

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

DOCKET

07-OIIP-1

DATE FEB 28 2008

RECD. FEB 28 2008

Order Instituting Rulemaking to Implement the
Commission's Procurement Incentive Framework
and to Examine the Integration of Greenhouse
Gas Emissions Standards into Procurement
Policies

Rulemaking 06-04-009
(Filed April 13, 2006)

AB 32 Implementation

CEC Docket
07-OIIP-01

**COMMENTS OF THE ENERGY PRODUCERS AND USERS COALITION AND
THE COGENERATION ASSOCIATION OF CALIFORNIA
REGARDING INTERIM OPINION ON GREENHOUSE GAS REGULATORY
STRATEGIES**

Michael Alcantar
Donald Brookhyser
Alcantar & Kahl LLP
1300 SW Fifth Avenue
Suite 1750
Portland, OR 97201
503.402.9900 office
503.402.8882 fax
mpa@a-klaw.com
deb@a-klaw.com

Counsel to the
Cogeneration Association of California

Evelyn Kahl
Seema Srinivasan
Alcantar & Kahl LLP
120 Montgomery Street
Suite 2200
San Francisco, CA 94104
415.421.4143 office
415.989.1263 fax
ek@a-klaw.com
sls@a-klaw.com

Counsel to the
Energy Producers and Users Coalition

February 28, 2008

**COMMENTS OF THE ENERGY PRODUCERS AND USERS COALITION AND
THE COGENERATION ASSOCIATION OF CALIFORNIA
REGARDING INTERIM OPINION ON GREENHOUSE GAS REGULATORY
STRATEGIES**

The Energy Producers and Users Coalition¹ and the Cogeneration Association of California² (jointly, EPUC/CAC) submit the following comments on the Interim Opinion on Greenhouse Gas Regulatory Strategies (PD) pursuant to the February 8, 2008 proposed decision.

I. OVERVIEW AND SUMMARY OF RECOMMENDATIONS

The PD carefully balances the many objectives of AB 32 in proposing a First Deliverer (Deliverer) approach and cap-and-trade compliance mechanism for greenhouse gas (GHG) regulation in California's electricity sector. The Deliverer approach should (a) ensure that emissions from imported power are accounted for in California's reduction efforts, (b) minimize leakage and facilitate linkage by adopting a regulatory approach that can be easily expanded, (c) ensure environmental integrity and (d) reduce the likelihood of legal challenge relative to certain other alternatives. In addition, the proposal to include the electricity sector in a multi-sector cap-and-trade program will ensure that the new GHG reduction efforts can take place in a cost-effective manner.

¹ EPUC is an ad hoc group representing the electric end use and customer generation interests of the following companies: Aera Energy LLC, BP West Coast Products LLC, Chevron U.S.A. Inc., ConocoPhillips Company, ExxonMobil Power and Gas Services Inc., Shell Oil Products US, THUMS Long Beach Company, Occidental Elk Hills, Inc., and Valero Refining Company – California.

² CAC represents the combined heat and power and cogeneration operation interests of the following entities: Coalinga Cogeneration Company, Mid-Set Cogeneration Company, Kern River Cogeneration Company, Sycamore Cogeneration Company, Sargent Canyon Cogeneration Company, Salinas River Cogeneration Company, Midway Sunset Cogeneration Company and Watson Cogeneration Company.

While the PD takes a thoughtful approach to these very broad issues, it falls short in providing direction for achieving an important GHG reduction opportunity: *combined heat and power (CHP) generation*. CHP has been broadly recognized as an important part of the state's GHG reduction arsenal because of its potential to reduce emissions that would otherwise result from the separate production of thermal and electric energy. The PD overlooks these resources, leaving this important GHG reduction tool in jeopardy. If adopted without further consideration of CHP resources, the PD's approach would:

- √ Provide a disincentive to the continued operation and development of CHP resources; and
- √ Create an unnecessarily complex GHG regulation program for CHP resources, fragmenting their regulation into three separate sectors.

Regulators have an opportunity to avoid this undesirable result by recommending that the Air Resources Board create a separate CHP sector in which issues unique to these highly efficient resources can be addressed. Creation of a separate CHP sector by regulators will break down barriers to further CHP development, ensure proper incentives for CHP operations, and ease administrative burdens. Without this careful step, particularly as regulators approach the question of allowance distribution, the incentive to maintain existing and build new CHP may easily be lost.

Finally, the PD recommendation in favor of a partial auction is premature and should be eliminated pending further record development. Given the importance of allowance distribution policy decisions and California's history, the Commission should defer all allowance distribution issues to a single coordinated review and recommendation.

II. FIRST DELIVERER APPROACH REFLECTS FAIR BALANCING OF AB 32 OBJECTIVES

Regulators' objective in this proceeding is to design an electricity sector GHG model that satisfies AB 32's objectives. Among other things, AB 32 requires the inclusion of imports, administrative ease, accuracy and limited contract leakage.³ The most challenging of these requirements – including imports in the electricity sector regulation – precludes a pure “upstream” or a pure “downstream” approach. Regulators thus have been confined to considering a variety of midstream or hybrid approaches: First Seller, Load Based and a Source-Based Hybrid.

The PD's proposed First Deliverer approach, a slightly modified version of the First Seller approach, reflects a careful balance of AB 32 objectives:

- *Inclusion of Imports*: The Deliverer approach will track the emissions of all imports except those that are wheeled through the state.
- *Administrative Ease*: Under the Deliverer approach, in-state electricity generators would essentially be regulated at the stack, and electricity importers would be responsible for complying with GHG regulations at the point the power enters California commerce. This avoids the need to calculate emissions associated with complicated utility portfolios under a load-based approach.
- *Accuracy*: In the Deliverer approach, the compliance obligation is borne by the supplier of electricity – generator or importer -- who is most likely to have the best available emissions data. This minimizes the need to rely on default emissions values.
- *Contract Leakage*: While the direction of federal GHG regulation remains unclear, the Deliverer approach is compatible with programs designed to date, including RGGI and the EU-ETS. Linkage with broader efforts is required to limit contract leakage in the long-run.

In addition, the Deliverer approach softens the potential for legal challenge that could arise under the Federal Power Act with the First Seller approach. For these reasons, the choice of a Deliverer approach represents a reasonable compromise within the framework of AB 32's electricity sector objectives.

³ Cal. Health & Safety Code § 38562(b).

Details of the Deliverer approach, however, are understandably absent. To ensure that these details can be reasonably resolved, regulators should hold technical workshops in the near-term, in advance of a final recommendation to the Air Resources Board in the fourth quarter of 2008. It will also be important for the state to continue monitoring the development of regional and federal GHG regulatory programs to ensure that state efforts can be expanded.

III. PD APPROPRIATELY RECOGNIZES THE VALUE OF A CAP-AND-TRADE MECHANISM TO ACHIEVE COST-EFFECTIVE GHG REDUCTIONS

AB 32 requires that the state adopt regulations that will achieve emissions reductions in a cost-effective manner.⁴ The PD recommends including the electricity sector in a cap-and-trade program to promote cost-effective emission reductions and to provide incentives for investment in research and innovation.⁵ By promoting this cost-effective approach, regulators will avoid imposing unnecessary GHG costs on consumers. EPUC/CAC thus support the PD's recommendation.

The PD's recommendation against a "wait and see" approach is also fitting. Regulators face the impending 2020 deadline requiring statewide emissions reductions totaling 174MMTCO₂,⁶ absent action by the California legislature. It is not clear that a national or regional program can be in place quickly enough to support attainment of this goal.

Cap-and-trade design details will be critical to its success. The program's effectiveness will be affected by its liquidity, requiring regulators to maximize the number of participants and allowances in play. Similarly, the process used to

⁴ Cal. Health & Safety Code § 38562(b)(1) and (b)(5).

⁵ PD, at 4.

⁶ See Expanded List of Early Action Measures to Reduce Greenhouse Gas in California Recommended for Board Consideration, at 2 ("The 2020 target reductions are currently estimated to be 174 MMTCO₂E.").

distribute allowances will directly impact the market's impact on certain technologies. These and other details must be discussed and evaluated to ensure the success of a cap-and-trade market.

IV. PD'S PROPOSED TREATMENT OF CHP RESOURCES CREATES PROBLEMS THAT CAN EASILY BE AVOIDED WITH CREATION OF CHP-SPECIFIC SECTOR.

The PD inadvertently creates an unstable regulatory framework for CHP resources. First, the PD fails to acknowledge the value of CHP resources, together with energy efficiency and renewable resources, in providing GHG reductions in the electricity sector. Second, as discussed in Section IV(C) below, the PD overlooks and fails to mitigate the disincentive to CHP operation and development that will naturally arise under the proposed Deliverer approach. Third, the proposed regulations will artificially segment CHP facilities into multiple sectors, whether the electricity, natural gas or industrial sector, with the potential for differential treatment. As explained below, there are many complex issues that arise when attempting to regulate CHP resources. These issues, however, can be addressed with certain accommodations. To ensure that the value of CHP resources is not overlooked in California's GHG reduction efforts, EPUC/CAC request the following modifications to the PD:

1. Recognize and explicitly acknowledge the importance of CHP resources, together with energy efficiency and renewable resources, in achieving GHG reductions in the production of electricity.
2. Recognize and explicitly acknowledge the potential disincentive to CHP created by GHG regulations that fail to account for the dual energy outputs of these resources.
3. Recommend that the ARB place CHP in a separate sector to facilitate the development of proper incentives and ease administrative burdens.

4. Commit to review the impact of allowance allocation methodologies on CHP in the ongoing proceeding.

Proposed findings and conclusions to effect these modifications are provided in Exhibit A.

A. Complexity Inherent In Regulating CHP Can Be Overcome With the Creation of a Separate CHP Sector.

CHP straddles the electricity and industrial sectors of the economy, presenting unique issues in choosing a point of regulation and designing an allowance distribution program. As discussed in the following sections, absent a clear understanding and very deliberate effort to address these issues, a GHG regulation could place CHP at risk as a means of further reducing the state's GHG emissions. Regulators thus should place CHP in a separate sector to ensure that the treatment of these resources does not present disincentives to operation or further development.

Some European Union (EU) Member States have created a separate CHP sector, including Finland, Hungary and Poland (Phase 1)⁷ and the UK (Phase 2).⁸ Other EU Member States, while not creating a separate sector, have recognized the need for separate treatment, including Germany, Austria and Italy⁹.

⁷ Delta Energy and Environment, *CHP Policy Assistance - A Report for The Energy Producers and Users Coalition and The Cogeneration Association of California*, dated May 2007

⁸ See March 2007 Presentation of the Department for Environment Food and Rural Affairs (DEFRA) entitled "*CHP in Phase II of the EU ETS*," located at http://www.chpqa.com/html/presentations/defra_chp_in_eu-ets_phase2.pdf. For additional detail related to the EU ETS Phase II allocation methodology is provided on the following website: <http://www.berr.gov.uk/energy/environment/euets/phase2/allocation/page27064.html>.

⁹ See DEFRA / Ilex Energy (2005): EU ETS PHASE II: TREATMENT OF CHP. A final report to DEFRA (<http://www.illexenergy.com/pages/euetsphase2-treatmentchp2.pdf>). And COGEN Europe Briefing Paper (2004): The European Emissions Trading Scheme: Allocation methods for CHP proposed in draft national allocation plans (http://www.cogen.org/Downloadables/Publications/Briefing_NAPs.pdf).

For all of the reasons explained below, California should take deliberate efforts to realize the state's CHP potential. As an important step in this process, the PD should be modified to recommend a separate CHP sector or, at a minimum, separate treatment.

