California Independent Petroleum Association
1001 K Street, 6th Floor
Sacramento, CA 95814
Phone: (916) 447-1177
Fax: (916) 447-1144

California Independent Petroleum Association Comments
on
OPGEE Model Update Workshop (August 9, 2021)

Carolyn Lozo
California Air Resources Board
Low Carbon Fuel Standard Program
1001 I Street
Sacramento, CA 95814

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Via electronic submittal to: Comment Docket

Thank you for the opportunity to share comments on behalf of the members of the California Independent Petroleum Association (CIPA)[1]. CIPA represents nearly 400 crude oil and natural gas producers, royalty owners, and service and supply companies who all operate in California under the toughest regulations on the planet. Our members are committed to innovation and investment to help the state reach its statutory emission reduction targets. CIPA's member companies have the assets and knowledge to play a significant role in helping reduce the carbon intensity of California's transportation sector. To enable these advancements to come forward, the regulatory playing field needs to be based in reality.

Though the focus of the workshop was exclusively on the OPGEE model itself, we believe that the model AND how it is used by CARB are important discussion topics, even at this early stage of pre-rulemaking. Therefore, these comments are directed at both Stanford and CARB.

Key Comments:

- OPGEE's updates do not reflect California's regulatory regime, and therefore overestimate in-state production carbon intensity.
- OPGEE's updates are not based on California data sets.
- International data sources are not as robust and verified as California's data sets. The LCFS program should explicitly reflect this difference.
- California crude CI scores produced by OPGEE need to be validated with real, verified and reported Mandatory Reporting data and other state-submitted production data.
- The process of converting OPGEE results into LCFS crude CI scores needs to be a fully transparent process open to stakeholder input and review.
- Models which do not reflect the current state of California operations, lead to incorrect public policy.

[1] CIPA previously submitted LCFS and OPGEE comments on November 5, 2020 in response to the first OPGEE update workshop. We continue to stand by those comments.

I. OPGEE's updates do not reflect California's regulatory regime, and therefore overestimate in-state production carbon intensity.

CIPA firmly believes in science and the use of real-life data. Our producers, royalty owners, and service and supply companies all operate in California under the toughest regulations on the planet. A fact has been left out of the equation in the past LCFS carbon intensity calculations, and seem to be left out of the OPGEE update as presented on August 9, 2021[2].

We know that the current LCFS CI representations are wrong, that in-state domestic crude CI values are overestimated, and that imported crude CI values are underestimated. We are committed to fixing this before the next version of the LCFS regulation is implemented.

A main tenet of the OPGEE update is that methane leaks and fugitive emissions are increasing due to observed industry practices. This premise completely ignores the implementation of California's statewide Oil/Gas Methane rule (Methane Rule), among other vapor recovery and flaring rules. The Methane Rule was adopted in California in 2017 and requires routine, on-the-ground, verifiable leak detection and repair. It was confirmed during the OPGEE Workshop that the Methane Rule was not taken into account in the latest OPGEE model.

Numerous slides, along with discussion of them, clearly stated that the "super emitter phenomenon" was responsible for a significant proportion of the methane emissions estimates. The left-hand chart on slide 22 seems to indicate that over half of the emissions come from the worst 5%. Those levels of leaks are prohibited in CA. Such reality should be injected into the model, and the LCFS CI scores.

Slide 26 shows that most fields modeled will have higher CI scores under the updated OPGEE model. This is inconsistent with the implementation of California's efforts to reduce GHGs, including the Methane Rule, Innovative Crude production under the LCFS, and price on carbon associated with the declining cap under the Cap-and-Trade regulation. In addition to the Methane Rule, California operators are subject to restrictive local flaring regulations.

There are a number of California operators who employ "behind-the-meter" solar electricity. It was confirmed that these renewable energy investments were not considered in the latest OPGEE update.

In addition to individual renewable energy projects, the California electricity grid is getting 'greener', i.e. less carbon intensive itself. The goal of SB 100 is to have carbon free energy grid by 2040. This shift has already started to occur as California's load serving entities are adding more renewable power each year. This difference and diverging direction of California's electricity grid, part of the broader statewide climate emission reduction effort, and should be explicitly called out.

[2] https://ww2.arb.ca.gov/sites/default/files/2021-08/Brandt_OPGEE_Workshop_2021_Aug_10.pdf

II. **OPGEE's updates are not based on California data sets.**

The documentation for the OPGEE v3.0a update shows that California emission factors were not used. Specifically, for Venting and Fugitive (VF) Emissions from the OPGEE v3.0a report:

- Onsite Modelling (Well pad and associated production tanks): Component level tools use (Rutherford, J.a. Closing the methane gap in US oil and natural gas production emissions inventories, 2021)

