



October 28, 2019

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California Environmental Protection Agency
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Re: Comments concerning scope of vehicle emissions and fossil fuel supply and demand studies

Dear Ashley:

Thank you for your public outreach concerning the scope of the vehicle emissions and fossil fuel demand and supply studies authorized by the Budget Act of 2019, and for this opportunity to submit written comments. We are pleased that these studies are happening, and welcome the opportunity for input to help ensure that the limited study budget is directed toward the issues that most critically require analysis. Historically, studies of this nature, such as the climate action report that preceded AB 32, have inspired and informed groundbreaking policy innovations in California. We are optimistic that the vehicle emissions and fossil fuel studies have the same potential, if properly focused, to launch the next iteration of California climate action.

In these comments, we address the supply-side aspect of the fossil fuel demand and supply reduction study, urging a robust focus on strategies to reduce California oil production. On the demand side, we urge particular attention to strategies for reducing natural gas consumption.

I. Strategies to Reduce the Supply of Fossil Fuels

The appropriation for the fossil fuel demand and supply study defines its scope as “a study to identify strategies to decrease demand and supply of fossil fuels, while managing the decline of fossil fuel use in a way that is economically responsible and sustainable.” California has conducted much analysis over the course of recent decades concerning demand side

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reductions, which NRDC has always supported and continues to support. Reductions in fossil fuel demand are at the heart of any climate policy. That said, the parallel focus of the fossil fuel study on strategies to reduce the *supply* of fossil fuels in California is innovative, little studied to date, and critical. Governor Newsom has made clear on numerous occasions of late that California needs to focus on *both* demand-side strategies *and* supply-side strategies in its efforts to manage the decline in our state economy's dependence on fossil fuels, and the Budget Act studies reflect this commitment. We further appreciate the Governor's signature on AB 1057, which requires the newly-named Geologic Energy Management Division (CalGEM) to coordinate with other agencies in furtherance of the goals of California's Global Warming Solutions Act of 2006.

This new focus on strategies to reduce fossil fuel supply is critical for California. While our state has been a leader in taking steps to reduce consumption of fossil fuels, it remains one of the largest oil producers in the United States, and a producer of some of the world's most climate-polluting oil.¹ A climate policy that prioritizes health, justice, and equity must meaningfully address and ramp down polluting fossil fuel production, since such production is not just a climate issue but a health and environmental justice crisis. In California, nearly five and a half million people live within one mile of an oil and gas well.² One third of these residents live in areas of the state most burdened by environmental pollution, and 92 percent of Californians living in these heavily burdened neighborhoods are people of color.³ The closer people live to oil and gas wells, the more likely they will be exposed to toxic air contaminants and the more elevated their risk of associated health effects, including increased risk of asthma, premature births, high-risk pregnancies, and cancer.

California's production is on a downward trajectory, as the state has gone from being the third largest producer in 2016 to the seventh largest producer as of 2018. This is a trend that should not only continue, but be actively managed in a way that takes the most harmful, dirtiest and most problematic oil production offline first. The oil supply and demand study can play a critical part in laying the groundwork for that to happen.

In order to do so, the study must focus both on assessing the benefits and risk of a supply reduction policy, and on practical dimensions of implementing such a policy. The following are the issues that we recommend as a focus for the fossil fuel study with respect to strategies to reduce supply:

- *Characterization of California's oil producing regions.* The study should present a baseline analysis of economic and health issues in the Kern County and Los Angeles regions and other top oil producing areas of the state. The analysis should address the current economic role that oil and gas production plays in these communities, other

¹ J.L. Mernit, "Why Does Green California Pump the Dirtiest Oil in the U.S.?" *Yale Environment* 360 October 19, 2017, available at <https://e360.yale.edu/features/why-does-green-california-pump-the-dirtiest-oil-in-the-u-s>.

² Oil Change International, *The Sky's Limit California: Why the Paris Climate Goals Demand That California Lead in a Managed Decline of Oil Extraction* (May 2018) at 21, available at <http://priceofoil.org/ca-skys-limit>.

