



May 7, 2007

Hon. Robert Sawyer, Ph.D.  
Chair  
California Air Resources Board  
1001 I Street  
Sacramento, CA 95818

**Re: Oil Refining and Fossil Fuel Electricity sector are missing from Early Action Items despite major GHG emissions and Environmental Justice impacts**

Dear Chairman Sawyer:

Communities for a Better Environment (CBE) is submitting these comments to the California Air Resources Board regarding the “Proposed Early Action Measures to Mitigate Climate Change” documents published on April 20, 2007. We welcome the opportunity to continue working with ARB to adopt a list of Early Action Measures that can be adopted and made enforceable by 2010.

On January 22, we urged you to add Early Action measures to reduce greenhouse gases contributing to global warming, which are currently missing, in the areas of oil refining and electrical generation. These measures comport with ARB goals to provide safe, clean air to all Californians and to protect the public from exposure to toxic air contaminants, are cost-effective, add jobs, and result in major emissions reductions. They would also satisfy the AB 32 mandate that greenhouse gas regulations complement efforts to achieve and maintain ambient air quality standards and to reduce toxic air contaminants. Finally, they meet the AB 32 environmental justice mandate: only by prioritizing measures which reduce criteria pollutants in conjunction with greenhouse gas pollutants, can the state avoid disproportionate impacts on low-income communities.

Oil Refineries and Electrical Generation Facilities account for 30 percent of the state’s GHG emissions according to the CEC<sup>1</sup>. Additionally, refineries process the transportation fuels that contribute over 40 percent of the state’s emissions. Securing greenhouse gas reductions in the “fossil fuel” sectors will be key to achieving statewide pollution limits established by AB 32, as well as the Governor’s target of reducing GHG pollution by 80 percent in 2050. **Since our proposed Early Action items were almost entirely missing from ARB’s list, we are now proposing a single Early Action measure for Oil Refineries, which integrates several of our earlier recommendations.**

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<sup>1</sup> See on page 3 chart for graphic illustration.

We also support the proposals of Environmental Health Coalition for evaluating the stock of aging power plants and implementing a phase out plan for each as soon as possible, as well as those from Center for Race, Poverty and the Environment for controlling livestock methane emissions. Finally, we urge revision of the proposed Low Carbon Fuel Standard. We urge you to incorporate these measures to protect public health and ensure environmental justice.

**Add Oil Refinery Early Action Item:**

Sector	Description	2020 Reductions (MMT CO2E)
Commercial	<p><b>Oil Refinery Energy Efficiency and Alternatives Audit to Reduce CO2 and Methane</b> (Refinery energy audits and recommendations implementation including but not limited to</p> <ol style="list-style-type: none"> <li>1) recycling “waste” gases instead of dumping or incinerating,</li> <li>2) removal of methane exemptions from air pollution regulations, and</li> <li>3) evaluation of                             <ol style="list-style-type: none"> <li>a) alternative energy for refinery electricity consumption,</li> <li>b) impact of heavier crude oil modifications on GHG emissions,</li> <li>c) other energy efficiency measures.</li> </ol> </li> </ol>	9-12 million MMT

According to two energy audit studies by the Lawrence Berkeley Laboratory,<sup>2</sup> feasible and effective measures to achieve greater energy efficiency in oil refineries are available which reduce emissions and save money. Energy efficiency can result in significant reductions in GHGs, criteria pollution, and toxics. Refineries are the single largest energy-consuming industry in California. The California Energy Commission recently estimated oil refinery CO2 equivalent emissions at about ten percent of the state’s total (see chart below). This is a huge portion. Many processes at refineries can become more efficient through readily available technologies. As evidence of this feasibility, a major oil refinery recently declared a goal of 10% reduction in energy use by 2012.<sup>3</sup> This goal and the technologies available for achieving it could translate to a 15-20% reduction from business as usual for 2020. If the refinery sector as a whole achieved this 2020 goal, it would reduce greenhouse gases by 9-12 million tons CO2E.

