances to Electricity Distribution Utilities, pp.8-11.

³⁸ Joint Exhibit of PG&E, SCE, and SDG&E Pursuant to June 2, 2011 Administrative Law Judge's Ruling: Attachment A, June 20, 2011 (IOU Proposal).

to each customer class (column J).³⁹ DRA proposes to calculate the amount of revenue returned to each customer each year by multiplying the \$/kWh credit, or the incremental rate impact of the \$/kWh credit for residential customers, by the total amount of kWh's a customer uses annually (see Table 3).

Table 3. PG&E Illustrative Example of AB 32 Cost and Credit Allocation

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)
	Bldd SAP Allocation Factor (2011 AET)	Additional Gen Costs \$306,747,000	Bldd Sales	Per kWh Gen Increase	Total Gen (DA/CCA Imputed)	Allocator	CARB Allowance Rev (\$337,972,500)	Total Sales	Per kWh Credit
Residential	38.6%	\$118,392,276	31,015,628,009	\$0.00382	\$2,428,514,377	35.1%	(\$118,735,454)	31,162,392,686	(\$0.00381)
Small	13.1%	\$40,186,798	9,444,953,217	\$0.00425	\$820,753,945	11.9%	(\$40,128,481)	9,565,268,359	(\$0.00420)
Medium	15.3%	\$47,064,982	10,429,952,601	\$0.00451	\$1,046,038,086	15.1%	(\$51,143,122)	11,478,639,853	(\$0.00446)
E-19	13.5%	\$41,518,767	10,007,833,568	\$0.00415	\$1,078,418,008	15.6%	(\$52,726,248)	12,934,127,226	(\$0.00408)
Streetlights	0.5%	\$1,606,878	424,641,351	\$0.00378	\$31,538,113	0.5%	(\$1,541,968)	424,641,351	(\$0.00363)
Standby	0.4%	\$1,181,753	352,145,657	\$0.00336	\$24,409,749	0.4%	(\$1,193,447)	359,672,897	(\$0.00332)
Agriculture	5.8%	\$17,872,937	5,125,153,070	\$0.00349	\$365,721,975	5.3%	(\$17,880,958)	5,164,485,908	(\$0.00346)
E-20	12.7%	\$38,922,609	10,070,016,516	\$0.00387	\$1,117,208,924	16.2%	(\$54,622,822)	14,392,584,975	(\$0.00380)
System	100.0%	\$306,747,000	76,870,323,991	\$0.00399	\$6,912,603,178	100.0%	(\$337,972,500)	85,481,813,255	(\$0.00395)

Additionally, the IOU Rate Impact Model allows the calculation of illustrative incremental bill impacts for residential and small commercial customers, based on DRA's proposal. This information for PG&E is presented as Appendix A-1 to DRA's Proposal. The example billing information includes the incremental rate impact of the carbon cost (\$/kWh) and the incremental bill impacts (\$/month) of those costs each month. The estimated annual rebate under DRA's proposal (\$/year) is also shown, and assumes that the estimated monthly incremental bill impact, as presented in the example, represents the monthly average over the 12 months in 2013.

b) SCE

Using the same assumptions, SCE would receive \$490.5 million in allowance revenues, of which \$441.5 million (90 percent) would be returned directly to ratepayers under DRA's proposal. On the cost side, \$408.8 million in additional costs is assumed. This calculation assumes that ARB provided SCE with an allocation of 7.4 percent in excess of its expected cost burden, as presented in the ARB Staff Proposal for Allocating Allowances to Electricity

³⁹ The description of the cost and revenue allocation methodology results is replicated from the Joint Exhibit of PG&E, SCE, and SDG&E Pursuant to June 2, 2011 Administrative Law Judge's Ruling: Attachment A, June 20, 2011.

Distribution Utilities.⁴⁰ Consistent with the IOU Proposal, the remaining value is discounted by 10 percent to reflect the fact that about 10 percent of total utility sales are represented by DA and CCA customers, which do not purchase generation from the utilities⁴¹ (see Table 4).

