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Refinery exports, safety, and trajectory analysis recommendations

Please find our comment on opportunities to expand analysis of refinery exports, process safety and ramp-down trajectories in the Draft Transportation Fuels Assessment, attached.

Additional submitted attachment is included below.

17 May 2024

Siva Gunda, Vice Chair
California Energy Commission
715 P Street
Sacramento, CA 95814

Comment Regarding Docket No. 23-SB-02, SB X1-2 Implementation, Draft Transportation Fuels Assessment: Refinery exports, process safety, and ramp-down trajectory analysis needs

Dear Commissioner Gunda,

Thank you, again, for the Commission’s good work to begin a deep look into the challenges and opportunities of our energy transition in your Draft Transportation Fuels Assessment (“draft”). We previously commented regarding additional analysis of the gasoline inventory standard proposed by Director Milder. In this letter we outline three additional priorities for further analysis of options for our transportation fuels future.

Additional Export Analysis

The draft finds that as in-state petroleum fuels demand further declines, refiners in California likely will “attempt to continue to operate their refineries to produce fuel and find export markets for their products.” It acknowledges that the export markets with highest growth potential could likely be foreign rather than domestic. But it labels California a “fuel island” without describing its extensive global fuels links. We recommend expanding the draft’s assessment of exports.

California hosts the dominant oil refining center in Western North America, and refiners here have already pivoted to export the dirtiest-burning fuels they produce. In addition to increasing exports of petroleum diesel in response to policies that have flooded the California fuels market with diesel biofuels, refiners here export the vast majority of their production of marketable petroleum coke, an industrial fuel now deemed too dirty for many uses here. They exported gasoline, diesel, other distillates, petroleum coke and other residual fuels to 91 nations during the past five years. The map and table posted to this docket by Community Energy reSource yesterday¹ illustrate the global reach and carbon intensity of these exports.

Post-COVID exports from California to other states and nations are increasing. Refiners here have *both* shifted their diesel production to exports as biofuels flood the statewide market *and* shifted production from diesel to jet fuel. Similarly, refiners here can maximize profits by making gasoline to the specifications of the market(s) in which they sell it.[†]

[†] Among other things, this means that price spikes after exports drain in-state inventory should not be excused simply because refiners chose to blend the fuel to the receiving nation’s specifications.

Feedstock converted to exported fuels now can account for half of all foreign crude imports refined in California.

Importing oil to refine fuels for export pollutes across the fuel chain—where the oil is extracted, where it is refined, and where the fuels are burned. Exports to other US states comprise a large portion of California refinery exports now, but demand for oil is in long-term decline across California and the US West Coast while it is rising in some other nations to which refiners here export. Whether oil companies will protect otherwise stranded assets through exports that make California into the “gas station of the Pacific Rim” is not yet decided. Better analysis of exports can help to inform options for action to minimize this climate and health risk.

Refinery hazard prevention analysis

Analysis of refinery chemical spill, fire and explosion prevention under the new conditions of transition from oil is essential for worker and community safety *and* fuel price containment.

Cutting corners on inspection and maintenance has repeatedly led to catastrophic refinery spills, fires and explosions.²⁻⁵ For example, deferred inspection and repair of catalytic cracking unit slide valves was a causal factor in the 2015 Exxon Torrance refinery explosion³ that took out some ten percent of statewide gasoline production for more than a year, spiked gas prices, and cost the state’s economy an estimated 6.9 billion dollars.⁶

Recent changes in conditions affecting refineries worsen the problem and warrant action now. First, as we noted in prior comment, deferring needed refinery maintenance is an industry-wide problem exacerbated by perceived incentives to avoid downtime when gasoline inventory is deemed tight.⁷ Second, those incentives have only strengthened now that instead of scheduling somewhat more frequent turnarounds for the once seemingly endless growth of the oil industry, refiners are now entering a period of transition from oil in California and Western US states.

Process hazard prevention analysis also would inform options to minimize the frequency and duration of unplanned outages as refineries phase down. Helping to ensure timely refinery maintenance for safety and fuel price containment will aid in a lower-cost refinery transition.

Refinery ramp-down trajectory analysis

The draft correctly points out that, given equal total statewide production capacity, a transition featuring fewer but individually larger fuel-producing refineries will be less resilient against impacts of outages on fuel price spikes than a transition featuring a larger number of individually smaller refineries. As compared with gradual ramp down, sudden total plant closures also increase the difficulty and cost of transitions for workers and communities that host refineries.⁸

We join in the recommendation by Communities for a Better Environment and Asian Pacific Environmental Network for the Commission to explore options that directly manage gradual refinery phase-downs. For example, phasing down nine refineries instead of running each at full rate until it suddenly shuts down completely is technically feasible. And it is less costly for refinery workers, each community that hosts a refinery and must transition their local tax base and jobs base, and all of us at the gas pump.

In the end, a foundational assessment of options for a smoother, lower-cost, *more feasible* transition away from oil refining, in the first global refining center to attempt it, might be the most important contribution the Commission can make toward environmental justice and a survivable climate.

Respectfully submitted,

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Notes

(1) *Community Energy reSource Comments – Refinery Fuel Exports Map and Table, Annotated*; Document TN# 256442, 5/17/2024, California Energy Commission Docket Log, Docket 23-SB-02; <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=23-SB-02>

(2) *Chevron Richmond Refinery Fire*; US Chemical Safety Board: Washington, D.C.; <https://www.csb.gov/chevron-richmond-refinery-fire/>

(3) *ExxonMobil Torrance Refinery Explosion*; US Chemical Safety Board: Washington, D.C.; <https://www.csb.gov/exxonmobil-torrance-refinery-explosion/>

(4) *Husky Energy Superior Refinery Explosion and Fire*; US Chemical Safety Board: Washington, D.C.; <https://www.csb.gov/husky-energy-superior-refinery-explosion-and-fire/>

(5) *Philadelphia Energy Solutions (PES) Refinery Fire and Explosions*; US Chemical Safety Board: Washington, D.C.; <https://www.csb.gov/philadelphia-energy-solutions-pes-refinery-fire-and-explosions/>

(6) Gonzales et al., 2016. *Cost-Benefit Analysis of Proposed California Oil and Gas Refinery Regulations*; RAND Corp.: Santa Monica, CA. https://www.rand.org/pubs/research_reports/RR1421.html

(7) *Comment of 22 Groups on Gas Price Storage Cushion for Safe Refinery Transitions*; Document TN# 254959, 3/11/2024, California Energy Commission Docket Log, Docket 23-SB-02; <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=23-SB-02>

(8) Pollin et al., 2021. *A Program for Economic Recovery and Clean Energy Transition in California*; Political Economy Research Institute (PERI), University of Massachusetts Amherst; <https://peri.umass.edu/images/CA-CleanEnergy-6-8-21.pdf>