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Dr. James Boyce, Member
AB 32 Economic and Allocation Advisory Committee
University of Massachusetts, Amherst
Room 306 Gordon Hall
418 N. Pleasant St., Suite A
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Dear Dr. Boyce:

Pacific Gas and Electric Company ("PG&E") welcomes the opportunity to provide comments in response to the paper "Investment in Disadvantaged Communities". The paper was posted to the website of the Economic and Allocation Advisory Committee (EAAC). The discussion in the paper highlights concerns with mitigating the impacts of co-pollutants and toxics on disadvantaged communities as part of GHG reduction. While we support the intention to achieve the mitigation objectives, we have some concerns about the methods and base assumptions.

PG&E commends EAAC for its efforts to ensure disadvantaged communities are not disproportionately adversely affected by efforts to reduce GHG emissions. PG&E is concerned that co-pollutants and CO2 emissions may be considered by the Committee to be equal and interchangeable, but that is not necessarily the case. An entity may be a significant source of CO2, while also a very small emitter of co-pollutants and toxics. In fact, the electricity sector in California is responsible for a small share of co-pollutants associated with fossil-fuel use. Small natural-gas users are also responsible for a small share. Under the principle of "polluter pays", these sectors should pay only costs commensurate with the co-pollutants they produce. PG&E does not believe that its customers should subsidize the reduction of co-pollutants that come from other sources. Most co-pollutants in California are associated with production and use of transportation fuels, as shown in the tables below. PG&E encourages discussion on allowance allocation that recognizes this and apportions allocations for co-pollutant reduction accordingly. PG&E also recommends that since co-pollutant and toxic emissions from the electricity sector and small natural-gas users are significantly less than their CO2 emissions, most of the allowances issued for CO2 emissions from electricity generation and small natural gas users should go to Local Distribution Companies for the benefit of their customers.

Emissions of Co-Pollutants: Air Toxics

According to research findings by the California Air Resources Board and the South Coast Air Quality Management District, most of the health risk associated with air toxics comes from mobile sources:

- The ARB brochure on air toxics states: "Particulate matter from diesel-fueled engines (diesel PM) contributes over 70% of the known risk from air toxics today."[i]
- In 2008, the SCAQMD released its "Multiple Air Toxics Exposure Study III" (MATES III), conducted as part of the South Coast Air Quality Management District (SCAQMD) Governing Board's Environmental Justice Initiative. The report states: "Using the MATES III methodology, about 94% of the [cancer] risk is attributed to emissions associated with mobile sources, and about 6% of the risk is attributed to toxics emitted from stationary sources, which include industries, and businesses such as dry cleaners and chrome plating operations."[ii]

Emissions of Co-Pollutants: Criteria Air Pollutants

The paper "Investment in Disadvantaged Communities" does not distinguish between sources of criteria pollutants by industry and does not sufficiently distinguish utilities from petrochemicals. In fact, all industries in California do not emit co-pollutants in proportion to their CO2 emissions. As previously mentioned, California's electricity sector and its small natural-gas users emit small percentages of criteria air pollutants in California.

Table 1 in the paper "Investment in Disadvantaged Communities" presents ARB data on emissions of criteria air pollutants from the production and use of fossil fuels. In **Table A**, PG&E presents the same data as in ***Table 1***, but in more disaggregated form, in order to focus on the differences in co-pollutant emissions between sectors.

PG&E's **Table A** (below) shows the shares of emissions caused by production and use of fossil fuels in California. For example, production and combustion of fossil fuels by the sectors shown in **Table A** account for 60.3% of total emissions of Reactive Organic Gases in California. This table is based on the same ARB data used for ***Table 1*** in "Investment in Disadvantaged Communities". It differs from ***Table 1*** in three ways:

- **Table A** focuses on non-attainment pollutants to help focus attention on attainment needs. It does not show emissions of carbon monoxide or sulfur dioxide because ambient concentrations of those co-pollutants throughout California meet health-based standards set by state and federal agencies.[iii]
- **Table A** excludes emissions from residential combustion of wood. Such combustion contributes to PM2.5 emissions, but those emissions are not co-pollutants associated with combustion of fossil fuels.[iv]
- **Table A** attempts to show separately the emissions in the first and second compliance periods of California's cap and trade program. This effort is an approximation. For example, the table shows "Other Fuel Combustion (Stationary Non-Residential)" as a sector in the first compliance period, but some of those emissions come from industrial facilities so small that they will not be regulated until the second compliance period.