Table 4. SCE Illustrative Example of AB 32 Cost and Credit Allocation

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)
	Bdd SAP Allocation Factor (June 2011)	Additional Gen Costs \$408,780,000	Bdd Sales	Per kWh Gen Increase	Total Gen (DA Imputed)	Allocator	CARB Refund (\$441,450,000)	Total Sales	Per kWh Credit/Refund
Domestic	40.3%	\$164,743,014	28,758,327,035	\$0.00573	\$2,108,234,276	35.8%	(\$157,847,249)	28,836,392,862	(\$0.00547)
LSMP	35.2%	\$143,750,525	24,952,839,795	\$0.00576	\$2,083,638,548	35.3%	(\$156,005,723)	28,877,871,335	(\$0.00540)
Large Power	20.8%	\$85,019,176	17,029,419,832	\$0.00499	\$1,503,765,338	25.5%	(\$112,589,585)	23,706,677,399	(\$0.00475)
Ag & Pumping	3.2%	\$13,015,962	2,886,190,764	\$0.00451	\$170,707,067	2.9%	(\$12,781,142)	2,968,908,148	(\$0.00430)
Streetlights	0.6%	\$2,251,323	696,549,522	\$0.00323	\$29,734,853	0.5%	(\$2,226,301)	720,850,833	(\$0.00309)
System	100.0%	\$408,780,000	74,323,326,948	\$0.00550	\$5,896,080,083	100.0%	(\$441,450,000)	85,110,700,576	(\$0.00519)

Based on DRA’s Proposal, the illustrative incremental bill impacts for residential and small commercial SCE customers are presented in Appendix A-2. The example billing information includes the incremental rate impact of the carbon cost (\$/kWh) and the incremental bill impacts (\$/month) of those costs each month. The estimated annual rebate under DRA’s Proposal (\$/year) is also shown, and assumes that the estimated monthly incremental bill impact, as presented in the example, represents the monthly average over the 12 months in 2013.

c) SDG&E

Using the same assumptions, SDG&E would receive \$103.9 million in allowance revenues, of which \$93.6 million (90 percent) would be returned directly to ratepayers under DRA's proposal. On the cost side, \$89.1 million in additional costs are assumed. This calculation assumes that ARB provided SDG&E with an allocation of 4.76 percent in excess of its expected cost burden, as presented in the ARB Staff Proposal for Allocating Allowances to Electricity Distribution Utilities.⁴² Consistent with the IOU Proposal, the remaining value is discounted by 10 percent to reflect the fact that about 10 percent of total utility sales are

⁴⁰ ARB, Cap-and-Trade Regulation: July 2011 Discussion Draft Appendix A: Staff Proposal for Allocating Allowances to Electricity Distribution Utilities, pp.8-11.

⁴¹ Joint Exhibit of PG&E, SCE, and SDG&E Pursuant to June 2, 2011 Administrative Law Judge’s Ruling: Attachment A, June 20, 2011.

⁴² ARB, Cap-and-Trade Regulation: July 2011 Discussion Draft Appendix A: Staff Proposal for Allocating Allowances to Electricity Distribution Utilities, pp.8-11.

represented by DA and CCA customers, which do not purchase generation from the utilities⁴³ (see Table 5). It should be noted that this methodology produces a result similar to the cost calculation provided by SDG&E (\$88.5 million).

Table 5. SDG&E Illustrative Example of AB 32 Cost and Credit Allocation

	Authorized Commodity Allocation Factors	Additional Gen Costs \$89,115,000	Authorized Bdld Sales	Per kWh Gen Increase	Authorized Total Sales	DA Sales	Total Gen (DA/CCA Imputed)	Commodity Allocation Factors adjusted for DA/CCA	Allocated CARB Allowance Revenues (\$93,568,500)	Per kWh Credit
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)
Residential	42.5%	\$37,829,318	7,810,367,000	\$0.00484	7,829,000,000	18,633,000	\$544,976,690	35.9%	(\$33,594,330)	(\$0.00429)
Small Commer	12.2%	\$10,872,030	2,083,753,000	\$0.00522	2,103,589,000	19,836,000	\$157,790,211	10.4%	(\$9,726,758)	(\$0.00462)
M/L C&I	44.4%	\$39,567,060	7,682,982,000	\$0.00515	10,752,377,000	3,069,395,000	\$802,664,943	52.9%	(\$49,479,164)	(\$0.00460)
Agricultural	0.5%	\$445,575	89,001,000	\$0.00501	94,034,000	5,033,000	\$6,738,476	0.4%	(\$415,384)	(\$0.00442)
Streetlights	0.5%	\$401,018	110,896,000	\$0.00362	111,000,000	104,000	\$5,724,270	0.4%	(\$352,865)	(\$0.00318)
System	100.0%	\$89,115,000	17,776,999,000	\$0.00501	20,890,000,000	3,113,001,000	\$1,517,894,590	100.0%	(\$93,568,500)	(\$0.00448)