B. CHP Resources, Along with Energy Efficiency and Renewable Resources, Offer Effective GHG Reduction Opportunities.

CHP is a vital element of the electricity sector's GHG reduction triad – energy efficiency, renewable resources and CHP – which policymakers estimate can together deliver annual savings of roughly 38-41 MMTCO₂ by 2020:

Energy efficiency:	15 MMTCO ₂ Annual Savings ¹⁰
California Solar Initiative	3 MMTCO ₂ Annual Savings ¹¹
Renewables:	11 MMTCO ₂ Annual Savings ¹²
Combined Heat & Power:	9-11 MMTCO ₂ Annual Savings ¹³

The state's Energy Action Plan also lists CHP as a preferred resource.¹⁴

Accordingly, it is important that regulators acknowledge the value of CHP resources and its potential contribution to emissions reductions.

GHG reductions from CHP arise when the fuel used in a consumer's stand-alone production of thermal and electrical energy is reduced through combined

¹⁰ Climate Action Team Report (April 2006), at 17.

¹¹ Climate Action Team Report (April 2006), at 59-60.

¹² This is the amount of emissions reductions that can be achieved for renewable energy generation if the RPS is increased from 20% to 33%. Climate Action Team Report (April 2006), at 59-60.

¹³ These emissions savings can be achieved under the high deployment scenario discussed in the CEC's report entitled Assessment of California CHP Market and Policy Options for Increased Penetration, dated July 2005.

¹⁴ See Energy Action Plan II, Implementation Roadmap for Energy Policies, at 2 ("*EAP II continues the strong support for the loading order – endorsed by Governor Schwarzenegger – that describes the priority sequence for actions to address increasing energy needs. The loading order identifies energy efficiency and demand response as the State's preferred means of meeting growing energy needs. **After cost-effective efficiency and demand response, we rely on renewable sources of power and distributed generation, such as combined heat and power applications.** To the extent efficiency, demand response, renewable resources, and distributed generation are unable to satisfy increasing energy and capacity needs, we support clean and efficient fossil-fired generation.*")(Emphasis added).

production of both types of energy by a CHP facility. The following table compares the GHG effects of separate production (stand-alone boiler for thermal production + combine cycle generation for electricity production) with CHP:

Table 1¹⁵
Comparison Between 100 MW CHP Facility With
CCGT Power Plant and a Heat Only Boiler

		CHP	CCGT	Boiler
Electric Production	MWh/yr	797,160	797,160	0
Thermal Production	MMBtu/yr	3,264,848	0	3,264,848
Fuel Input (HHV)	MMBtu/yr	8,202,428	5,898,984	4,263,508
Total Fuel (HHV)	MMBtu/yr	8,202,428	10,162,492	
Fuel Savings (HHV)	MMBtu/yr	1,960,064		
CO2 Emissions	MTCO2/yr	435,190	312,978	226,206
Total CO2 Emissions	MTCO2/yr	435,190	539,184	
CO2 Savings	MTCO2/yr	103,994		

The table demonstrates that a CHP facility consumes about 19% less fuel and produces roughly 19% fewer emissions than a CCGT and boiler producing the same electric and thermal outputs. CHP also reduces grid losses because generation is close to load.¹⁶ When taking this benefit into consideration, it further increases CHP-related GHG savings by another 5%, or 29,000 MTCO₂. Depending upon the assumption regarding the resources displaced by CHP (e.g., average or marginal fossil grid electricity), the savings can be even greater.

While end-use energy efficiency and renewables have received considerable attention in the AB 32 debate, the potential contribution of CHP resources has been largely overlooked. CHP is an energy efficiency measure, delivering GHG savings by reducing overall natural gas use and by reducing grid losses. CHP, in fact,

¹⁵ Assumptions: CHP with an overall efficiency of 81% (LHV); CCGT with an efficiency of 51.2% (LHV); and Boiler efficiency of 85% (LHV).

¹⁶ See Recommendations of the Economic and Technology Advancement Advisory Committee Final Report on Technologies and Policies to Consider for Reducing Greenhouse Gas Emissions in California, at 4-4.

provides GHG emissions reductions of the same magnitude as renewables and it does not suffer from the intermittency problem attendant to some renewable resources. Taking relevant technology capacity factors into account, due to the intermittent nature of wind and solar resources, 1000 MW of new CHP would achieve CO₂ savings equal to 840 MW of wind or 720 MW of solar capacity.

The GHG reduction benefits of CHP resources are well-recognized by the Economic and Technical Advancement Advisory Committee (ETAAC), the CEC, the National Association of Regulatory Utility Commissions (NARUC) and in the joint agency Energy Action Plan.

- ETAAC Report: Cal EPA's ETAAC Committee efforts are directed to identifying and making recommendations regarding activities that will facilitate emissions reductions. Its report recognizes CHP's ability to "avoid transmission bottlenecks, decrease transmission losses and provide other operational benefits."¹⁷ As part of its effort to identify such investments, it recommends the promotion of CHP projects that will contribute to lower GHG emissions and criteria air pollutants.¹⁸
- CEC's Integrated Energy Policy Report: The IEPR observes that CHP resources use fuel efficiently, minimize transmission and distribution line losses and will be important in the state's effort to lower GHG: *The importance of keeping this distributed generation capacity in the system is elevated by the state's need to reduce greenhouse gas emissions as part of AB 32. Combined heat and power in particular offers low greenhouse gas emissions rates for electricity generation taking advantage of fuel that is already being used for other purposes. The systems use waste heat for either process or electricity generation needs which results in very efficient use of fossil fuels. Large combined heat and power units appear to offer the greatest fuel efficiency of available distributed generation technologies. Because combined heat and power systems are located close to the load, transmission and distribution line losses are minimized, further reducing greenhouse gas impacts.*¹⁹

¹⁷ Recommendations of the Economic and Technology Advancement Advisory Committee Final Report on Technologies and Policies to Consider for Reducing Greenhouse Gas Emissions in California, at 4-4.

¹⁸ *Id.*

¹⁹ CEC's IEPR, at 211.

- CEC's Report on CHP Market Potential: The CEC estimates that emissions savings from a high deployment of CHP resources can be as high as 9-11 MMTCO₂ in annual savings.²⁰
- NARUC: NARUC's recently adopted resolution reflects several CHP benefits: *The deployment of CHP and waste-energy recovery technologies increases generation efficiency, reduces fossil-fuel consumption, enhances generation diversity, and has the potential to improve system reliability, decrease line losses, reduce grid congestion, and reduce emissions of air pollutants and greenhouse gases*²¹
- Joint Energy Action Plan 2008 Update: The EAP 2008 Update recognizes the value of CHP resources to the state's efforts to lower GHG emissions: *In addition, new combined heat and power applications could play a large part in avoiding future greenhouse gas emissions due to the combined efficiency of the heat and power portions of the project.*²²

In light of this broad-based support, an electricity sector recommendation to ARB that fails to adequately recognize the contribution of CHP resources to GHG reduction efforts will be incomplete.

C. PD Would Result in an Unintended Disincentive to the Operation and Development of CHP Resources.

Installation of CHP results in a societal *decrease* in GHG emissions when compared with the separate production of electrical and thermal energy. Paradoxically, however, the installation of CHP results in an *increase* in direct on-site GHG emissions responsibility for the industrial or commercial operation investing in CHP. This paradox occurs because installing CHP replaces (1) a consumer's indirect emissions responsibility, (imposed at the utility's *average portfolio emissions rate*) with (2) direct emissions responsibility as a CHP generator (imposed at a *marginal generation emissions rate*). Consequently, under a regulatory framework

²⁰ Assessment of California CHP Market and Policy Options for Increased Penetration, dated July 2005.

²¹ NARUC Resolution to Encourage the Use of Combined Heat and Power, including the Recycling of Waste Energy, adopted February 20, 2008.

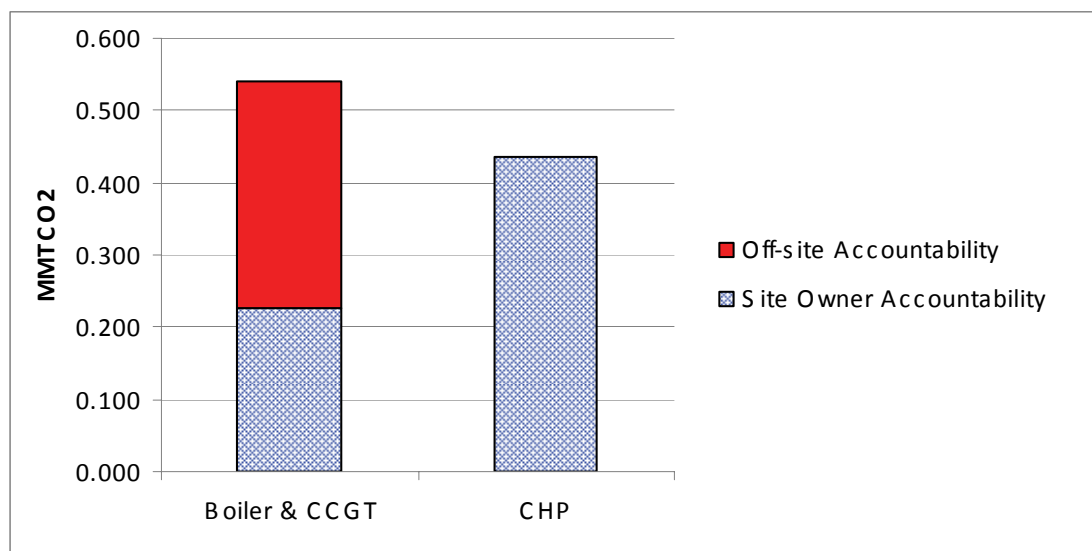
²² Joint Agency EAP 2008 Update, at 15.

where customers are required to procure allowances to cover only their direct emissions, an industrial customer with on-site CHP will have greater cost responsibility for GHG compliance.

Consider the following illustrative example:

Customer A and Customer B have identical industrial operations, with precisely the same thermal and electrical requirements. Customer A purchases its power from the utility and produces thermal energy using a conventional steam boiler. Customer B operates CHP on-site to meet both its thermal and electrical needs. Assume further that the applicable GHG regulations require the two Customers to acquire allowances to cover only its direct on-site emissions. In the case of Customer A, it must cover only the emissions from its steam boiler; it does not bear allowance responsibility for the power it purchases from the utility because the associated emissions are indirect. Customer B, in contrast, must procure enough allowances to cover both its electrical and thermal consumption because all of the emissions are direct on-site emissions.

The resulting distortion is depicted in the following graph. While the CHP installation *decreases* GHG emissions attributable to Customer B's energy consumption by 19%, it increases Customer B's direct responsibility to obtain GHG allowances by 92%.



Morgan Stanley has argued that investment in CHP will not increase GHG compliance costs for an industrial customer.²³ Morgan Stanley argues that there is no CHP disadvantage because if a customer did not install CHP, it would pay for its GHG compliance costs associated with purchased electricity through utility rates. While this argument has a superficial appeal, it fails in several respects.

The *average portfolio emissions rates*, and thus costs, for power sold by PG&E or SCE, for example, will always be lower than the *marginal emissions rates/costs* experienced by a CHP owner. These IOU average portfolio emissions costs per MWh of power sold will always be lower for the following reasons:

1. Utility rates will reflect an average portfolio emissions cost, blending zero emissions nuclear, hydro and renewable resources in the mix. Because of these zero emissions resources, the emissions costs of a fossil-fired CHP generator, while lower than marginal conventional resources that would be installed “but for” the CHP plant, will never beat or even equal the IOU average portfolio emissions rate. If, for example, an IOU’s blended portfolio rate is 400 lbs/MWh, and a CHP plant’s rate is 600 lbs/MWh, the CHP industrial consumer would be paying for 200 lbs of CO₂ more per MWh consumed than if it simply purchased electricity from the utility. At \$40 mt CO₂, for example, this would translate into an additional cost for CHP of \$3.6 per MWh consumed by the industrial site.
2. Even if the utility portfolio did not include these zero emissions resources, there likely would still be a disadvantage for a CHP consumer.
 - The PD discusses taking steps to mitigate the impact of carbon prices on ratepayers.²⁴ Taking this approach would mean direct subsidies to utility ratepayers to mitigate carbon impact without necessarily conferring the same advantage back to consumers who have invested in CHP facilities.
 - The GHG costs to the CHP plant are direct and unavoidable; to the extent it emits carbon to produce electricity for consumption, it must pay for that carbon. While this would also be true for utility-owned generation, the costs of carbon may not be fully reflected in the market price of the utility’s purchased power.

