**REFINERY EMISSION REDUCTION FACTSHEET**

**BACKGROUND**

Air pollution kills thousands in the Bay Area annually\(^1\) and threatens to destroy our climate globally.\(^2\) Oil refining is the largest industrial air polluter in the region. Furthermore, the industry’s substantial contribution to regional air pollution disparately harms workers and communities near its refineries.

The Air District has primary responsibility over direct emissions from industrial sources in the region.\(^3\) Thus, Air District action to reduce refinery emissions is needed to improve air quality and protect public health. Furthermore, the industry’s assertion that it is *unnecessary* to require Bay Area refiners to reduce emissions is simply not supported by any data.

The Bay Area needs relief now. The Toxics Release Inventory (TRI) data from the U.S. Environmental Protection Agency shows that the Bay Area’s five major oil refineries on average release more toxic chemicals reported in the Los Angeles Area.\(^4\) Emissions inventory data from the California Air Resources Board confirms this trend, showing that Bay Area Refineries emit 7 times more nitrogen oxides (NOx), 3 times more sulfur dioxide and at least a third more organic hydrocarbons (like benzene) than Southern CA refineries.\(^5\)

Refineries also emit substantial amounts of fine particulate matter (PM), which has been recognized by the Air District as “the pollutant that poses by far the greatest health risk to Bay Area residents”, associated with premature mortality from cardiac illness, stroke and lung cancer, increased respiratory illness and asthma, increased hospital admissions, and greater school absences and missed workdays.

Inform others and sign them up to our campaign so they get action alerts. The more this issue grows in the bay the more air district board members will be embolden to do the right thing and institute numeric caps now!

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3. HSC §§ 39002 and 40910 et seq.; 42 U.S.C. § 7401 et seq.  

**PARTICULATE MATTER PM 2.5**

Particulate Matter is a criterion pollutant established by The EPA National Ambient Air Quality Standards and considered harmful to human and environmental health. Particulate Matter is smaller than a single strand of hair and fine particles are easily inhaled deep into the lungs where they may accumulate, react, be cleared or absorbed.

Scientific studies have linked particle pollution, especially fine particles, with a series of significant health problems, including: premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms, such as irritation of the airways, coughing or difficulty breathing.

Particle pollution settles on soil and water and harms the environment by changing the nutrient and chemical balance. Fine particles can remain suspended in the air and travel long distances. For example, a puff of exhaust from a diesel truck in Los Angeles can end up over the Grand Canyon. (EPA Website)

**FEASIBILITY**

Bay Area refiners can cut their emission rates by at least 20% by upgrading old and outdated equipment. The following are improvements that have been found or estimated at Bay Area refineries that if implemented across the board, could easily meet region-wide refinery emission reduction targets:

- Expanding and improving existing PM control devices could cut PM by up to 47% at one refinery.\(^6\)
- Another refinery employs a specialized scrubber and selective catalytic reduction (SCR) control device that has achieved dramatic emission reductions.\(^7\)

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\(^6\) See Chevron ‘Modernization’ Transmittal #74; and BAAQMD Emission Inventory 2011-2013; PM emission reductions would be from the Fluid Catalytic Cracking Unit.

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Southern California refineries employ many other types of emission controls, for example, doming storage tanks. Even in the unlikely event that upgrading to the emission control technologies now available does not cut a pollutant emission by at least 20%, our proposed approach addresses that contingency by allowing refineries to demonstrate full utilization of modern control technology in lieu of emission reductions.

**EXISTING REGULATION**

Existing refinery regulations have not adequately protected impacted communities from ongoing refinery pollution. Although refinery emissions have come down over time, significant pollution remains a problem and the influx of extreme crude oil could substantially worsen conditions.

As the Bay Area transitions to clean energy, we need a cap on emissions to ensure that refinery pollution doesn’t get worse. Real improvement in air quality regulations is needed to provide relief to fence-line communities that have long suffered disproportionate impacts from the pollution.

The current framework of refinery regulations leaves the Bay Area vulnerable to increased refinery pollution caused by extreme crude oil.

**DELAYED AND WEAKENED PROPOSALS**

The Bay Area Air Quality Management District has said they will unveil the “proposal”, but this has been the message since they had town forums in March 2014. What we have seen since is delayed meetings, cancelled meetings, alternate weaker proposals, and hollow promises.

We know community pressure works, when we organize and showed up in mass we got GHG’s considered in the rules, but we need a critical mass to get numeric caps too.

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7. See Valero Title V air permit; and BAAQMD Emission Inventory 2011-2013.
9. See Contra Costa County File LP14-2006; Shell ‘Greenhouse Gas Reduction Project.’

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**NUMERIC CAPS NOW!**

Bay Area refineries makes billions in record profits at the expense of environmental and public health. The EPA Toxics release inventory shows bay area refineries pollute at worse rates than the majority of Southern California refineries.

What we are asking for is simple; we demand certainty in our air quality. We demand facility-wide numeric caps on toxic emissions including GHG’s. We want to know that the air we are breathing right now, even as bad as it is, isn’t going to get worse.

The idea of numeric caps has been heavily contested. Air district staff, and oil lobbyists, continue to claim numeric caps are not possible, nor legal. However we know caps are legal because as noted before, other industries have caps, for example power plants have GHG caps.

We know numeric caps on oil refineries are possible, why? Because currently; the Air District collects toxic emissions data to determine how much refineries pay in fines when they emit more then they originally claim to emit. (ie) The recent case with Tesoro evading pollution control the Air District charged a maximum fine of 4 million dollars.

CBE, Communities for a Better Environment submitted a public records request for the air districts emissions data, cross referenced it with the California air resources board, and lays out the actual numeric caps possible for refineries to adopt today. The caps would cover criteria pollutants layed out by the EPA and would ensure that our air quality does not get worse and can finally start getting better. To learn more about the background of criteria pollutants please see the EPA website for reference.

**CURRENT REFINERY EMISSIONS**

3 year average taken from 2011-2013 from a public records request from the BAAQMD

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<tr>
<th>Tons/year</th>
<th>PM</th>
<th>NOx</th>
<th>SO2</th>
<th>CO</th>
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<tr>
<td>Chevron Richmond</td>
<td>459 Tons</td>
<td>874 Tons</td>
<td>360 Tons</td>
<td>390 Tons</td>
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<tr>
<td>Shell Martinez</td>
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