Based on DRA’s Proposal, the illustrative incremental bill impacts for residential and small commercial SDG&E customers are presented in Attachment A-3 to this proposal. The example billing information includes the incremental rate impact of the carbon cost (\$/kWh) and the incremental bill impacts (\$/month) of those costs each month. The estimated annual rebate under DRA’s proposal (\$/year) is also shown, and assumes that the estimated monthly incremental bill impact, as presented in the example, represents the monthly average over the 12 months in 2013.

3. The Commission should direct up to 10 percent of the allowance revenue to finance investments to reduce GHG emissions

Significant long-term benefits that will advance AB 32’s goal of reducing GHG emissions could accrue to all ratepayers by using a portion of the allowance revenue to finance investments that will maximize emissions reductions in California. Investments that achieve permanent energy reductions would provide bill relief and emissions reductions for many years. DRA recommended in R.09-11-014 that the Commission direct a portion of the energy efficiency funding that will be used for energy efficiency programs in 2013 to establish a Consolidated Financing Program with an initial budget of at least \$85 million.⁴⁴ The purpose of

⁴³ Joint Exhibit of PG&E, SCE, and SDG&E Pursuant to June 2, 2011 Administrative Law Judge’s Ruling: Attachment A, June 20, 2011.

⁴⁴ The Division of Ratepayer Advocates’ Comments in Response to Administrative Law Judge’s Ruling Requesting Comments Regarding 2013 Bridge Funding and Mechanics of Portfolio Extension, filed June 16, 2011 in R.09-11-014, pp. 7-8.

the Consolidated Financing Program would be to develop and implement financing mechanisms that will make low interest loans available to customers where the capital is predominately provided by private sector financial companies. DRA recommends that the Commission put in place, between now and through the end of 2012, an Independent Financing Program Administrator with deep expertise in financing to manage the Consolidated Financing Program. The Commission should develop the institutional framework for this arrangement with the goal of having the independent administrator in operations before 2013.

Developing a Consolidated Financing Program managed by an Independent Financing Program Administrator could provide the energy efficiency markets with significantly more capital to expand and sustain adoption of energy efficiency technologies, products and services.⁴⁵ Participation of private capital in the energy efficiency markets would eventually reduce the need to raise capital from ratepayers. DRA recommended that the Commission allocate at least \$85 million to fund the Consolidated Financing Mechanism as part of the 2013 energy efficiency budgets. The Consolidated Financing Mechanism could serve as a source of loans for customers to undertake long-term investments that would reduce their energy consumption. If additional funding were made available from GHG allowance revenues, the pool of loan funding could be even greater. DRA recommends that the Commission work to develop such a mechanism and that it be funded with the ten percent of the allowance revenue that is not returned directly to customers in the form of rebates, less the administrative and outreach costs related to returning the GHG revenues to customers.

The details of the Consolidated Financing Program would need to be developed in a separate phase of R.09-11-014, but establishment of such a program would promote investment in energy efficiency, thereby reducing electricity consumption and associated GHG emissions, without depending solely on ratepayer subsidies to achieve the savings.

⁴⁵ The legislature enacted AB Section 758, directing the California Energy Commission, in coordination with the CPUC, to develop a comprehensive program to achieve greater energy savings in existing buildings, including the use of public and private financing options. *See* Public Resource Code Section 25943

4. Review and Assess the Effectiveness of the Adopted Proposal to Use Allowance Revenue at the End of Each Compliance Period

It is important that the Commission periodically review the proposal adopted in this proceeding to use GHG allowance revenue for the benefit of ratepayers. After two years, the Commission should assess the impacts of implementing the regulation for the electricity sector in California. The impacts to industry and low-income ratepayers should be evaluated, and any changes to applicable laws or policies (e.g. SB 695) should be considered. The Commission should also assess whether the chosen use of revenues is meeting the intended goals of revenue use, as determined in this proceeding.