²³ Reply Comments of Morgan Stanley Capital Group Inc. on the Administrative Law Judge’s Ruling Requesting Comments and Noticing Workshop on Allowance Allocation Issues, November 14, 2007, at 5.

²⁴ PD, at 84.

- Consumers served by CHP continue to pay a material amount of costs related to utility programs that will reduce GHG through the Public Purpose Program charges and other Nonbypassable Charges.

For these reasons, GHG regulation will create an unintentional disadvantage for CHP operation and investment. The disadvantage -- depending upon carbon prices, regulators' efforts to mitigate utility rate impact, pass-through provisions for CHP power sold to the utility and other CHP barriers -- could materially affect CHP operation and development in California.

D. PD Complicates Treatment of CHP Resources

The PD creates a confusing and complex regulatory scheme for CHP resources. Depending upon size and the product coming out of a single facility, the PD will scatter emissions among three sectors of the California economy. The PD appears to propose the following:

	Large CHP	Small CHP
Electricity sold to grid ²⁵	Electricity Sector	Electricity Sector
On-site electricity use	Industrial Sector ²⁶	Natural Gas Sector ²⁷
On-site thermal use	Industrial Sector	Natural Gas Sector

The PD will subject CHP facilities unnecessarily to complicated and inconsistent treatment that will discourage deployment of existing and prospective CHP facilities.

A separate CHP sector will mitigate this potential complexity.

²⁵ PD, at 66.

²⁶ See PD, at 99 ("ARB proposes to regulate emissions from large end users of natural gas (with emissions of 25,000 or more metric tons of CO₂e per year) as individual industrial sources. Therefore, we propose that they not be included in the natural gas sector.")

²⁷ PD, at 99.

V. PIECEMEAL CONSIDERATION OF GHG ISSUES REQUIRES THE STATE TO TAKE AFFIRMATIVE EFFORTS TO ENSURE GHG REGULATIONS SUPPORT AND DO NOT PENALIZE CHP RESOURCES

The PD evaluates and designates a regulatory approach for the state's electricity sector. It notes that a future decision will discuss allowance distribution issues in more detail. While these issues and other GHG issues require separate consideration, each individual piece impacts the overall GHG regulatory framework and incentives for CHP resources.

Deliberate efforts will be required as regulators approach the question of allowance distribution. A failure to recognize the CHP emissions paradox, discussed in Section IV(C), will penalize and discourage investments in CHP and increase the state's overall emissions. EPUC/CAC look forward to further discussion of (1) double-benchmarking in an administrative allowance;²⁸ (2) credit mechanisms under any auction scenario;²⁹ and (3) auction revenue retention by consumers for on-site reduction investments that will further AB 32's objectives.³⁰

VI. DECISION TO PARTIALLY AUCTION ALLOWANCES IS PREMATURE AND REQUIRES FURTHER CONSIDERATION.

The PD briefly discusses allowance distribution issues. Despite an admittedly incomplete record, the PD moves forward to recommend the use of a partial auction. To temper the risk of volatile auction prices, the PD recommends banking or

²⁸ EPUC/CAC Comments on Allowance Distribution, at 19-21 (explaining importance of using double-benchmarking given CHP's dual outputs and use of the technique for CHP by EU countries).

²⁹ *Id.*, at 21-24 (providing four options for distribution of allowances that maintain incentive for investment in CHP).

³⁰ *Id.*, at 29-30 ("*regulated firms should be permitted to set-aside auction payments in an escrow account for reinvestment to the extent they can employ the payments in cost-effective local GHG reducing projects.*")

borrowing of allowances, allowance price floors or ceilings and offsets.³¹ The PD's recommendation in favor of a partial auction is premature.

The PD expressly and repeatedly acknowledges the lack of record on allowance allocation.³² The decision also acknowledges that the GHG model, being developed by E3, is meant, to inform the Commission regarding the financial impacts of different GHG regulatory policy options.³³ Finally, the PD's analysis on the impact of a partial auction is also incomplete. For example, the PD fails to discuss or include any findings on the impact of an auction on existing contract holders and administrative price takers such as CHP resources.³⁴

The PD acknowledges the potential impact of a poorly-designed auction on supply reliability and energy markets.³⁵ Given the significance of this issue and California's history, the impact of an auction, even a partial auction, warrants additional consideration. Accordingly, the Commission should defer all recommendations regarding allowance distribution issues at this time.

Respectfully submitted,



Evelyn Kahl

Counsel to the Energy Producers and
Users Coalition and the Cogeneration
Association of California

³¹ PD, at 7.

³² PD, at 6-7, 82, 86.

³³ PD, at 7, 87.

³⁴ MAC Report at 56. *"Some independent power producers may operate under long term fixed price contracts and thereby [will] not be able to pass through costs until those contracts expire. Whether these producers should receive a free allocation in the interim should be evaluated carefully". See also Stavins, Robert, Comments on the Recommendations of the Market Advisory Committee to the California Air Resources Board (June 2007). "[C]onsideration should be given to the implications of long-term contracts for generators' and cogenerators' ability to recover any new allowance costs."*

³⁵ PD, at 80-83.

Exhibit A

Changes to Text of the PD

Page 5-6

After evaluating the point of regulation options against these key criteria, we find that the deliverer option best meets the criteria.

* * *

For all these reasons, we recommend deliverers as the point of regulation for a GHG cap-and-trade program as it applies to the electricity sector

We also consider comments we have received on the encouragement of combined heat and power resources. To ensure that this decision does not establish a regulatory scheme that will discourage these resources, we make several recommendations.

Finally, W~~we~~ **also** address certain policy questions regarding the distribution of GHG emissions allowances in a deliverer-based point of regulation system.

* * *

Page 53

SDG&E and SCE express concern that this option is vulnerable to challenges under the FPA and the Commerce Clause.

3.3.1.5. Treatment of CHP Resources

We have received comments advocating support and consideration of CHP issues. The comments highlight the efficiency of CHP resources and advocate the state's reliance on these resources to meet the state's emissions target. The comments also point out that while investment in CHP decreases global emissions, it increases GHG compliance costs for the CHP investor. The Economic Technology Advancement Advisory Committee (ETAAC), the CEC, the Joint Agency 2008 EAP Update have recognized the potential emissions reductions that CHP resources can provide. The CEC, in particular, estimates that the expansion of CHP resources can provide up to 11 MMTCO₂.³⁶

³⁶ Assessment of California CHP Market and Policy Options for Increased Penetration, dated July 2005.

Page 79

Regulating the emissions associated with the multi-jurisdictional utilities' deliveries of electricity to the California grid on a retail provider basis, with GHG emissions attributed based on a proportional share of their electricity sales in California, appears to be the only reasonable approach. Therefore, this is the approach that we recommend to ARB for the multi-jurisdictional utilities.

3.3.2.9 Combined Heat and Power Issues (CHP)

We agree with the CEC and the ETAAC Committee that the state would benefit from the encouragement of CHP resources. CEC's analysis demonstrates that CHP emissions reductions are comparable to the emissions reduction potential of renewable resources and energy efficiency. We also acknowledge that, without targeted measures, the state's GHG regulations could impact the availability of these resources in the future. We believe specific consideration of CHP issues is necessary to ensure that recommended regulations limit CHP disincentives. We recommend that ARB place CHP in a separate sector. In addition, we will further consider the use of double-benchmarking and CHP allowance distribution issues.

3.3.2.9 3.3.2.10 Conclusion

As described in the proceeding....

Page 81

Among parties that oppose auctions, some claim that they or their customers would suffer from facing the full and uncertain cost of auctioned allowances or that system reliability would suffer if producers fail to invest in generation for California (Calpine, EPUC/CAC, LADWP). **In particular, some parties observe that an auction could significantly limit investments in CHP, because it will add compliance costs to projects that are administrative price-takers (EPUC/CAC).** Other parties are concerned that sole or heavy reliance on auctions is untested . . .

Page 82

An important issue regarding auctions is what to do with the proceeds. SDG&E recommends that, if auctions are used, proceeds should benefit customers by being used for cost-effective contributions to climate change mitigation, or should be used to offset price impacts to price-regulated entities and their customers and to entities subject to competition from uncapped entities. **EPUC/CAC recommend that entities be entitled to retain auction proceeds to make investments in improvements that will further the state's emission reduction goals.** NRDC/UCS states that

Page 83

EPUC/CAC support administrative distribution and strongly oppose full auction. They note that the impacts of a full auction on entities in existing procurement contracts and administrative price-takers remains unclear and could have drastic implications on state supply reliability. Where allowances are allocated, EPUC/CAC note the importance of use of double-benchmarking to allocate allowances to CHP resources. Caithness and Dynegy favor free distribution of allowances to those...

* * *

Some parties are concerned that, should regulators over-estimate the number of allowances . . . as happened to many generators in Europe (Calpine, LADWP, SCE).

Finally, EPUC/CAC note that allowance distribution accommodations will be required to maintain and support development of CHP resources. They provide several recommendations to mitigate any disincentives that would otherwise impact existing CHP resources and future CHP developments.

Pages 84-85

Impacts on entities with compliance obligations and on customers would depend on the use that is made of auction proceeds.

* * *

~~For these reasons, and in light of the potential benefits of increased market liquidity on allowance prices, Despite these findings,~~ we conclude that additional record development is required to determine whether auctioning ~~of at least~~ a portion of the allowances is superior to free allocations in terms of reducing costs to consumers of achieving GHG emission reductions.

Entities with potential compliance obligations are concerned Additional review is necessary to determine if ~~However,~~ the risks associated with price volatility can be tempered to a significant extent through the use of flexible compliance alternatives, which we will consider in more detail later in this proceeding.

* * *

Because of these benefits, we may conclude that at least some portion of the allowances available to the electricity sector should be auctioned. ~~As an integral part of this recommendation, w~~ We may also conclude that at least some of the proceeds from the auction of allowances for the electricity sector should be used . . . Possibilities include use to augment investments in energy efficiency, renewable power, clean fossil energy such as CHP, or to maintain affordable electricity rates.

Page 87

If allowances are to be freely distributed, the manner of the free allocation must be determined. Options recommended by parties for determining allowance allocations range from use of historical emissions to output-based metrics. For CHP resources, parties have advocated the use of double-benchmarking which is used by countries in the European Union. In addition, some parties recommend direct distribution...

Findings of Fact

1. The state Energy Action Plan lays out a “loading order” for investment in electricity resources in California that puts energy efficiency as the top priority, with renewable resources second, and clean fossil-fired generation, including CHP resources, to the extent other options are not available.

* * *

7. CHP is an emissions reduction tool that has been recognized by ETAAC Committee and, based on CEC analysis, has the potential to reduce up to 11MMTCO₂ annually.

8. The emission reduction potential of CHP resources is comparable to the emission reduction potential of renewable resources and energy efficiency efforts.

9. Without targeted measures, GHG regulations will discourage the use and expansion of these resources because its investment increases GHG emissions responsibility for the investor.

10. It is reasonable to place CHP in a separate sector.

11. It is also reasonable for regulators to consider double-benchmarking, allocation distribution accommodations, and other measures to maintain incentives that will encourage the continued existence and development of CHP resources.

~~7.~~ 12. For the electricity sector, a cap-and-trade system, . . .

* * *

9. For the electricity sector, a GHG emissions cap-and-trade program would encourage investment in research and innovation in most technologies that lower GHG emissions. To encourage investment in CHP, additional measures are necessary.

10. For the electricity sector, a GHG emissions cap-and-trade program would allow market participants to manage risk associated with compliance obligations.

11. For the electricity sector, a GHG emissions cap-and-trade program with accommodations for CHP resources would distribute the cost of GHG reductions most efficiently across all capped entities.