³ Tanja Srebotnjak and Miriam Rotkin-Ellman, *Drilling in California: Who's at risk?*, Natural Resources Defense Council, October 2014, at 4, available at <https://www.nrdc.org/sites/default/files/california-fracking-risks-report.pdf>.

potentially job-creating industries in these locales, and impacts of existing production on community health, including and especially in low-income communities and communities of color. We note that health impacts of hydraulic fracturing were addressed in the California Council on Science and Technology (CCST) report pursuant to SB4, but that study did not focus specifically impacts of conventional production, which is more prevalent in California than hydraulic fracturing. While a full-on epidemiological study of health impacts of conventional production is beyond the scope of the fossil fuel study, review of existing data with an eye toward addressing conventional drilling impacts would be useful.

- *Lifecycle greenhouse gas emissions of California oil production.* In developing supply-side policy, it is important to have a firm grasp on the lifecycle greenhouse gas (GHG) emissions associated with California's oil production, particularly given what we know already regarding its carbon intensity. This assessment can likely be based on data that the Air Resources Board (ARB) and California Energy Commission (CEC) have available, but it is important to pull such data together and summarize it in one place; and to capture the full scope of the California oil industry's carbon footprint. We note, for instance, that California's very heavy crude leads to California refineries producing more petcoke than they do gasoline, which is shipped overseas.⁴ The assessment should also address any data gaps impacting California's ability to assess lifecycle GHG emissions associated with oil production. For example, it appears from existing data concerning implementation of the low carbon fuel standard (LCFS) that ARB is working with outdated data concerning the weight and composition of California crude oil, which is an important variable in calculating lifecycle GHG emissions.⁵
- *Economic benefits of a transition away from oil production.* Discussions of a transition away from oil production tend to focus on potential job losses in the oil industry. While certainly the study should evaluate and attempt to quantify those potential losses, it is also important to assess potential job gains and other benefits that may flow from a reduction in crude oil production. Some potential benefits to be explored include the following:
 - Offsetting job gains. The study should explore how diminishing California communities' dependence upon oil production as an economic driver might foster the growth of other industries and diversify their economies. A recent study by Environmental Entrepreneurs⁶ found that California currently has five times more clean energy jobs than fossil fuel jobs. The study should examine whether the clean energy industry, and the number of jobs it

⁴ U.S. Energy Information Administration (EIA) report on petroleum and other liquids, *available at* https://www.eia.gov/dnav/pet/pet_pnp_refp2_dc_r50_mbb1_m.htm.

⁵ For instance, in the 2018 LCFS lookup table, *available at* https://ww3.arb.ca.gov/fuels/lcfs/crude-oil/lookup_table_mcon_inputs_opgee_v2.0c_2018-0620.xlsm, ARB notes at the top of the "API gravity" tab that gravity assumptions are based on DOGGR reports from 1982, 1992, and 1998. Data of this age may not provide a fully accurate picture of the current API gravity of oil being produced, particularly since the average weight of crude oil tends to increase over time from a producing oil field. *See* m. S. Masnadi and A. R. Brandt, "Climate Impacts of Oil Extraction Increase Significantly With Oilfield Age," *Nature Climate Change* July 17, 2017.

⁶ *Available at* <https://www.e2.org/wp-content/uploads/2019/08/E2-Clean-Jobs-California-2019.pdf>.

- provides, would likely further grow as a result of policies to diminish oil production.
- Tax revenue growth. The study should further look into ways in which any negative tax consequences of reduction in fossil fuel production could be offset by increased tax revenues resulting from the growth of other industries.
 - Social and health benefits to communities. The study should assess the gains in community health that could be achieved by curbing polluting fossil fuel production operations. It should also address potential social benefits associated with economic diversification.
- *Coordinating supply- and demand-reduction strategies*. A reduction in California’s fossil fuel production should optimally occur in tandem with reductions in fossil fuel demand. The study should evaluate potential timelines that correlate supply reductions with demand reductions. It should also address the GHG emissions impact of achieving supply reductions more rapidly than demand reductions and visa versa.
 - *Decommissioning of wells*. The study should address issues that may arise in a managed production decline scenario with regard to decommissioning oil wells, including strategies for ensuring that the oil industry takes full responsibility for restoration of land formerly devoted to production activities.
 - *Reductions in refinery production*. The study should evaluate the impact on California refineries of a slowdown in California oil production. This should include both an assessment of the likely source of crude that California refineries may import to replace the diminished production (related data is currently collected by the CEC), and analysis of economic opportunities that may emerge in the event of eventual California refinery slowdowns or shutdowns.
 - *Stockholm Environment Institute (SEI) studies*. Recent research by SEI concerning the link between crude production reductions and GHG emissions have been front and center in the public dialogue thus far in California concerning managed decline. The research should include review and analysis of those studies.⁷
 - *Economic impact of more stringent pollution control measures*. As discussed below, we do *not* believe the limited research funds available for the study should be directed toward studying technical means of reducing pollution impacts of existing production. However, it would be useful for purposes of this study to understand better the likely impact of such measures on the economics of production – *i.e.*, the extent to which compliance costs might render production of some crudes more economically challenging.
 - *Potential strategies for reducing production*. The heart of the supply-side portion of the study, in light of the Budget Act language, needs to consist of development and assessment of an array of potential strategies for reducing California’s oil production.