DRA recommends that the evaluation of revenue use is examined at the end of each compliance period under the ARB cap-and-trade regulation. The Commission should require that the Utilities provide annual reporting that contains the information listed below. DRA believes decision makers and stakeholders would find this information useful in the context of evaluating the revenue use.

- Total expenditures on GHG allowances;
- Annual per kWh generation increase due to cap-and-trade for each customer class and tier;
- Total revenue from the sale of GHG allowances;
- Annual per kWh credit due to cap-and-trade revenues for each customer class and tier;
- Revenue distribution to each customer class and tier;
- Per class and per tier energy usage during the year.

C. DRA's proposal for using GHG allowance revenues meets the objectives outlined in the Scoping Memo, as well as DRA's additional proposed objectives.

DRA's proposal meets the objectives outlined in the Scoping Memo, as well as DRA's additional proposed objects.

- DRA's proposal would maintain the price of carbon in retail electric rates, while minimizing the economic burden by returning 90 percent of the value to ratepayers whose electric bills increase by providing bill relief in the form of annual rebate checks. (Objectives 1 and 2)
- Returning the allowance value to ratepayers annually in a rebate check would provide the Utilities with an opportunity to educate ratepayers about the impact of the cap-and-trade program on their electric bills, and

how they can mitigate those impacts while at the same time reducing their GHG emissions. (Objective 3)

- DRA’s proposal would shield low income ratepayers from adverse bill impacts by minimizing the time lag between the GHG costs and proposed bill relief for low income ratepayers whose electric rates reflect GHG costs. (Objective 4)
- DRA’s proposal operates to prevent economic leakage by returning 90 percent of the allowance value to all ratepayers, and using up to ten percent of the revenue (less the administrative and outreach costs related to returning the GHG revenues to customers) to fund a Consolidated Financing Program that would leverage ratepayer funding with private capital to provide financing opportunities for energy efficiency projects (Objective 5)
- DRA’s proposal would flow allowance value to ESPs and CCAs in a manner that is competitively neutral (Objective 6)
- DRA’s proposal to fund a Consolidated Financing Program that would leverage ratepayer funding with private capital to provide financing opportunities for energy efficiency would operate to remove a significant market barrier to pursuing energy efficiency, a significant way to reduce GHG emissions (Objective 7)
- DRA’s bill proposal is straightforward to calculate (Objective 8)
- DRA’s proposal would return most of the revenue to ratepayers who are paying for the right to use the atmospheric carbon sink through their electric bills, while using some of the remaining revenue to fund a Consolidated Financing Program to remove energy efficiency barriers (Objective 9).

III. CONCLUSION

California has moved ahead of many other states, the federal government, and other countries in acting to reduce GHG emissions. The success of California’s actions may encourage other jurisdictions to decrease their own GHG emissions, a step that would enhance the robustness of California’s cap-and-trade market, as well as furthering the goals of decreasing GHG emissions. The importance of national and international action to reduce GHG emissions is highlighted by ARB in its Initial Statement of Reasons to implement the California cap-and-trade program:

“Climate change poses a serious threat to the economic well-being, public health, natural resources, and environment of California. Global warming is projected to have detrimental effects on some of California's largest industries (including agriculture and tourism), increase the strain on electricity supplies, and contribute to unhealthy air. National and

international actions are necessary to fully address the issue of global warming; therefore, California's efforts alone will not solve the problem. Action taken by California to reduce emissions of GHGs will encourage other states, the federal government, and other countries to act. By exercising a leadership role, California will also position its economy, technology centers, academic and financial institutions, and businesses to benefit from national and international efforts to reduce emissions of greenhouse gases."⁴⁶

To promote the success of California's cap-and-trade program, the Commission should direct the Utilities to return a substantial proportion of GHG allowance revenue to mitigate electricity bill impacts while maintaining the retail price signal in electric rates. The Commission should ensure that when the Utilities return allowance revenue to customers, they inform customers about the cap-and-trade program, including steps they can take to reduce their GHG emissions and their electric bill. Finally, the Commission should direct up to 10 percent of the allowance revenue (less administrative and outreach costs related to bill relief) to a Consolidated Financing Program that will operate to remove a significant remaining barrier to energy efficiency.