* * *

24. The proposed GHG regulations are intended to change the way that electricity is generated and consumed and are expected to increase the use of (i) renewable resources to generate electricity, (ii) low-emitting sources of generation, and (iii) more efficient methods of using electricity including CHP. To the extent such actions are unable to sufficiently reduce GHG emissions associated with the use of electricity, these regulations are expected to result in investments outside of these electricity sector that will cost-effectively reduce GHG emissions from other activities.

25. It is reasonable to regulate the GHG emissions associated with the multi-jurisdictional utilities' deliveries of electricity to the California grid on a retail provider basis, with GHG emissions attributed based on a proportional share of their electricity sales in California.

~~26. The auctioning of at least some portion of the emission allowances available to the electricity sector would promote liquidity in the emissions allowance market, improve the accuracy of emissions allowance prices as a reflection of marginal emissions reduction costs, and allow new market entrants access to allowances on an equal basis with other parties.~~

~~27. It is reasonable to require that at least some portion of the GHG emissions allowances for the electricity sector be auctioned in a GHG emissions cap-and-trade system in which deliverers are the point of regulation for the electricity sector. As part of this approach, all proceeds from the auctioning of allowances for the electricity sector would be used in ways that benefit electricity consumers in California.~~

28. The record in R.06-04-009 is not sufficient, at this time, to determine a reasonable mixture of auctioning and the administrative allocation of GHG emission allowances for the electricity sector.

* * *

INTERIM ORDER

4. We recommend that, if ARB concludes it does not have authority to adopt regulations consistent with Ordering Paragraphs 1 and 2, ARB seek such authority from the Legislature.

5. We recommend that ARB place CHP in a separate sector.

~~5.~~ 6. We recommend that, for the electricity sector

CERTIFICATE OF SERVICE

I, Karen Terranova hereby certify that I have on this date caused the attached **Comments of the Energy Producers and Users Coalition and the Cogeneration Association of California Regarding Interim Opinion on Greenhouse Gas Regulatory Strategies** in R.6-04-009 to be served to all known parties by either United States mail or electronic mail, to each party named in the official attached service list obtained from the Commission's website, attached hereto, and pursuant to the Commission's Rules of Practice and Procedure.

Dated February 28, 2008 at San Francisco, California.

A handwritten signature in dark ink, appearing to read "Karen Terranova", with a long horizontal flourish extending to the right.

Karen Terranova

STEVEN S. SCHLEIMER
BARCLAYS BANK, PLC
200 PARK AVENUE, FIFTH FLOOR
NEW YORK, NY
steven.schleimer@barclayscapital.com

STEVEN HUHMAN
MORGAN STANLEY CAPITAL GROUP INC.
2000 WESTCHESTER AVENUE
PURCHASE, NY
steven.huhman@morganstanley.com

RICK C. NOGER
PRAXAIR PLAINFIELD, INC.
2711 CENTERVILLE ROAD, SUITE 400
WILMINGTON, DE
rick_noger@praxair.com

KEITH R. MCCREA
SUTHERLAND, ASBILL & BRENNAN, LLP
1275 PENNSYLVANIA AVE., N.W.
WASHINGTON, DC
keith.mccrea@sablaw.com

ERIN M. MURPHY
MCDERMOTT WILL & EMERY LLP
600 THIRTEENTH STREET, N.W.
WASHINGTON, DC
emmurphy@mwe.com

MICHAEL A. YUFFEE
MCDERMOTT WILL & EMERY LLP
600 THIRTEENTH STREET, N.W.
WASHINGTON, DC
myuffee@mwe.com

LISA M. DECKER
CONSTELLATION ENERGY GROUP, INC.
111 MARKET PLACE, SUITE 500
BALTIMORE, MD
lisa.decker@constellation.com

KEVIN BOUDREAUX
CALPINE POWER AMERICA-CA, LLC
717 TEXAS AVENUE, SUITE 1000
HOUSTON, TX
kevin.boudreaux@calpine.com

E.J. WRIGHT
OCCIDENTAL POWER SERVICES, INC.
5 GREENWAY PLAZA, SUITE 110
HOUSTON, TX
ej_wright@oxy.com

THOMAS DILL
LODI GAS STORAGE, L.L.C.
14811 ST. MARYS LANE, SUITE 150
HOUSTON, TX
trdill@westernhubs.com

PAUL M. SEBY
MCKENNA LONG & ALDRIDGE LLP
1875 LAWRENCE STREET, SUITE 200
DENVER, CO
pseby@mckennalong.com

TIMOTHY R. ODIL
MCKENNA LONG & ALDRIDGE LLP
1875 LAWRENCE STREET, SUITE 200
DENVER, CO
todil@mckennalong.com

STEVE MICHEL
WESTERN RESOURCE ADVOCATES
2260 BASELINE ROAD, SUITE 200
BOULDER, CO
smichel@westernresources.org

JENINE SCHENK
APS ENERGY SERVICES
400 E. VAN BUREN STREET, SUITE 750
PHOENIX, AZ
jenine.schenk@apses.com

JOHN B. WELDON, JR.
SALMON, LEWIS & WELDON, P.L.C.
2850 EAST CAMELBACK ROAD, SUITE 200
PHOENIX, AZ
jbw@slwplc.com

KELLY BARR
SALT RIVER PROJECT
PO BOX 52025, PAB 221
PHOENIX, AZ
kelly.barr@srpnet.com

ROGER C. MONTGOMERY
SOUTHWEST GAS CORPORATION
PO BOX 98510
LAS VEGAS, NV
roger.montgomery@swgas.com

DARRELL SOYARS
SIERRA PACIFIC RESOURCES
6100 NEIL ROAD
RENO, NV
dsoyars@sppc.com

SID NEWSOME
SOUTHERN CALIFORNIA GAS COMPANY
555 WEST 5TH STREET
LOS ANGELES, CA
snewsom@semprautilities.com

DAVID L. HUARD
MANATT, PHELPS & PHILLIPS, LLP
11355 WEST OLYMPIC BOULEVARD
LOS ANGELES, CA
dhuard@manatt.com

CURTIS L. KEBLER
J. ARON & COMPANY
2121 AVENUE OF THE STARS
LOS ANGELES, CA
curtis.kebler@gs.com

DENNIS M.P. EHLING
KIRKPATRICK & LOCKHART NICHOLSON
GRAHAM
10100 SANTA MONICA BLVD., 7TH FLOOR
LOS ANGELES, CA
dehling@klnj.com

GREGORY KOISER
CONSTELLATION NEW ENERGY, INC.
350 SOUTH GRAND AVENUE, SUITE 3800
LOS ANGELES, CA
gregory.koiser@constellation.com

NORMAN A. PEDERSEN
HANNA AND MORTON, LLP
444 SOUTH FLOWER STREET, NO. 1500
LOS ANGELES, CA
npedersen@hanmor.com

MICHAEL MAZUR
3 PHASES ENERGY SERVICES, LLC
2100 SEPULVEDA BLVD., SUITE 38
MANHATTAN BEACH, CA
mmazur@3phases.com

TIFFANY RAU
CARSON HYDROGEN POWER PROJECT LLC
ONE WORLD TRADE CENTER, SUITE 1600
LONG BEACH, CA
tiffany.rau@bp.com

GREGORY KLATT
DOUGLASS & LIDDELL
411 E. HUNTINGTON DRIVE, STE. 107-356
ARCADIA, CA
klatt@energyattorney.com

MAUREEN LENNON
CALIFORNIA COGENERATION COUNCIL
595 EAST COLORADO BLVD., SUITE 623
PASADENA, CA
maureen@lennonassociates.com

RICHARD HELGESON
SOUTHERN CALIFORNIA PUBLIC POWER
AUTHORITY
225 S. LAKE AVE., SUITE 1250
PASADENA, CA
rhelgeson@scppa.org

DANIEL W. DOUGLASS
DOUGLASS & LIDDELL
21700 OXNARD STREET, SUITE 1030
WOODLAND HILLS, CA
douglass@energyattorney.com

PAUL DELANEY
AMERICAN UTILITY NETWORK (A.U.N.)
10705 DEER CANYON DRIVE
ALTA LOMA, CA
pssed@adelphia.net

AKBAR JAZAYEIRI
SOUTHERN CALIFORNIA EDISON COMPANY
2244 WALNUT GROVE AVE. ROOM 390
ROSEMEAD, CA
akbar.jazayeri@sce.com

ANNETTE GILLIAM
SOUTHERN CALIFORNIA EDISON COMPANY
2244 WALNUT GROVE AVENUE
ROSEMEAD, CA
annette.gilliam@sce.com

LAURA I. GENAO
SOUTHERN CALIFORNIA EDISON
2244 WALNUT GROVE AVENUE
ROSEMEAD, CA
Laura.Genao@sce.com

RONALD MOORE
GOLDEN STATE WATER/BEAR VALLEY
ELECTRIC
630 EAST FOOTHILL BOULEVARD
SAN DIMAS, CA
rkmoore@gswater.com

DON WOOD
PACIFIC ENERGY POLICY CENTER
4539 LEE AVENUE
LA MESA, CA
dwood8@cox.net

ALLEN K. TRIAL
SDGE&SCG
101 ASH STREET
SAN DIEGO, CA
atrial@sempra.com

DAN HECHT
SEMPRA ENERGY
101 ASH STREET
SAN DIEGO, CA
dhecht@sempratrading.com

DANIEL A. KING
SEMPRA ENERGY
101 ASH STREET, HQ 12
SAN DIEGO, CA
daking@sempra.com

SYMONE VONGDEUANE
SEMPRA ENERGY SOLUTIONS
101 ASH STREET, HQ09
SAN DIEGO, CA
svongdeuane@semprasolutions.com

THEODORE ROBERTS
SEMPRA GLOBAL
101 ASH STREET, HQ 13D
SAN DIEGO, CA
troberts@sempra.com

JOSEPH R. KLOBERDANZ
SAN DIEGO GAS & ELECTRIC
PO BOX 1831
SAN DIEGO, CA
jkloberdanz@semprautilities.com

BILL LYONS
CORAL POWER, LLC
4445 EASTGATE MALL, SUITE 100
SAN DIEGO, CA
Bill.Lyons@shell.com

THOMAS DARTON
PILOT POWER GROUP, INC.
9320 CHESAPEAKE DRIVE, SUITE 112
SAN DIEGO, CA
tdarton@pilotpowergroup.com

STEVE RAHON
SAN DIEGO GAS & ELECTRIC COMPANY
8330 CENTURY PARK COURT, CP32C
SAN DIEGO, CA
lschavrien@semprautilities.com

GLORIA BRITTON
ANZA ELECTRIC COOPERATIVE, INC.
PO BOX 391909
ANZA, CA
GloriaB@anzaelectric.org

LYNELLE LUND
COMMERCE ENERGY, INC.
600 ANTON BLVD., SUITE 2000
COSTA MESA, CA
llund@commerceenergy.com

TAMLYN M. HUNT
COMMUNITY ENVIRONMENTAL COUNCIL
26 W. ANAPAMU ST., 2/F
SANTA BARBARA, CA
thunt@cecmail.org

JEANNE M. SOLE
CITY AND COUNTY OF SAN FRANCISCO
1 DR. CARLTON B. GOODLETT PLACE, RM.
234
SAN FRANCISCO, CA
jeanne.sole@sfgov.org

JOHN P. HUGHES
SOUTHERN CALIFORNIA EDISON COMPANY
601 VAN NESS AVENUE, STE. 2040
SAN FRANCISCO, CA
john.hughes@sce.com

LAD LORENZ
SOUTHERN CALIFORNIA GAS COMPANY
601 VAN NESS AVENUE, SUITE 2060
SAN FRANCISCO, CA
llorenz@semprautilities.com

MARCEL HAWIGER
THE UTILITY REFORM NETWORK
711 VAN NESS AVENUE, SUITE 350
SAN FRANCISCO, CA
marcel@turn.org

NINA SUETAKE
THE UTILITY REFORM NETWORK
711 VAN NESS AVE., STE 350
SAN FRANCISCO, CA
nsuetake@turn.org

Diana L. Lee
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA
dil@cpuc.ca.gov