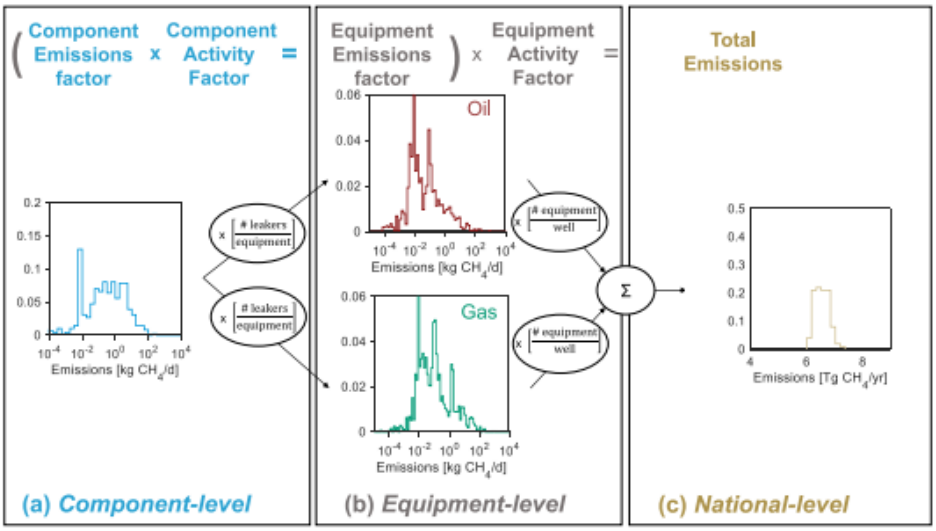

Fig. 1 Schematic of this study's bottom-up CH_4 emissions estimation tool. Calculation of total CH_4 emissions involves multiplication of emission factors (e.g., emissions per valve) by activity factors (e.g., number of valves per wellhead). Two sequential extrapolations are performed using an iterative bootstrapping approach. First, our database of component-level (e.g., valve, connector) emissions measurements (**a**) is extrapolated using component-level activity factors to generate equipment-level (e.g., wellhead, separator) emission factors (**b**). Second, these equipment-level emission factor distributions are extrapolated using equipment-level activity factors to generate a 2015 United States oil and natural gas production-segment CH_4 emissions estimate. This extrapolation is performed 100 times to generate a distribution of national-level CH_4 emissions (**c**) and estimate a 95% confidence interval (CI).

The onsite modeling specifically states that the emission factors were generated using a national level 'bootstrapping' approach from their database of emission levels. Their database does not include CARB or California-regulated components. Most of the components listed in the database do not have Leak Detection and Repair (LDAR) requirements or leak thresholds, whereas California components, depending on APCD or CARB regulations, are required to be inspected quarterly and have the most stringent leak requirements in the U.S. The use of a 'national-level' emission factor does not represent the onsite fugitive emissions of California oil production. The national-level factors are above the leak thresholds allowed by California regulations.

- Offsite Modeling – this is specific to Gathering & Processing: (Mitchell, A.L. etal. Measurements of methane emissions from natural gas gathering facilities and processing plants: Measurement results. Environmental science & technology 2015, 49, 3219–3227)

Figure 1. Locations of G&P facilities measured in this study. Numbers indicate the number of facilities sampled within outlined (red) oil and gas basins as defined by the American Association of Petroleum Geologists.[26] G&P facilities were sampled in each of the orange-colored states (www.nap-generator.org).

The chart above shows that California facilities were not included in the study. The use of this study does not represent California production and should not be used to determine California emissions which have much more stringent regulations from both the CARB and APCD levels.

III. International data sources are not as robust and verified as California's data sets. The LCFS program should explicitly reflect this difference.

In the LCFS regulation, Table 9 - Carbon Intensity Lookup Table for Crude Oil Production and Transport – is used to present the OPGEE outputs for various oil fields around the world. It is also used as tool to argue for policy shifts by those opposed to in-state production. What it doesn't present is a score, scale or other footnote or reference on the certainty of the score itself. This is a fundamental flaw that leads to incorrect advocacy and inaccurate public policy discussions.

California operator primary carbon intensity data sets (energy inputs and production outputs), along with other secondary data sets (leak detection and repair reports, additional monitoring, flaring records) are publicly available, verifiable and robust. The same cannot be said for other jurisdictional data. This fact was stated as such during the workshop. International flaring data, as an example, is hard to get, let alone verify for accuracy. Therefore, OPGEE necessarily relies on assumptions and defaults.

CIPA requests that a confidence score, or other mechanism be developed, such that when looking at the CI score table in the LCFS it can be readily seen that the values are not equal in underlying data confidence. CIPA would be willing to work with Stanford and/or CARB on such an effort, and believe it is necessary to end the reckless abuse of the LCFS as an advocacy tool against in-state oil production.

IV. California crude CI scores produced by OPGEE need to be validated with real, verified and reported Mandatory Reporting data and other state-submitted production data.