Respectfully submitted,

/s/ DIANA L. LEE

DIANA L. LEE
Staff Counsel

Attorney for the Division of Ratepayer Advocates

California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102
Email: diana.lee@cpuc.ca.gov

October 5, 2011

⁴⁶ ARB Proposed Regulation to Implement the California Cap-and-Trade Program, Part 1, Volume 1, Staff Report: Initial Statement of Reasons, October 28, 2010, pp.I-2-I-3.

APPENDIX B

Table 8. PG&E 2013 ILLUSTRATIVE EXAMPLE OF CAP-AND-TRADE COST AND CREDIT ALLOCATION

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)
	Bdd SAP Allocation Factor (2011 AET)	Additional Gen Costs \$366,000,000	Bdd Sales	Per kWh Gen Increase	Total Gen (DA/CCA Imputed)	Allocator	CARB Allowance Rev (\$432,154,170)	Total Sales	Per kWh Credit
Residential	38.6%	\$141,261,603	31,015,628,009	\$0.00455	\$2,428,514,377	35.1%	(\$151,823,067)	31,162,392,686	(\$0.00487)
Small	13.1%	\$47,949,509	9,444,953,217	\$0.00508	\$820,753,945	11.9%	(\$51,310,951)	9,565,268,359	(\$0.00536)
Medium	15.3%	\$56,156,322	10,429,952,601	\$0.00538	\$1,046,038,086	15.1%	(\$65,395,005)	11,478,639,853	(\$0.00570)
E-19	13.5%	\$49,538,769	10,007,833,568	\$0.00495	\$1,078,418,008	15.6%	(\$67,419,296)	12,934,127,226	(\$0.00521)
Streetlights	0.5%	\$1,917,272	424,641,351	\$0.00452	\$31,538,113	0.5%	(\$1,971,663)	424,641,351	(\$0.00464)
Standby	0.4%	\$1,410,028	352,145,657	\$0.00400	\$24,409,749	0.4%	(\$1,526,021)	359,672,897	(\$0.00424)
Agriculture	5.8%	\$21,325,375	5,125,153,070	\$0.00416	\$365,721,975	5.3%	(\$22,863,786)	5,164,485,908	(\$0.00443)
E-20	12.7%	\$46,441,122	10,070,016,516	\$0.00461	\$1,117,208,924	16.2%	(\$69,844,382)	14,392,584,975	(\$0.00485)
System	100.0%	\$366,000,000	76,870,323,991	\$0.00476	\$6,912,603,178	100.0%	(\$432,154,170)	85,481,813,255	(\$0.00506)

Table 9. SCE 2015 ILLUSTRATIVE EXAMPLE OF CAP-AND-TRADE COST AND CREDIT ALLOCATION

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)
	Bdd SAP Allocation Factor (June 2011)	Additional Gen Costs \$445,000,000	Bdd Sales	Per kWh Gen Increase	Total Gen (DA Imputed)	Allocator	CARB Refund (\$742,109,364)	Total Sales	Per kWh Credit/Refund
Domestic	40.3%	\$179,340,088	28,758,327,035	\$0.00624	\$2,108,234,276	35.8%	(\$265,352,637)	28,836,392,862	(\$0.00920)
LSMP	35.2%	\$156,487,557	24,952,839,795	\$0.00627	\$2,083,638,548	35.3%	(\$262,256,899)	28,877,871,335	(\$0.00908)
Large Power	20.8%	\$92,552,310	17,029,419,832	\$0.00543	\$1,503,765,338	25.5%	(\$189,271,232)	23,706,677,399	(\$0.00798)
Ag & Pumping	3.2%	\$14,169,243	2,886,190,764	\$0.00491	\$170,707,067	2.9%	(\$21,486,023)	2,968,908,148	(\$0.00724)
Streetlights	0.6%	\$2,450,802	696,549,522	\$0.00352	\$29,734,853	0.5%	(\$3,742,573)	720,850,833	(\$0.00519)
System	100.0%	\$445,000,000	74,323,326,948	\$0.00599	\$5,896,080,083	100.0%	(\$742,109,364)	85,110,700,576	(\$0.00872)