F. Jackson Stoddard
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA
fjs@cpuc.ca.gov

AUDREY CHANG
NATURAL RESOURCES DEFENSE COUNCIL
111 SUTTER STREET, 20TH FLOOR
SAN FRANCISCO, CA
achang@nrdc.org

EVELYN KAHL
ALCANTAR & KAHL, LLP
120 MONTGOMERY STREET, SUITE 2200
SAN FRANCISCO, CA
ek@a-klaw.com

MICHAEL P. ALCANTAR
ALCANTAR & KAHL, LLP
120 MONTGOMERY STREET, SUITE 2200
SAN FRANCISCO, CA
mpa@a-klaw.com

SEEMA SRINIVASAN
ALCANTAR & KAHL, LLP
120 MONTGOMERY STREET, SUITE 2200
SAN FRANCISCO, CA
sls@a-klaw.com

WILLIAM H. CHEN
CONSTELLATION NEW ENERGY, INC.
ONE MARKET STREET
SAN FRANCISCO, CA
bill.chen@constellation.com

BRIAN K. CHERRY
PACIFIC GAS AND ELECTRIC COMPANY
77 BEALE STREET, B10C
SAN FRANCISCO, CA
bk7@pge.com

EDWARD G POOLE
ANDERSON DONOVAN & POOLE
601 CALIFORNIA STREET SUITE 1300
SAN FRANCISCO, CA
epoole@adplaw.com

ANN G. GRIMALDI
MCKENNA LONG & ALDRIDGE LLP
101 CALIFORNIA STREET, 41ST FLOOR
SAN FRANCISCO, CA
agrimaldi@mckennalong.com

BRIAN T. CRAGG
GOODIN, MACBRIDE, SQUERI, RITCHIE &
DAY
505 SANSOME STREET, SUITE 900
SAN FRANCISCO, CA
bcragg@goodinmacbride.com

JAMES D. SQUERI
GOODIN MACBRIDE SQUERI RITCHIE & DAY
LLP
505 SANSOME STREET, STE 900
SAN FRANCISCO, CA
jsqueri@gmssr.com

JEANNE B. ARMSTRONG
GOODIN MACBRIDE SQUERI RITCHIE & DAY
LLP
505 SANSOME STREET, SUITE 900
SAN FRANCISCO, CA
jarmstrong@gmssr.com

KAREN BOWEN
WINSTON & STRAWN LLP
101 CALIFORNIA STREET
SAN FRANCISCO, CA
kbowen@winston.com

LISA A. COTTLE
WINSTON & STRAWN LLP
101 CALIFORNIA STREET, 39TH FLOOR
SAN FRANCISCO, CA
lcottle@winston.com

SEAN P. BEATTY
COOPER, WHITE & COOPER, LLP
201 CALIFORNIA ST., 17TH FLOOR
SAN FRANCISCO, CA
sbeatty@cwclaw.com

JOSEPH M. KARP
WINSTON & STRAWN LLP
101 CALIFORNIA STREET
SAN FRANCISCO, CA
jkarp@winston.com

JEFFREY P. GRAY
DAVIS WRIGHT TREMAINE, LLP
505 MONTGOMERY STREET, SUITE 800
SAN FRANCISCO, CA
jeffgray@dwt.com

CHRISTOPHER J. WARNER
PACIFIC GAS AND ELECTRIC COMPANY
77 BEALE STREET, PO BOX 7442
SAN FRANCISCO, CA
cjw5@pge.com

SARA STECK MYERS
122 28TH AVENUE
SAN FRANCISCO, CA
ssmyers@att.net

LARS KVALE
CENTER FOR RESOURCE SOLUTIONS
PO BOX 39512
SAN FRANCISCO, CA
lars@resource-solutions.org

ANDREA WELLER
STRATEGIC ENERGY
3130 D BALFOUR RD., SUITE 290
BRENTWOOD, CA
aweller@sel.com

JENNIFER CHAMBERLIN
STRATEGIC ENERGY, LLC
2633 WELLINGTON CT.
CLYDE, CA
jchamberlin@strategicenergy.com

KERRY HATTEVIK
MIRANT CORPORATION
696 WEST 10TH STREET
PITTSBURG, CA
kerry.hattevik@mirant.com

AVIS KOWALEWSKI
CALPINE CORPORATION
3875 HOPYARD ROAD, SUITE 345
PLEASANTON, CA
kowalewskia@calpine.com

WILLIAM H. BOOTH
LAW OFFICES OF WILLIAM H. BOOTH
1500 NEWELL AVENUE, 5TH FLOOR
WALNUT CREEK, CA
wbooth@booth-law.com

J. ANDREW HOERNER
REDEFINING PROGRESS
1904 FRANKLIN STREET
OAKLAND, CA
hoerner@redefiningprogress.org

JANILL RICHARDS
CALIFORNIA ATTORNEY GENERAL'S OFFICE
1515 CLAY STREET, 20TH FLOOR
OAKLAND, CA
janill.richards@doj.ca.gov

CLIFF CHEN
UNION OF CONCERNED SCIENTIST
2397 SHATTUCK AVENUE, STE 203
BERKELEY, CA
cchen@ucsusa.org

GREGG MORRIS
GREEN POWER INSTITUTE
2039 SHATTUCK AVENUE, STE 402
BERKELEY, CA
gmorris@emf.net

JOHN GALLOWAY
UNION OF CONCERNED SCIENTISTS
2397 SHATTUCK AVENUE, SUITE 203
BERKELEY, CA
jgalloway@ucsusa.org

R. THOMAS BEACH
CROSSBORDER ENERGY
2560 NINTH STREET, SUITE 213A
BERKELEY, CA
tomb@crossborderenergy.com

BARRY F. MCCARTHY
MCCARTHY & BERLIN, LLP
100 PARK CENTER PLAZA, SUITE 501
SAN JOSE, CA
bmcc@mccarthyllaw.com

C. SUSIE BERLIN
MC CARTHY & BERLIN, LLP
100 PARK CENTER PLAZA, SUITE 501
SAN JOSE, CA
sberlin@mccarthyllaw.com

MIKE LAMOND
ALPINE NATURAL GAS OPERATING CO. #1
LLC
PO BOX 550
VALLEY SPRINGS, CA
anginc@goldrush.com

JOY A. WARREN
MODESTO IRRIGATION DISTRICT
1231 11TH STREET
MODESTO, CA
joyw@mid.org

BALDASSARO DI CAPO, ESQ.
CALIFORNIA ISO
151 BLUE RAVINE ROAD
FOLSOM, CA
bdicapo@caiso.com

JOHN JENSEN
MOUNTAIN UTILITIES
PO BOX 205
KIRKWOOD, CA
jjensen@kirkwood.com

MARY LYNCH
CONSTELLATION ENERGY COMMODITIES
GROUP
2377 GOLD MEDAL WAY
GOLD RIVER, CA
mary.lynych@constellation.com

LEONARD DEVANNA
CLEAN ENERGY SYSTEMS, INC.
11330 SUNCO DRIVE, SUITE A
RANCHO CORDOVA, CA
lrdevanna-rf@cleanenergysystems.com

ANDREW BROWN
ELLISON, SCHNEIDER & HARRIS, LLP
2015 H STREET
SACRAMENTO, CA
abb@eslawfirm.com

BRUCE MCLAUGHLIN
BRAUN & BLAISING, P.C.
915 L STREET, SUITE 1420
SACRAMENTO, CA
mclaughlin@braunlegal.com

GREGGORY L. WHEATLAND
ELLISON, SCHNEIDER & HARRIS, LLP
2015 H STREET
SACRAMENTO, CA
glw@eslawfirm.com

JANE E. LUCKHARDT
DOWNEY BRAND LLP
555 CAPITOL MALL, 10TH FLOOR
SACRAMENTO, CA
jluckhardt@downeybrand.com

JEFFERY D. HARRIS
ELLISON, SCHNEIDER & HARRIS LLP
2015 H STREET
SACRAMENTO, CA
jdh@eslawfirm.com

VIRGIL WELCH
ENVIRONMENTAL DEFENSE
1107 9TH STREET, SUITE 540
SACRAMENTO, CA
vwelch@environmentaldefense.org

WILLIAM W. WESTERFIELD, 111
ELLISON, SCHNEIDER & HARRIS L.L.P.
2015 H STREET
SACRAMENTO, CA
www@eslawfirm.com

DOWNEY BRAND
JANE E. LUCKHARDT
555 CAPITOL MALL, 10TH FLOOR
SACRAMENTO, CA

RAYMOND J. CZAHAR, C.P.A.
WEST COAST GAS COMPANY
9203 BEATTY DRIVE
SACRAMENTO, CA
westgas@aol.com

STEVEN M. COHN
SACRAMENTO MUNICIPAL UTILITY DISTRICT
PO BOX 15830
SACRAMENTO, CA
scohn@smud.org

ANN L. TROWBRIDGE
DAY CARTER & MURPHY, LLP
3620 AMERICAN RIVER DRIVE, SUITE 205
SACRAMENTO, CA
atrowbridge@daycartermurphy.com

DAN SILVERIA
SURPRISE VALLEY ELECTRIC COOPERATIVE
PO BOX 691
ALTURAS, CA
dansvec@hdo.net

JESSICA NELSON
PLUMAS-SIERRA RURAL ELECTRIC CO-OP
73233 STATE ROUTE 70, STE A
PORTOLA, CA
notice@psrec.coop

DONALD BROOKHYSER
ALCANTAR & KAHL
1300 SW FIFTH AVE., SUITE 1750
PORTLAND, OR
deb@a-klaw.com

CYNTHIA SCHULTZ
PACIFIC POWER AND LIGHT COMPANY
825 N.E. MULTNOMAH
PORTLAND, OR
cynthia.schultz@pacificcorp.com

KYLE L. DAVIS
PACIFICORP
825 NE MULTNOMAH,
PORTLAND, OR
kyle.l.davis@pacificcorp.com

RYAN FLYNN
PACIFICORP
825 NE MULTNOMAH STREET
PORTLAND, OR
ryan.flynn@pacificcorp.com

SHAY LABRAY
PACIFICORP
825 NE MULTNOMAH, SUITE 2000
PORTLAND, OR
shayleah.labray@pacificcorp.com

TARA KNOX
AVISTA CORPORATION
PO BOX 3727
SPOKANE, WA

IAN CARTER
INTERNATIONAL EMISSIONS TRADING ASSN.
350 SPARKS STREET, STE. 809
OTTAWA, ON
carter@ieta.org

JASON DUBCHAK
NISKA GAS STORAGE
1200 855 2ND STREET, S.W.
CALGARY, AB
jason.dubchak@niskags.com

BRIAN M. JONES
M. J. BRADLEY & ASSOCIATES, INC.
47 JUNCTION SQUARE DRIVE
CONCORD, MA
bjones@mjb Bradley.com

KENNETH A. COLBURN
SYMBIOTIC STRATEGIES, LLC
26 WINTON ROAD
MEREDITH, NH
kcolburn@symbioticstrategies.com

RICHARD COWART
REGULATORY ASSISTANCE PROJECT
50 STATE STREET, SUITE 3
MONTPELIER, VT
rapcowart@aol.com

KATHRYN WIG
NRG ENERGY, INC.
211 CARNEGIE CENTER
PRINCETON, NY
Kathryn.Wig@nrgenergy.com

SAKIS ASTERIADIS
APX INC
1270 FIFTH AVE., SUITE 15R
NEW YORK, NY
sasteriadis@apx.com

GEORGE HOPLEY
BARCLAYS CAPITAL
200 PARK AVENUE
NEW YORK, NY
george.hopley@barcap.com

ADAM J. KATZ
MCDERMOTT WILL & EMERY LLP
600 13TH STREET, NW.
WASHINGTON, DC
ajkatz@mwe.com

ELIZABETH ZELLJADT
1725 I STREET, N.W. SUITE 300
WASHINGTON, DC
ez@pointcarbon.com