⁷ The studies are available on SEI’s website at <https://www.sei.org/publications/>. Of particular significance are “How Limiting Oil Production Could Help California Meet Its Climate Goals,” available at <https://www.sei.org/wp-content/uploads/2018/03/sei-2018-db-california-oil2.pdf> ; and P. Erickson, M. Lazarus, and G. Piggot, “Limiting Fossil Fuel Production as the Next Big Step in Climate Policy,” *Nature Climate Change* online November 26, 2018, available at <https://www.sei.org/publications/limiting-fossil-fuel-production-as-the-next-big-step/> .

Specifically, the study should evaluate the possibility of managing California's decline in fossil fuel production by initially phasing out the production that is determined to be the most environmentally problematic, either because of its impacts on communities or its GHG intensity. Measures to be evaluated might include, by way of example, the following:

- Setbacks. A required distance setback prohibiting production operations close to homes, schools, hospitals, and other sensitive receptors.
- GHG intensity disincentives. Disincentives to production of the most GHG-intensive oil, through use of a tax structure or other means.
- Project GHG quantification. Requiring routine quantification of lifecycle GHG emissions associated with fossil fuel infrastructure projects, as a first step toward reducing the most carbon intense production.

In evaluating these potential strategies, the report should describe the varying roles of state, regional, and local agencies, as well as non-governmental organizations; present potential timelines for implementation; quantify to the extent possible the potential benefits of each strategy; and describe means of protecting lower income Californians from its economic impacts.

Given the limited budget available for the fossil fuel study, it is also important to delineate the subject matter that we believe is beyond the scope of the study. There are numerous subjects pertaining to California's fossil fuel production industry that are in critical need of further evaluation, but that cannot be fully assessed with the available resources allocated in the 2019 budget. These topics should be set aside for evaluation in future studies. The chief topic we believe is *not* appropriate for the Budget Act studies is the question of identifying technical methods and environmental benefits of rendering California's oil production less polluting while it continues in operation, either by reducing the carbon footprint of its production (*e.g.*, by use of solar arrays instead of natural gas to power steam flooding operations, or use of carbon capture and sequestration), or by reducing pollution levels associated with production operations.

These are both clearly critical topics, which California should make a priority of studying, given that any transition away from oil production will not be immediate. And as noted above, the *economic* impact of measures to regulate production impacts more stringently is a valid topic. However, the Budget Act authorizing language does not call for analysis of ways to improve California's oil production and make it more environmentally sustainable, but rather "strategies to decrease...supply of fossil fuels." Sidetracking the analysis into issues of making California's ongoing production less polluting – however important those issues are - will drain resources and focus away from the Governor's designated purpose for the study.

II. Strategies for Reducing Natural Gas Consumption

A study of fossil fuels must address the use of fossil "natural" gas, which heats 90 percent of the homes in California. Gas consumption directly harms the health of Californians,

and must be reduced to meet our 2030 and 2045 climate goals. While some work on this topic has begun, such as the CEC-funded “Natural Gas Distribution in California’s Low-Carbon Future” study, which was released this week for comment, significant additional work is required. We recommend that CalEPA focus on three topics related to fossil gas in its new study: 1) quantifying the health benefits of reducing gas use in buildings, 2) assessing the cost-effectiveness of regulating NO_x emissions from gas appliances, and 3) assessing a long-term planning process for gas demand, infrastructure, and the transition of the gas delivery system including better understanding and managing the economic impacts on Californians. NRDC has signed on to a letter that addresses these topics in greater detail.

Thank you again for the opportunity to comment on the scope of the Budget Act studies. We very much hope that you will continue to keep the public fully informed as the studies progress, and reach out to NRDC and other organizations regarding major decision points in the study process, and issues concerning which our input might be valuable. We look forward to seeing how the studies unfold in the coming months.

Very truly yours,



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