Table 10. SDG&E 2013 ILLUSTRATIVE EXAMPLE OF CAP-AND-TRADE COST AND CREDIT ALLOCATION

Line No.	Authorized Commodity	Authorized Allocation Factors	Additional Gen Costs \$94,000,000	Authorized Bdd Sales	Per kWh Gen Increase	Authorized Total Sales	Authorized DA Sales	Total Gen (DA/CCA Imputed)	Commodity Allocation Factors adjusted for DA/CC	Allocated CARB Allowance Revenues (\$119,642,922)	Per kWh Credit
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	
1	Residential	42.5%	\$39,903,000	7,810,367,000	\$0.00511	7,829,000,000	18,633,000	\$544,976,690	35.9%	(\$42,955,950)	(\$0.00549)
2	Small Commercial	12.2%	\$11,468,000	2,083,753,000	\$0.00550	2,103,589,000	19,836,000	\$157,790,211	10.4%	(\$12,437,281)	(\$0.00591)
3	M/L C&I	44.4%	\$41,736,000	7,682,982,000	\$0.00543	10,752,377,000	3,069,395,000	\$802,664,943	52.9%	(\$63,267,357)	(\$0.00588)
4	Agricultural	0.5%	\$470,000	89,001,000	\$0.00528	94,034,000	5,033,000	\$6,738,476	0.4%	(\$531,138)	(\$0.00565)
5	Streetlights	0.5%	\$423,000	110,896,000	\$0.00381	111,000,000	104,000	\$5,724,270	0.4%	(\$451,196)	(\$0.00406)
6	System	100.0%	\$94,000,000	17,776,999,000	\$0.00529	20,890,000,000	3,113,001,000	\$1,517,894,590	100.0%	(\$119,642,922)	(\$0.00573)

APPENDIX C

Table 11. GHG Revenue Breakdown for Administrative Costs and the Consolidated Financing Program Under DRA's Proposal, 2013-2020 (Millions \$)

	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL
PG&E									
Expected Revenue for CFP and Admin Costs	\$48.0	\$56.4	\$63.0	\$71.3	\$81.9	\$89.1	\$98.0	\$106.4	\$614.2
Admin Costs - High	\$3.2	\$3.2	\$3.2	\$3.2	\$3.2	\$3.2	\$3.2	\$3.2	\$26.0
Admin Costs - Low	\$3.2	\$3.2	\$0.6	\$0.6	\$0.6	\$0.6	\$0.6	\$0.6	\$10.3
Total for CFP (High Admin Costs)	\$44.8	\$53.1	\$59.8	\$68.1	\$78.7	\$85.9	\$94.7	\$103.1	\$588.2
Total for CFP (Low Admin Costs)	\$44.8	\$53.1	\$62.4	\$70.7	\$81.3	\$88.5	\$97.3	\$105.8	\$603.9
SCE									
Expected Revenue for CFP and Admin Costs	\$62.7	\$71.8	\$82.5	\$88.9	\$91.3	\$98.8	\$106.1	\$116.1	\$718.2
Admin Costs - High	\$5.8	\$5.8	\$5.8	\$5.8	\$5.8	\$5.8	\$5.8	\$5.8	\$46.4
Admin Costs - Low	\$5.8	\$5.8	\$0.6	\$0.6	\$0.6	\$0.6	\$0.6	\$0.6	\$15.5
Total for CFP (High Admin Costs)	\$56.9	\$66.0	\$76.7	\$83.1	\$85.5	\$93.0	\$100.3	\$110.3	\$671.8
Total for CFP (Low Admin Costs)	\$56.9	\$66.0	\$81.8	\$88.3	\$90.6	\$98.2	\$105.4	\$115.5	\$702.7
SDG&E									
Expected Revenue for CFP and Admin Costs	\$13.3	\$14.9	\$16.9	\$19.3	\$21.9	\$24.0	\$26.2	\$28.8	\$165.1
Admin Costs - High	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$2.5
Admin Costs - Low	\$0.3	\$0.3	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$1.0
Total for CFP (High Admin Costs)	\$13.0	\$14.6	\$16.5	\$18.9	\$21.6	\$23.6	\$25.9	\$28.5	\$162.7
Total for CFP (Low Admin Costs)	\$13.0	\$14.6	\$16.8	\$19.2	\$21.8	\$23.9	\$26.1	\$28.7	\$164.1