DALLAS BURTRAW
1616 P STREET, NW
WASHINGTON, DC
burtraw@rff.org

VERONIQUE BUGNION
POINT CARBON
205 SEVERN RIVER RD
SEVERNA PARK, MD
vb@pointcarbon.com

KYLE D. BOUDREAU
FPL GROUP
700 UNIVERSE BLVD., JES/JB
JUNO BEACH, FL
kyle_boudreaux@fpl.com

ANDREW BRADFORD
FELLON-MCCORD & ASSOCIATES
9960 CORPORATE CAMPUS DRIVE
LOUISVILLE, KY
andrew.bradford@constellation.com

GARY BARCH
FELLON-MCCORD & ASSOCIATES, INC.
9960 CORPORATE CAMPUS DRIVE
LOUISVILLE, KY
gbarch@knowledgeinenergy.com

RALPH E. DENNIS
FELLON-MCCORD & ASSOCIATES
9960 CORPORATE CAMPUS DRIVE, STE 2000
LOUISVILLE, KY
ralph.dennis@constellation.com

SAMARA MINDEL
FELLON-MCCORD & ASSOCIATES
9960 CORPORATE CAMPUS DRIVE, SUITE
2000
LOUISVILLE, KY
samara.mindel@constellation.com

BARRY RABE
1427 ROSS STREET
PLYMOUTH, MI
brabe@umich.edu

CATHY S. WOOLLUMS
MIDAMERICAN ENERGY HOLDINGS
COMPANY
106 EAST SECOND STREET
DAVENPORT, IA
cswoollums@midamerican.com

BRIAN POTTS
ONE SOUTH PINCKNEY STREET
MADISON, WI
bhpotts@michaelbest.com

JAMES W. KEATING
BP AMERICA, INC.
150 W. WARRENVILLE RD.
NAPERVILLE, IL
james.keating@bp.com

JAMES ROSS
RCS, INC.
500 CHESTERFIELD CENTER, SUITE 320
CHESTERFIELD, MO
jimross@r-c-s-inc.com

TRENT A. CARLSON
RELIANT ENERGY
1000 MAIN STREET
HOUSTON, TX
tcarlson@reliant.com

GARY HINNERS
RELIANT ENERGY, INC.
PO BOX 148
HOUSTON, TX
ghinners@reliant.com

JULIE L. MARTIN
NORTH AMERICA GAS AND POWER
501 WESTLAKE PARK BLVD.
HOUSTON, TX
julie.martin@bp.com

ED CHIANG
ELEMENT MARKETS, LLC
ONE SUGAR CREEK CENTER BLVD., SUITE
250
SUGAR LAND, TX
echiang@elementmarkets.com

NADAV ENBAR
ENERGY INSIGHTS
1750 14TH STREET, SUITE 200
BOULDER, CO
nenbar@energy-insights.com

NICHOLAS LENSSEN
ENERGY INSIGHTS
1750 14TH STREET, SUITE 200
BOULDER, CO
nlenssen@energy-insights.com

STEVEN MICHEL
WESTERN RESOURCE ADVOCATES
2260 BASELINE RD., STE. 200
BOULDER, CO
smichel@westernresources.org

ELIZABETH BAKER
SUMMIT BLUE CONSULTING
1722 14TH STREET, SUITE 230
BOULDER, CO
bbaker@summitblue.com

KEVIN J. SIMONSEN
ENERGY MANAGEMENT SERVICES
646 EAST THIRD AVENUE
DURANGO, CO
kjsimonsen@ems-ca.com

PHILIP D. LUSK
WESTERN ELECTRICITY COORDINATING
COUNCIL
615 ARAPEEN DRIVE, SUITE 210
SALT LAKE CITY, UT
plusk@wecc.biz

SANDRA ELY
NEW MEXICO ENVIRONMENT DEPARTMENT
1190 ST FRANCIS DRIVE
SANTA FE, NM
Sandra.ely@state.nm.us

BRIAN MCQUOWN
RELIANT ENERGY
7251 AMIGO ST., SUITE 120
LAS VEGAS, NV
bmquown@reliant.com

DOUGLAS BROOKS
SIERRA PACIFIC POWER COMPANY
6226 WEST SAHARA AVENUE
LAS VEGAS, NV
dbrooks@nevpc.com

BILL SCHRAND
SOUTHWEST GAS CORPORATON
PO BOX 98510
LAS VEGAS, NV
bill.schrand@swgas.com

JJ PRUCNAL
SOUTHWEST GAS CORPORATION
PO BOX 98510
LAS VEGAS, NV
jj.prucnal@swgas.com

MERIDITH J. STRAND
SOUTHWEST GAS CORPORATION
PO BOX 98510
LAS VEGAS, NV
meridith.strand@swgas.com

CYNTHIA MITCHELL
ENERGY ECONOMICS, INC.
530 COLGATE COURT
RENO, NV
ckmitchell1@sbcglobal.net

CHRISTOPHER A. HILEN
SIERRA PACIFIC POWER COMPANY
6100 NEIL ROAD
RENO, NV
chilen@sppc.com

ELENA MELLO
SIERRA PACIFIC POWER COMPANY
6100 NEIL ROAD
RENO, NV
emello@sppc.com

TREVOR DILLARD
SIERRA PACIFIC POWER COMPANY
6100 NEIL ROAD
RENO, NV
tdillard@sierrapacific.com

FRANK LUCHETTI
NEVADA DIV. OF ENVIRONMENTAL
PROTECTION
901 S. STEWART ST., SUITE 4001
CARSON CITY, NV
fluchetti@ndep.nv.gov

LEILANI JOHNSON KOWAL
LOS ANGELES DEPT. OF WATER AND
POWER
111 N. HOPE STREET, ROOM 1050
LOS ANGELES, CA
leilani.johnson@ladwp.com

RANDY S. HOWARD
LOS ANGELES DEPT. OF WATER AND
POWER
111 NORTH HOPE STREET, ROOM 921
LOS ANGELES, CA
randy.howard@ladwp.com

ROBERT L. PETTINATO
LOS ANGELES DEPARTMENT OF WATER &
POWER
111 NORTH HOPE STREET, SUITE 1150
LOS ANGELES, CA
robert.pettinato@ladwp.com

HUGH YAO
SOUTHERN CALIFORNIA GAS COMPANY
555 W. 5TH ST, GT22G2
LOS ANGELES, CA
hyao@semprautilities.com

RASHA PRINCE
SAN DIEGO GAS & ELECTRIC
555 WEST 5TH STREET, GT14D6
LOS ANGELES, CA
rprince@semprautilities.com

RANDALL W. KEEN
MANATT PHELPS & PHILLIPS, LLP
11355 WEST OLYMPIC BLVD.
LOS ANGELES, CA
rkeen@manatt.com

S. NANCY WHANG
MANATT, PHELPS & PHILLIPS, LLP
11355 WEST OLYMPIC BLVD.
LOS ANGELES, CA
nwhang@manatt.com

MICHAEL MCCORMICK
CALIFORNIA CLIMATE ACTION REGISTRY
515 S. FLOWER ST. SUITE 1640
LOS ANGELES, CA
mike@climateregistry.org

HARVEY EDER
PUBLIC SOLAR POWER COALITION
1218 12TH ST., 25
SANTA MONICA, CA
harveyederpspc.org@hotmail.com

STEVE ENDO
DEPARTMENT OF WATER & POWER
150 S LOS ROBLES AVE., STE. 200
PASADENA, CA
sendo@ci.pasadena.ca.us

STEVEN G. LINS
CITY OF GLENDALE
613 EAST BROADWAY, SUITE 220
GLENDALE, CA
slins@ci.glendale.ca.us

TOM HAMILTON
ENERGY CONCIERGE SERVICES
321 MESA LILA RD
GLENDALE, CA
THAMILTON5@CHARTER.NET

BRUNO JEIDER
BURBANK WATER & POWER
164 WEST MAGNOLIA BLVD.
BURBANK, CA
bjeider@ci.burbank.ca.us

ROGER PELOTE
WILLIAMS POWER COMPANY
12736 CALIFA STREET
VALLEY VILLAGE, CA
roger.pelote@williams.com

CASE ADMINISTRATION
SOUTHERN CALIFORNIA EDISON COMPANY
2244 WALNUT GROVE AVE., RM. 370
ROSEMEAD, CA
case.admin@sce.com

CATHY KARLSTAD
SOUTHERN CALIFORNIA EDISON COMPANY
2244 WALNUT GROVE AVE.
ROSEMEAD, CA
cathy.karlstad@sce.com

TIM HEMIG
NRG ENERGY, INC.
1819 ASTON AVENUE, SUITE 105
CARLSBAD, CA
tim.hemig@nrgenergy.com

BARRY LOVELL
15708 POMERADO RD., SUITE 203
POWAY, CA
bjl@bry.com

AIMEE M. SMITH
SEMPRA ENERGY
101 ASH STREET HQ13
SAN DIEGO, CA
amsmith@sempra.com

ALDYN HOEKSTRA
PACE GLOBAL ENERGY SERVICES
420 WEST BROADWAY, 4TH FLOOR
SAN DIEGO, CA
aldyn.hoekstra@paceglobal.com

DONALD C. LIDDELL, P.C.
DOUGLASS & LIDDELL
2928 2ND AVENUE
SAN DIEGO, CA
liddell@energyattorney.com

YVONNE GROSS
SEMPRA ENERGY
101 ASH STREET
SAN DIEGO, CA
ygross@sempraglobal.com

JOHN LAUN
APOGEE INTERACTIVE, INC.
1220 ROSECRANS ST., SUITE 308
SAN DIEGO, CA
jlaun@apogee.net

SCOTT J. ANDERS
UNIVERSITY OF SAN DIEGO SCHOOL OF
LAW
5998 ALCALA PARK
SAN DIEGO, CA
scottanders@sandiego.edu

ANDREW MCALLISTER
CALIFORNIA CENTER FOR SUSTAINABLE
ENERGY
8690 BALBOA AVE., SUITE 100
SAN DIEGO, CA
andrew.mcallister@energycenter.org

JACK BURKE
CALIFORNIA CENTER FOR SUSTAINABLE
ENERGY
8690 BALBOA AVE., SUITE 100
SAN DIEGO, CA
jack.burke@energycenter.org

JENNIFER PORTER
CALIFORNIA CENTER FOR SUSTAINABLE
ENERGY
8690 BALBOA AVENUE, SUITE 100
SAN DIEGO, CA
jennifer.porter@energycenter.org

SEPHRA A. NINOW
CALIFORNIA CENTER FOR SUSTAINABLE
ENERGY
8690 BALBOA AVENUE, SUITE 100
SAN DIEGO, CA
sephra.ninow@energycenter.org

JOHN W. LESLIE
LUCE, FORWARD, HAMILTON & SCRIPPS, LLP
11988 EL CAMINO REAL, SUITE 200
SAN DIEGO, CA
jleslie@luce.com

ORLANDO B. FOOTE, III
HORTON, KNOX, CARTER & FOOTE
895 BROADWAY, SUITE 101
EL CENTRO, CA
ofoote@hkcf-law.com

ELSTON K. GRUBAUGH
IMPERIAL IRRIGATION DISTRICT
333 EAST BARIONI BLVD.
IMPERIAL, CA
ekgrubaugh@iid.com

MWIRIGI IMUNGI
15615 ALTON PARKWAY
IRVINE, CA
MImungi@energycoalition.org

JAN PEPPER
CLEAN POWER MARKETS, INC.
418 BENVENUE AVENUE
LOS ALTOS, CA
pepper@cleanpowermarkets.com

GLORIA D. SMITH
ADAMS, BROADWELL, JOSEPH & CARDOZO
601 GATEWAY BLVD., SUITE 1000
SOUTH SAN FRANCISCO, CA
gsmith@adamsbroadwell.com

MARC D. JOSEPH
ADAMS BRADWELL JOSEPH & CARDOZO
601 GATEWAY BLVD. STE 1000
SOUTH SAN FRANCISCO, CA
mdjoseph@adamsbroadwell.com

DIANE I. FELLMAN
LAW OFFICES OF DIANE I. FELLMAN
234 VAN NESS AVENUE
SAN FRANCISCO, CA
diane_fellman@fpl.com