Further examples of oil refineries’ inefficiencies and environmental harms include frequently and routinely dumping gases through 1) uncontrolled Pressure Relief Devices, 2) unnecessary flaring episodes when there is insufficient gas compressor capacity installed to recycle gases, and 3) exemptions in smog precursor regulations for methane, allowing this potent greenhouse gas to be dumped to the atmosphere. Waste heat can also be recovered. Many other dirty and inefficient refinery sources exist. Mature technology already exists for the minimization of flaring and generally for the control of

<sup>2</sup> *Profile of the Petroleum Refining Industry in California*, Ernst Worrell and Christina Galitsky, Ernest Orlando Lawrence Berkeley National Laboratory, LBNL-55450, Environmental Energy Technologies Division, California Industries of the Future Program, March 2004, <http://ies.lbl.gov/iespubs/55450.pdf>, and

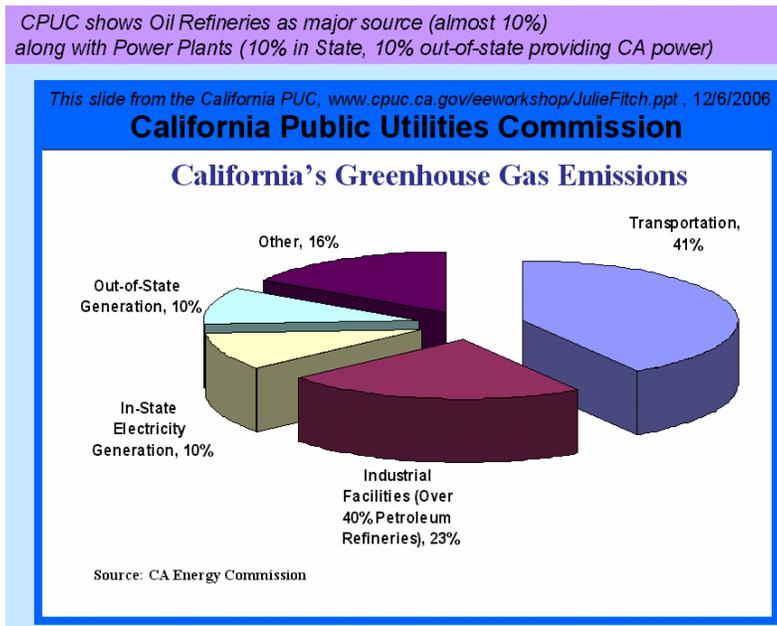
*Energy Efficiency Improvement and Cost Saving Opportunities for Petroleum Refineries*, Ernst Worrell and Christina Galitsky, Ernest Orlando Lawrence Berkeley National Laboratory, LBNL-56183, An ENERGYSTAR Guide for Energy and Plant Managers, Environmental Energy Technologies Division, February 2005, <http://repositories.cdlib.org/lbnl/LBNL-56183/>

<sup>3</sup> *Oil Giant Backs Cap on Greenhouse Gases*, Associated Press, April 11, 2007 available at <http://www.msnbc.msn.com/id/18054970/>

hydrocarbon emissions including methane. Reductions from existing implementation of flaring rules have already saved hundreds of thousands of tons of CO<sub>2</sub>E

**Oil Refinery GHG emissions are large and may increase dramatically due to highly energy-intensive refinery expansions throughout California without oversight**

A slide excerpted below from a California Public Utilities Commission Slideshow based on California Energy Commission data<sup>4</sup> showed GHG emissions from California Industrial sources at 23% of the state's total, with 40% of this coming from Oil Refineries. In other words, almost ten percent of the state's total GHGs come from oil refineries:



**One oil refinery in Rodeo California (ConocoPhillips) is planning an expansion resulting in an increase of about 1.25 million metric tons of CO<sub>2</sub> per year, according to the Final EIR for this project.<sup>5</sup> These emissions were not assessed at all in the Draft EIR, but only added after CBE commented and the BAAQMD commented on the entirely missing GHGs from the expansions assessment. Other EIRs for similar projects also do not include assessments of GHGs. Oil refineries all over the state are in the process of major expansions, importing dirtier, heavier crude oil, and adding energy intensive cracking, hydrotreating, coking, Sulfur Recovery, and more to produce more gasoline and diesel using extremely cheap and dirty feedstocks. This is causing major Environmental Justice impacts, increasing pollution and hazards for neighbors, and drastically increasing energy use at oil refineries without any oversight from the State on GHG emissions. **At this rate, oil refinery major expansions causing increased GHG emissions will severely erode any reductions made in other sectors.****

<sup>4</sup> [www.cpuc.ca.gov/eeworkshop/JulieFitch.ppt](http://www.cpuc.ca.gov/eeworkshop/JulieFitch.ppt)

<sup>5</sup> *ConocoPhillips Rodeo Refinery Clean Fuels Expansion Project, Final Environmental Impact Report SCH 2005092028, LP 052048, Volume 1 – Response to Comments, Contra Costa County April 2007 Community Development Department, page 2-6*