Table A: Percentage share of California emissions derived from production and use of fossil fuels

	ROG	NOX	PM2.5
Electric Powerplants and Cogeneration	0.3%	1.5%	1.6%
Other Fuel Combustion (Stationary Non-Residential)	1.2%	6.8%	3.9%
Petroleum Production and Marketing	6.2%	0.3%	0.6%
Subtotal: Sectors in First Compliance Period	7.7%	8.5%	6.1%
Fuel Combustion (Residential)	0.2%	1.8%	0.9%
Mobile Sources	52.4%	85.8%	23.2%
Subtotal: Sectors in Second Compliance Period	52.6%	87.6%	24.1%
Total	60.3%	96.1%	30.2%

Table A shows that co-pollutant emissions from fossil-fuel combustion in the electric sector are a small share of the statewide totals. Similarly, emissions from the residential sector are also small shares of statewide totals.

Table B: Percentage share of South Coast AQMD emissions derived from production and use of fossil fuels

	ROG	NOX	PM2.5
Electric Powerplants and Cogeneration	0.2%	0.4%	1.2%
Other Fuel Combustion (Stationary Non-Residential)	0.7%	4.6%	4.3%
Petroleum Production and Marketing	5.3%	0.5%	2.1%
Subtotal: Sectors in First Compliance Period	6.3%	5.5%	7.6%
Fuel Combustion (Residential)	0.2%	2.6%	2.1%
Mobile Sources	59.6%	91.0%	38.1%
Subtotal: Sectors in Second Compliance Period	59.8%	93.6%	40.2%
Total	66.2%	99.1%	47.8%

Table B is similar to **Table A**, but it covers the South Coast Air Quality Management District (SCAQMD) rather than all of California.

As stated above, PG&E does not believe that its customers should subsidize the reduction of co-pollutants that come from sources outside the electricity and small natural-gas sectors.

Zonal Trading Systems

The paper "Investment in Disadvantaged Communities" suggests a zonal trading system as a possible way to "guarantee some minimum level of emissions reductions in high-priority locations…". PG&E is concerned that a zonal trading system could impair the liquidity of the allowance market under California's cap-and-trade program by dividing it into zonal submarkets. A liquid market in GHG emission allowances is an important part of PG&E's goals for sustained emission reductions at manageable costs to our customers.

A zonal trading system may also have unintended consequences. In the case of products for which there is little slack production capacity, or constraints that necessitate production in specific locations, a zonal system might do little to reduce emissions, but might allow producers in low-cost zones to match the higher prices charged by their competitors in high-cost zones. The result could be higher prices but no emission reductions in "high-priority locations." Such issues merit further investigation.

PG&E appreciates the opportunity to provide these comments. Please do not hesitate to contact me at (415) 973-6617 if you have questions about or comments or if we may be of further assistance.

Very truly yours,

/s/

John W. Busterud

JWB:kp

cc: Justin Adams, Forward Observer
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Nancy Sidhu, Los Angeles County Economic Development Corporation
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[i] Source: http://www.arb.ca.gov/toxics/brochure.pdf

[ii] Source: http://www.aqmd.gov/prdas/matesIII/Final/Document/ab-MATESIIIExecutiveSummary-Final92008.pdf page ES-2

[iii] ARB data for emissions of ROG, NOX, PM2.5 are available at http://www.arb.ca.gov/ei/emissiondata.htm. Maps showing areas of attainment and non-attainment of air quality standards are available at http://www.arb.ca.gov/desig/adm/adm.htm

[iv] Detailed data on emissions from residential use of specific fuels, including wood, are available at: http://www.arb.ca.gov/app/emsinv/emseic_query.php?F_YR=2008&F_DIV=-4&F_SEASON=A&SP=2009&SPN=2009_Almanac&F_AREA=CA&F_EICSUM=610