HAYLEY GOODSON
THE UTILITY REFORM NETWORK
711 VAN NESS AVENUE, SUITE 350
SAN FRANCISCO, CA
hayley@turn.org

MATTHEW FREEDMAN
THE UTILITY REFORM NETWORK
711 VAN NESS AVENUE, SUITE 350
SAN FRANCISCO, CA
freedman@turn.org

MICHEL FLORIO
711 VAN NESS AVE., STE. 350
SAN FRANCISCO, CA
mflorio@turn.org

DAN ADLER
CALIFORNIA CLEAN ENERGY FUND
5 THIRD STREET, SUITE 1125
SAN FRANCISCO, CA
Dan.adler@calcef.org

MICHAEL A. HYAMS
SAN FRANCISCO PUBLIC UTILITIES COMM
1155 MARKET ST., 4TH FLOOR
SAN FRANCISCO, CA
mhyams@sfwater.org

NORMAN J. FURUTA
FEDERAL EXECUTIVE AGENCIES
1455 MARKET ST., SUITE 1744
SAN FRANCISCO, CA
norman.furuta@navy.mil

ANNABELLE MALINS
BRITISH CONSULATE-GENERAL
ONE SANSOME STREET, SUITE 850
SAN FRANCISCO, CA
annabelle.malins@fco.gov.uk

DEVRA WANG
NATURAL RESOURCES DEFENSE COUNCIL
111 SUTTER STREET, 20TH FLOOR
SAN FRANCISCO, CA
dwang@nrdc.org

ERIC WANLESS
NATURAL RESOURCES DEFENSE COUNCIL
111 SUTTER STREET, 20TH FLOOR
SAN FRANCISCO, CA
ewanless@nrdc.org

KAREN TERRANOVA
ALCANTAR & KAHL, LLP
120 MONTGOMERY STREET, STE 2200
SAN FRANCISCO, CA
filings@a-klaw.com

NORA SHERIFF
ALCANTAR & KAHL, LLP
120 MONTGOMERY STREET, SUITE 2200
SAN FRANCISCO, CA
nes@a-klaw.com

OLOF BYSTROM
CAMBRIDGE ENERGY RESEARCH
ASSOCIATES
555 CALIFORNIA STREET, 3RD FLOOR
SAN FRANCISCO, CA
obystrom@cera.com

SHERYL CARTER
NATURAL RESOURCES DEFENSE COUNCIL
111 SUTTER STREET, 20TH FLOOR
SAN FRANCISCO, CA
scarter@nrdc.org

CARMEN E. BASKETTE
594 HOWARD ST., SUITE 400
SAN FRANCISCO, CA
cbaskette@enernoc.com

COLIN PETHERAM
SBC CALIFORNIA
140 NEW MONTGOMERY ST., SUITE 1325
SAN FRANCISCO, CA
colin.petheram@att.com

DAVID R MILLER
TETRA TECH EM INC.
135 MAIN STREET, SUITE 1800
SAN FRANCISCO, CA
dave.millar@ttemi.com

DEBORAH BROCKETT
NAVIGANT CONSULTING, INC.
ONE MARKET STREET
SAN FRANCISCO, CA
dbrockett@navigantconsulting.com

KEVIN FOX
WILSON SONSINI GOODRICH & ROSATI
ONE MARKET STREET, SPEAR TOWER, 3300
SAN FRANCISCO, CA
kfox@wsgr.com

KHURSHID KHOJA
THELEN REID BROWN RAYSMAN & STEINER
101 SECOND STREET, SUITE 1800
SAN FRANCISCO, CA
kkhoja@thelenreid.com

STEPHANIE LA SHAWN
PACIFIC GAS AND ELECTRIC COMPANY
77 BEALE STREET, RM. 996B
SAN FRANCISCO, CA
S1L7@pge.com

CALIFORNIA ENERGY MARKETS
517-B POTRERO AVENUE
SAN FRANCISCO, CA
cem@newsdata.com

HOWARD V. GOLUB
NIXON PEABODY LLP
2 EMBARCADERO CENTER, STE. 2700
SAN FRANCISCO, CA
hgolub@nixonpeabody.com

JANINE L. SCANCARELLI
FOLGER, LEVIN & KAHN, LLP
275 BATTERY STREET, 23RD FLOOR
SAN FRANCISCO, CA
jscancarelli@flk.com

JOSEPH F. WIEDMAN
GOODIN MACBRIDE SQUERI DAY & LAMPREY
LLP
505 SANSOME STREET, SUITE 900
SAN FRANCISCO, CA
jwiedman@goodinmacbride.com

MARTIN A. MATTES
NOSSAMAN, GUTHNER, KNOX & ELLIOTT,
LLP
50 CALIFORNIA STREET, 34TH FLOOR
SAN FRANCISCO, CA
mmattes@nossaman.com

JEN MCGRAW
CENTER FOR NEIGHBORHOOD
TECHNOLOGY
PO BOX 14322
SAN FRANCISCO, CA
jen@cnt.org

LISA WEINZIMER
PLATTS
695 NINTH AVENUE, NO. 2
SAN FRANCISCO, CA
lisa_weinzimer@platts.com

STEVEN MOSS
SAN FRANCISCO COMMUNITY POWER COOP
2325 3RD STREET, SUITE 344
SAN FRANCISCO, CA
steven@moss.net

SHAUN ELLIS
2183 UNION STREET
SAN FRANCISCO, CA
sellis@fypower.org

ARNO HARRIS
RECURRENT ENERGY, INC.
220 HALLECK ST., SUITE 220
SAN FRANCISCO, CA
arno@recurrentenergy.com

DAREN CHAN
PO BOX 770000, MAIL CODE B9A
SAN FRANCISCO, CA
d1ct@pge.com

ED LUCHA
PACIFIC GAS AND ELECTRIC COMPANY
PO BOX 770000, MAIL CODE: B9A
SAN FRANCISCO, CA
ell5@pge.com

GRACE LIVINGSTON-NUNLEY
PACIFIC GAS AND ELECTRIC COMPANY
PO BOX 770000 MAIL CODE B9A
SAN FRANCISCO, CA
gxl2@pge.com

JASMIN ANSAR
PG&E
PO BOX 770000
SAN FRANCISCO, CA
jxa2@pge.com

JONATHAN FORRESTER
PG&E
PO BOX 770000
SAN FRANCISCO, CA
JDF1@PGE.COM

SEBASTIEN CSAPO
PACIFIC GAS AND ELECTRIC COMPANY
PO BOX 770000
SAN FRANCISCO, CA
sscb@pge.com

SOUMYA SASTRY
PACIFIC GAS AND ELECTRIC COMPANY
PO BOX 770000
SAN FRANCISCO, CA
svs6@pge.com

VALERIE J. WINN
PACIFIC GAS AND ELECTRIC COMPANY
PO BOX 770000, B9A
SAN FRANCISCO, CA
vjw3@pge.com

FARROKH ALBUYEH
OPEN ACCESS TECHNOLOGY
INTERNATIONAL INC
1875 SOUTH GRANT STREET
SAN MATEO, CA
farrokh.albuyeh@oati.net

GREG BLUE
140 MOUNTAIN PKWY.
CLAYTON, CA
greg.blue@sbcglobal.net

DEAN R. TIBBS
ADVANCED ENERGY STRATEGIES, INC.
1390 WILLOW PASS ROAD, SUITE 610
CONCORD, CA
dtibbs@aes4u.com

JEFFREY L. HAHN
COVANTA ENERGY CORPORATION
876 MT. VIEW DRIVE
LAFAYETTE, CA
jhahn@covantaenergy.com

ANDREW J. VAN HORN
VAN HORN CONSULTING
12 LIND COURT
ORINDA, CA
andy.vanhorn@vhcenergy.com

SUE KATELEY
CALIFORNIA SOLAR ENERGY INDUSTRIES
ASSN
PO BOX 782
RIO VISTA, CA
info@calseia.org

JOSEPH M. PAUL
DYNEGY, INC.
2420 CAMINO RAMON, SUITE 215
SAN RAMON, CA
Joe.paul@dynegy.com

MONICA A. SCHWEBS, ESQ.
BINGHAM MCCUTCHEN LLP
1333 N. CALIFORNIA BLVD.
WALNUT CREEK, CA
monica.schwebs@bingham.com

JOSEPH HENRI
31 MIRAMONTE ROAD
WALNUT CREEK, CA
josephhenri@hotmail.com

PATRICIA THOMPSON
SUMMIT BLUE CONSULTING
2920 CAMINO DIABLO, SUITE 210
WALNUT CREEK, CA
pthompson@summitblue.com

WILLIAM F. DIETRICH
DIETRICH LAW
2977 YGNACIO VALLEY ROAD, 613
WALNUT CREEK, CA
dietrichlaw2@earthlink.net

BETTY SETO
KEMA, INC.
492 NINTH STREET, SUITE 220
OAKLAND, CA
Betty.Seto@kema.com

GERALD L. LAHR
ABAG POWER
101 EIGHTH STREET
OAKLAND, CA
JerryL@abag.ca.gov

JODY S. LONDON
JODY LONDON CONSULTING
PO BOX 3629
OAKLAND, CA
jody_london_consulting@earthlink.net

STEVEN SCHILLER
SCHILLER CONSULTING, INC.
111 HILLSIDE AVENUE
PIEDMONT, CA
steve@schiller.com

MRW & ASSOCIATES, INC.
1814 FRANKLIN STREET, SUITE 720
OAKLAND, CA
mrw@mrwassoc.com

REED V. SCHMIDT
BARTLE WELLS ASSOCIATES
1889 ALCATRAZ AVENUE
BERKELEY, CA
rschmidt@bartlewells.com

ADAM BRIONES
THE GREENLINING INSTITUTE
1918 UNIVERSITY AVENUE, 2ND FLOOR
BERKELEY, CA
adamb@greenlining.org

CLYDE MURLEY
CONSULTANT
600 SAN CARLOS AVENUE
ALBANY, CA
clyde.murley@comcast.net

BRENDA LEMAY
HORIZON WIND ENERGY
1600 SHATTUCK, SUITE 222
BERKELEY, CA
brenda.lemay@horizonwind.com

CARLA PETERMAN
UCEI
2547 CHANNING WAY
BERKELEY, CA
carla.peterman@gmail.com

EDWARD VINE
LAWRENCE BERKELEY NATIONAL
LABORATORY
BUILDING 90-4000
BERKELEY, CA
elvine@lbl.gov

RYAN WISER
BERKELEY LAB
ONE CYCLOTRON ROAD
BERKELEY, CA
rhwiser@lbl.gov

CHRIS MARNAY
1 CYCLOTRON RD MS 90R4000
BERKELEY, CA
C_Marnay@1b1.gov

PHILLIP J. MULLER
SCD ENERGY SOLUTIONS
436 NOVA ALBION WAY
SAN RAFAEL, CA
philm@scdenergy.com

RITA NORTON
RITA NORTON AND ASSOCIATES, LLC
18700 BLYTHSWOOD DRIVE,
LOS GATOS, CA
rita@ritanortonconsulting.com

CARL PECHMAN
POWER ECONOMICS
901 CENTER STREET
SANTA CRUZ, CA
cpechman@powereconomics.com

KENNY SWAIN
POWER ECONOMICS
901 CENTER STREET
SANTA CRUZ, CA
kswain@powereconomics.com

MAHLON ALDRIDGE
ECOLOGY ACTION
PO BOX 1188
SANTA CRUZ, CA
emahlon@ecoact.org

RICHARD SMITH
MODESTO IRRIGATION DISTRICT
1231 11TH STREET
MODESTO, CA
richards@mid.org

CHRISTOPHER J. MAYER
MODESTO IRRIGATION DISTRICT
1231 11TH STREET
MODESTO, CA
chrism@mid.org

ROGER VAN HOY
MODESTO IRRIGATION DISTRICT
1231 11TH STREET
MODESTO, CA
rogerv@mid.org

BARBARA R. BARKOVICH
BARKOVICH & YAP, INC.
44810 ROSEWOOD TERRACE
MENDOCINO, CA
brbarkovich@earthlink.net