OPGEE does not use current emissions data verified and reported to CARB by oil and gas producers. These data are required by mandatory GHG emissions reporting requiring third-party verification, but OPGEE does not provide options for entry of these verified values. Instead, the OPGEE model relies on older OPGEE input data that does not reflect currently available CARB emissions data reported by oil and gas operators. By continuing to use the older data, OPGEE almost doubles the CI of California oil and gas, from actual CI levels[3].
These overestimates of California oil and gas CI projections have ripple effects in secondary publications[4] which concluded that California crudes have CIs averaging more than 1.5 times higher than other crudes sourced outside of California. Had OPGEE used correct emissions estimates based on currently reported and verified CARB data, the review may have come to the opposite conclusion that California crudes could potentially have lower CI than other crudes sourced outside of California.

V. The process of converting OPGEE results into LCFS crude CI scores needs to be a fully transparent process open to stakeholder input and review.

CIPA appreciated an area that was discussed at the workshop related to the transition from OPGEE to the LCFS regulation. It was clearly stated that the OPGEE model has to functionality that may be incorporated to better reflect California operations, an example being the existence of a 'vapor recovery' toggle that was stated to be defaulted as "off". Many California operators employ vapor recovery systems on their tanks. This one example shows the need for a transparent transition between OPGEE outputs and LCFS regulatory CI scores.

CIPA requests a stakeholder process to review and discuss the conversion from OPGEE outputs to LCFS scores. It was indicated that there will be a second 'policy' workshop on the impacts of the proposed OPGEE updated. CIPA welcomes such a workshop, but believes it should not occur until after the requested technical follow-up discussed here. Ensuring the CI score conversion (from OPGEE to LCFS table) correctly reflects California operating regimes and is fully understood and agreed upon is the next necessary (and overdue) step, prior to any policy discussion.

[3] Comparison calculations completed by CIPA.

[4] Center for Biological Diversity, Fleming, J. (2021, June 28). Report: California oil among the most climate-damaging on earth. Center for Biological Diversity. https://biologicaldiversity.org/w/news/press-releases/report-california-oil-among-the-most-climate-damaging-on-earth-2021-06-28/.

VI. **Models which do not reflect the current state of California operations, lead to incorrect public policy.**

Even with the state's incredible energy efficiency, VMT reduction strategies, and vehicle technology requirements, California consumes among the most energy on the planet outpacing France, Germany and the United Kingdom[5]. Owing to the sheer size of its demand and California's continued reliance on energy imports, state policies (or changes to those policies) can have wide ranging impacts around the U.S. and the world as a whole. Unfortunately, other energy producing regions of the world do not share California's values for labor, health and safety or the environment. Exporting our energy needs, including the jobs and tax base they support, is a very real form of "leakage" which AB 32 sought to avoid. Rather than exporting our industry, California should embrace an energy portfolio that prioritizes California produced energy, which benefits both state and local economies as well as the environment.

California will need petroleum and natural gas fuels for decades, even if the state's targets are met. Until we, as a state, stop using liquid and gaseous fuels, we should prioritize in-state supply that is produced under California's stringent regulations. Anything short of that is the true definition of "leakage" and is not just. It is that foreign crude that should be targeted for reduction. Further restricting California production means that our state will get even more oil from countries that do not share our humanitarian or environmental values. Importing more oil mean more ships at our ports, and their associated pollution.

California is an energy island and growing our reliance on foreign oil also creates an energy security issue. All of the oil produced in California is used in California. We do not export California produced crude. The vast majority of the State's remaining supply is imported from foreign countries, with the largest amount of imports coming from Saudi Arabia. Saudi oil isn't produced under the Cap-and-Trade program, the Methane rule, local district flaring permits, or the myriad of water quality requirements imposed on California producers. Californian's pay over $25 billion per year to countries that do not honor human rights or environmental protection. Instead of making the Saudi royal family richer, we Californians should be focused on keeping more Californians working and using money here. **The last barrel of oil used in this state, should be produced in this state with all of our environmental regulations and carbon capture and sequestration.**

CIPA members embrace an inclusive energy portfolio utilizing new and traditional energy sources working together. The LCFS's Innovative Crude provisions have rightly incented innovation, and our members have responded by invested in solar and cogeneration to lower the overall carbon intensity of our operations, invested in CCS and other innovations that can be used to further decarbonize the grid or exported to other states and countries. Exporting technology is a positive ancillary benefit of California's efforts. Exporting wealth, jobs, tax base is not.

CIPA understands that there are a lot of moving policy pieces happening in California at the moment, including Carbon Neutrality policy development under the 2022 Scoping Plan Update

[5] CA - 7.96 quadrillion BTUs https://www.eia.gov/state/print.php?sid=CA
Country ranking: https://www.eia.gov/international/rankings/world?pa=12&u=0&f=A&v=none&y=01%2F01%2F2017

effort, subsequent LCFS and Cap-and-Trade amendments, shifting ZEV vehicle mandates, and more. But a reasonable review of all of that still shows a need for gasoline and diesel for decades to come to support the world's fifth largest economy. Reducing the carbon footprint of that fuel pool is the goal of the LCFS, and CIPA members are working with CARB toward that goal.

Thank you for continuing the dialogue with us. We look forward to working with CARB staff and Stanford to improve LCFS and implement updates to OPGEE under this process.

Sincerely,

Rock Zierman
Chief Executive Officer
California Independent Petroleum Association