### **Low Carbon Fuel Standard comments and recommendations**

We are pleased that ARB has signaled a commitment to low carbon fuels, which it estimates will provide 10 to 20 million metric tons of carbon dioxide equivalent (CO<sub>2</sub>e) reductions by 2020. The low carbon fuel standard requires that the mix of fuel sold in California by each fuel provider meets a declining standard in global warming pollution per unit of fuel energy sold. We agree that a low carbon fuel standard will foster demand for cleaner fuels and complement vehicle standards by making sure the fossil fuel industry does its part to reduce global warming pollution. As we stated at the January workshop, the LCFS will work only if the state accounts for emissions from the full lifecycle of the fuels, from extraction to combustion. We are pleased that ARB staff has acknowledged the need to account for lifecycle emissions, but have three concerns about the proposed LCFS: 1) carbon intensity alone will not result in actual reductions of CO<sub>2</sub>, 2) the proposal fails to set an LCFS for current fuels (petroleum fuels, which account for 96 percent of transportation fuels), and 3) it fails to set reduction goals for different parts of the fuel stream. Combined these flaws will result in foreseeable increases in CO<sub>2</sub>, local health impacts, and environmental injustice.

We recommend that CARB investigate the following revisions to their LCFS: 1) establish carbon “gas cap”, as there is no guarantee of actual reductions with increased statewide gasoline consumption; 2) include a separate petroleum LCFS in order to avoid the environmentally unjust outcome of having lower carbon in transportation fuels and increased emissions in refinery communities, and 3) establish a carbon intensity cap for refinery feedstock – similar to existing law which set a greenhouse gas standard for power plant baseload generation. It would also be consistent with the recognition of lifecycle impacts and concern regarding the source of fuel stocks that ARB expressed at the Early Action Workshop. Refinery carbon standards would prevent greater greenhouse gas impacts from dirty crude, including oil from tar sands, and they would protect Californians from exposure to higher levels of criteria pollutants and toxics resulting from the industrial processes required to refine dirty crude. Finally, as an initial measure to assist implementation of the low GHG standard and refinery cap, we urge ARB to recommend withholding approval of refinery modifications that would result in increase in greenhouse gas emissions. These measures would spur the petroleum sector, which produces 96 percent of transportation fuels, to greater innovation through adoption of newer technology and sources for refinery energy use as well as for new fuels.

### **Additional Measures included in previous comments at the January Workshop:**

#### **Adoption of Flare Control Measures Statewide**

The adoption of enforceable local flare control measures in the Bay Area and South Coast air districts has greatly reduced flare emissions, which in the Bay Area had contributed as much as 30 percent to regional air pollution. Refinery flaring is also a major stationary source for emissions of methane emissions, a greenhouse gas over 24 times more intense than carbon dioxide.

We urge ARB to encourage the adoption of stringent local flare control rules in air districts that have yet to do so, modeled after the rules currently in place in the Bay Area and South Coast air districts. At the same time, ARB should increase technical support and oversight for better enforcement of existing Bay Area and South Coast flare control

rules. In the Bay Area alone, refineries with flare control rules and Flare Minimization Plans have reduced their methane emissions from flaring by 90-95%. Reductions across the state of all greenhouse gases, through locally enforceable flare measures, may result in savings of hundreds of thousands of tons of CO<sub>2</sub>E per year. To that effect, the Air Resources Board should also consider requiring air districts to monitor carbon dioxide in the flaring context.

### **Enforcement of SB 288 and other anti-backsliding legislation**

As applied to new or modified stationary sources of pollution, SB 288 prohibits air districts from making rule changes that would exempt a source or reduce its obligations relative to what they were on December 30, 2002. SB 288 also bars rule changes that are not consistent with any environmental justice guidance approved by the California Air Resources Board. We therefore urge the Board to reject granting any exemptions for proposed changes to a district's New Source Review rules that would result in increased GHG emissions.

### **San Francisco Electricity Plan Model**

We ask that ARB analyze the San Francisco Electricity Reliability Plan as a case study of an energy plan that incentivizes clean energy production, efficiency, and conservation. Based on the San Francisco plan, CARB may develop a model plan and encourage other cities and local governments to adopt similar measures in order to meet their accelerated Renewable Portfolio Standards.

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We thank you in advance for your consideration of our comments and recommendations, and we look forward to continue working with CARB on the Early Action measures and implementation of AB 32.

Sincerely,

/s/

Philip Huang  
Communities for a Better Environment

cc:

Hon. Linda Adams  
Hon. Jackalyne Pfannenstiel  
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