



UNIVERSITY OF MASSACHUSETTS  
AMHERST

Economics Department

Thompson Hall  
200 Hicks Way  
Amherst, MA 01003-9277

December 23, 2009

John Busterud  
Director and Counsel, Environmental Affairs  
Pacific Gas and Electric Company  
P.O. Box 7442  
San Francisco, CA 94120

Dear Mr. Busterud:

Thank you for your letter dated November 16, 2009, addressed to me and posted in the "Comments" section of the Economic and Allocation Advisory Committee (EAAC) website. The letter highlights differences across sectors in the share of co-pollutants associated with fossil fuel use, and notes that the electricity sector in California is responsible for a relatively small share, notably in comparison to the production and use of transportation fuels.

In fact, the same points are made in my October 5, 2009 memorandum "Investment in Disadvantaged Communities". The memorandum states: "If co-pollutant intensity, here defined as the ratio of co-pollutant damages to carbon-dioxide emissions, were a fixed coefficient, there would be no efficiency case for modifying policy design (beyond adjusting the cap) to take co-pollutants into account." Data cited in the memorandum show that air toxics intensity (per ton CO<sub>2</sub>) is greater for petroleum refineries than for power plants in terms of both mass and health impact, and also that transportation fuels account for a large share of criteria co-pollutants.

The memorandum concludes that "policy design should respond to variations in co-pollutant intensity." A zonal trading system is one such design option. Limiting the number of allowances available in high-priority zones would limit emissions in these locations. If most allowances are auctioned rather than allocated free of charge, with auctions held frequently, liquidity in the allowance market would not be significantly impaired by the creation of zonal submarkets.

Other design options discussed in the memorandum are (i) co-pollutant surcharges and (ii) the creation of Community Benefit Funds. A further option is (iii) the designation of priority facilities or sectors for co-pollutant reductions, with constraints (analogous to those in a zonal system) on their ability to "buy out" of emissions reductions through allowances or offsets.

Sincerely yours,

/s/

James K. Boyce