JOHN R. REDDING
ARCTURUS ENERGY CONSULTING
44810 ROSEWOOD TERRACE
MENDOCINO, CA
johnrredding@earthlink.net

CLARK BERNIER
RLW ANALYTICS
1055 BROADWAY, SUITE G
SONOMA, CA
clark.bernier@rlw.com

RICHARD MCCANN, PH.D
M. CUBED
2655 PORTAGE BAY, SUITE 3
DAVIS, CA
rmccann@umich.edu

CAROLYN M. KEHREIN
ENERGY MANAGEMENT SERVICES
1505 DUNLAP COURT
DIXON, CA
cmkehrein@ems-ca.com

CALIFORNIA ISO
151 BLUE RAVINE ROAD
FOLSOM, CA
e-recipient@caiso.com

GRANT ROSENBLUM, ESQ.
CALIFORNIA ISO
151 BLUE RAVINE ROAD
FOLSOM, CA
grosenblum@caiso.com

KAREN EDSON
151 BLUE RAVINE ROAD
FOLSOM, CA

ROBIN SMUTNY-JONES
CALIFORNIA ISO
151 BLUE RAVINE ROAD
FOLSOM, CA
rsmutny-jones@caiso.com

SAEED FARROKHPAY
FEDERAL ENERGY REGULATORY
COMMISSION
110 BLUE RAVINE RD., SUITE 107
FOLSOM, CA
saeed.farrokhpay@ferc.gov

DAVID BRANCHCOMB
BRANCHCOMB ASSOCIATES, LLC
9360 OAKTREE LANE
ORANGEVILLE, CA
david@branchcomb.com

KIRBY DUSEL
NAVIGANT CONSULTING, INC.
3100 ZINFANDEL DRIVE, SUITE 600
RANCHO CORDOVA, CA
kdusel@navigantconsulting.com

LAURIE PARK
NAVIGANT CONSULTING, INC.
3100 ZINFANDEL DRIVE, SUITE 600
RANCHO CORDOVA, CA
lpark@navigantconsulting.com

SCOTT TOMASHEFSKY
NORTHERN CALIFORNIA POWER AGENCY
180 CIRBY WAY
ROSEVILLE, CA
scott.tomashefsky@ncpa.com

ELLEN WOLFE
RESERO CONSULTING
9289 SHADOW BROOK PL.
GRANITE BAY, CA
ewolfe@resero.com

AUDRA HARTMANN
980 NINTH STREET, SUITE 2130
SACRAMENTO, CA
Audra.Hartmann@Dynergy.com

CURT BARRY
717 K STREET, SUITE 503
SACRAMENTO, CA
curt.barry@iwpnews.com

DAVID L. MODISETTE
CALIFORNIA ELECTRIC TRANSP. COALITION
1015 K STREET, SUITE 200
SACRAMENTO, CA
dave@ppallc.com

RACHEL MCMAHON
CEERT
1100 11TH STREET, SUITE 311
SACRAMENTO, CA
rachel@ceert.org

STEVEN KELLY
INDEPENDENT ENERGY PRODUCERS ASSN
1215 K STREET, SUITE 900
SACRAMENTO, CA
steven@iepa.com

EDWARD J. TIEDEMANN
KRONICK, MOSKOVITZ, TIEDEMANN &
GIRARD
400 CAPITOL MALL, 27TH FLOOR
SACRAMENTO, CA
etiedemann@kmtg.com

LYNN HAUG
ELLISON, SCHNEIDER & HARRIS, LLP
2015 H STREET
SACRAMENTO, CA
lmh@eslawfirm.com

OBADIAH BARTHOLOMY
SACRAMENTO MUNICIPAL UTILITY DISTRICT
6201 S. STREET
SACRAMENTO, CA
obarto@smud.org

BUD BEEBE
SACRAMENTO MUNICIPAL UTIL DIST
6201 S STREET
SACRAMENTO, CA
bbeebe@smud.org

BALWANT S. PUREWAL
DEPARTMENT OF WATER RESOURCES
3310 EL CAMINO AVE., LL-90
SACRAMENTO, CA
bpurewal@water.ca.gov

DOUGLAS MACMULLEN
CA DEPARTMENT OF WATER RESOURCES
3310 EL CAMINO AVE., ROOM 356
SACRAMENTO, CA
dmacmll@water.ca.gov

HOLLY B. CRONIN
CALIFORNIA DEPARTMENT OF WATER
RESOURCES
3310 EL CAMINO AVE., LL-90
SACRAMENTO, CA
hcronin@water.ca.gov

KAREN NORENE MILLS
CALIFORNIA FARM BUREAU FEDERATION
2300 RIVER PLAZA DRIVE
SACRAMENTO, CA
kmills@cbbf.com

KAREN LINDH
LINDH & ASSOCIATES
7909 WALERGA ROAD, NO. 112, PMB 119
ANTELOPE, CA
karen@klindh.com

DENISE HILL
4004 KRUSE WAY PLACE, SUITE 150
LAKE OSWEGO, OR
Denise_Hill@transalta.com

ANNIE STANGE
ALCANTAR & KAHL
1300 SW FIFTH AVE., SUITE 1750
PORTLAND, OR
sas@a-klaw.com

ELIZABETH WESTBY
ALCANTAR & KAHL, LLP
1300 SW FIFTH AVENUE, SUITE 1750
PORTLAND, OR
egw@a-klaw.com

ALEXIA C. KELLY
THE CLIMATE TRUST
65 SW YAMHILL STREET, SUITE 400
PORTLAND, OR
akelly@climatetrust.org

ALAN COMNES
WEST COAST POWER
3934 SE ASH STREET
PORTLAND, OR
alan.comnes@nrgenergy.com

KYLE SILON
ECOSECURITIES CONSULTING LIMITED
529 SE GRAND AVENUE
PORTLAND, OR
kyle.silon@ecosecurities.com

PHIL CARVER
OREGON DEPARTMENT OF ENERGY
625 MARION ST., NE
SALEM, OR
Philip.H.Carver@state.or.us

SAM SADLER
OREGON DEPARTMENT OF ENERGY
625 NE MARION STREET
SALEM, OR
samuel.r.sadler@state.or.us

LISA SCHWARTZ
ORGEON PUBLIC UTILITY COMMISSION
PO BOX 2148
SALEM, OR
lisa.c.schwartz@state.or.us

CLARE BREIDENICH
224 1/2 24TH AVENUE EAST
SEATTLE, WA
cbreidenich@yahoo.com

JESUS ARREDONDO
NRG ENERGY INC.
4600 CARLSBAD BLVD.
CARLSBAD, CA
jesus.arredondo@nrgenergy.com

KAREN MCDONALD
POWEREX CORPORATION
666 BURRAND STREET
VANCOUVER, BC
karen.mcdonald@powerex.com

James Loewen
CALIF PUBLIC UTILITIES COMMISSION
320 WEST 4TH STREET SUITE 500
LOS ANGELES, CA
loe@cpuc.ca.gov

Andrew Campbell
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA
agc@cpuc.ca.gov

Anne Gillette
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA
aeg@cpuc.ca.gov

Charlotte TerKeurst
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA
cft@cpuc.ca.gov

Christine S. Tam
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA
tam@cpuc.ca.gov

Donald R. Smith
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA
dsh@cpuc.ca.gov

Ed Moldavsky
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA
edm@cpuc.ca.gov

Eugene Cadenasso
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA
cpe@cpuc.ca.gov

Harvey Y. Morris
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA
hym@cpuc.ca.gov

Jaclyn Marks
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA
jm3@cpuc.ca.gov

George S. Tagnipes
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA
jst@cpuc.ca.gov

Joel T. Perlstein
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA
jtp@cpuc.ca.gov

Jonathan Lakritz
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA
jol@cpuc.ca.gov

Judith Ikle
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA
jci@cpuc.ca.gov

Julie A. Fitch
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA
jf2@cpuc.ca.gov

Kristin Ralf Douglas
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA
krd@cpuc.ca.gov

Lainie Motamedi
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA
lrm@cpuc.ca.gov

Matthew Deal
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA
mjd@cpuc.ca.gov

Meg Gottstein
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA
meg@cpuc.ca.gov

Merideth Sterkel
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA
mts@cpuc.ca.gov

Nancy Ryan
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA
ner@cpuc.ca.gov

Pamela Wellner
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA
pw1@cpuc.ca.gov

Paul S. Phillips
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA
psp@cpuc.ca.gov

Sara M. Kamins
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA
smk@cpuc.ca.gov

Scott Murtishaw
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA
sgm@cpuc.ca.gov

Steve Roscow
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA
scr@cpuc.ca.gov

Suzy Hong
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA
suh@cpuc.ca.gov

Theresa Cho
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA
tcx@cpuc.ca.gov

Tim G. Drew
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA
zap@cpuc.ca.gov

BILL LOCKYER
STATE OF CALIFORNIA, DEPT OF JUSTICE
PO BOX 944255
SACRAMENTO, CA
ken.alex@doj.ca.gov

KEN ALEX
1300 I STREET, SUITE 125
SACRAMENTO, CA
ken.alex@doj.ca.gov

JUDITH B. SANDERS
CALIFORNIA INDEPENDENT SYSTEM
OPERATOR
151 BLUE RAVINE ROAD
FOLSOM, CA
jsanders@caiso.com

JULIE GILL
CALIFORNIA INDEPENDENT SYSTEM
OPERATOR
151 BLUE RAVINE ROAD
FOLSOM, CA
jgill@caiso.com

MARY MCDONALD
CALIFORNIA INDEPENDENT SYSTEM
OPERATOR
151 BLUE RAVINE ROAD
FOLSOM, CA

PHILIP D. PETTINGILL
CALIFORNIA INDEPENDENT SYSTEM
OPERATOR
151 BLUE RAVINE ROAD
FOLSOM, CA
ppettingill@caiso.com

MICHAEL SCHEIBLE
CALIFORNIA AIR RESOURCES BOARD
1001 I STREET
SACRAMENTO, CA
mscheibl@arb.ca.gov

MEG GOTTSTEIN
PO BOX 210/21496 NATIONAL STREET
VOLCANO, CA
gottstein@volcano.net

PAM BURMICH
AIR RESOURCES BOARD
1001 I STREET, BOX 2815
SACRAMENTO, CA
pburmich@arb.ca.gov

B. B. BLEVINS
CALIFORNIA ENERGY COMMISSION
1516 9TH STREET, MS-39
SACRAMENTO, CA
bblevins@energy.state.ca.us

DEBORAH SLON
OFFICE OF THE ATTORNEY GENERAL
1300 I STREET, 15TH FLOOR
SACRAMENTO, CA
deborah.slon@doj.ca.gov

Don Schultz
CALIF PUBLIC UTILITIES COMMISSION
770 L STREET, SUITE 1050
SACRAMENTO, CA
dks@cpuc.ca.gov

KAREN GRIFFIN
CALIFORNIA ENERGY COMMISSION
1516 9TH STREET, MS 39
SACRAMENTO, CA
kgriffin@energy.state.ca.us

LISA DECARLO
CALIFORNIA ENERGY COMMISSION
1516 9TH STREET MS-14
SACRAMENTO, CA
ldecarlo@energy.state.ca.us

MICHELLE GARCIA
AIR RESOURCES BOARD
1001 I STREET
SACRAMENTO, CA
mgarcia@arb.ca.gov

PIERRE H. DUVAIR
CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET, MS-41
SACRAMENTO, CA
pduvair@energy.state.ca.us

Wade McCartney
CALIF PUBLIC UTILITIES COMMISSION
770 L STREET, SUITE 1050
SACRAMENTO, CA
wsm@cpuc.ca.gov

CAROL J. HURLOCK
CALIFORNIA DEPT. OF WATER RESOURCES
3310 EL CAMINO AVE. RM 300
SACRAMENTO, CA
hurlock@water.ca.gov