



Tesoro Refining & Marketing Company LLC

539 South Main Street
Findlay, OH 45840

SUBMITTED ELECTRONICALLY

September 19, 2022

Cheryl Laskowski, Ph.D.
Industrial Strategies Division
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: Comments on the August 18, 2022, public workshop to discuss potential changes to the Low Carbon Fuel Standard (LCFS) Program

Dr. Laskowski:

Tesoro Refining & Marketing Company LLC, an indirect, wholly owned subsidiary of Marathon Petroleum Corporation, (collectively, MPC) appreciates the opportunity to provide comments on the California Air Resources Board's (CARB) August 18, 2022, public workshop to discuss Potential Changes to the LCFS Program.

MPC is a refiner and marketer of transportation fuels in the State of California and is investing in low-carbon solutions to meet the energy demands of today and into the future. MPC's commitment to lower-carbon solutions is reflected in the successful conversion of its Dickinson, North Dakota, petroleum refinery and the planned conversion of its Martinez, California, petroleum refinery into renewable fuel production facilities. Combined, these two facilities will produce up to 2.5 million gallons per day of renewable transportation fuels with a life-cycle carbon intensity that is approximately 50 percent less than petroleum-based fuels.

The August 18, 2022, workshop introduced several potential changes to the LCFS program, including opportunities to streamline the LCFS program and potential updates to emission factors and the verification process, amongst others.

MPC's recommendations on the potential changes introduced in the workshop are listed below. Additional discussion and support for these recommendations are provided in the subsequent sections.

- A Credit True-up must include the first day of production, regardless of quarter.
- Clarify what a process change means and streamline the steps to include it in a fuel CI.
- Update data used to determine emission factors and increase data transparency.
- Add flexibility in the verification process to reduce the number of verifier site visits.

An efficient pathway process would result in additional emission reductions and support the exportability of the program.

MPC is encouraged to see CARB take steps to address inefficiencies and support a simpler, more efficient pathway application process. A pathway application represents the first step in the recognition of a fuel's full life-cycle emissions and reflects important operational and capital decisions an operator of a fuel production facility has made.

Any changes to the pathway process that CARB considers must include a Credit True-Up that includes the first day of production data submitted in a pathway application and used to calculate a fuel's carbon intensity (CI). A True-Up effective date that begins with the first full quarter of operational data does not account for any fuel supplied to California before the first full quarter. Starting new plants or commissioning existing plants with modified equipment is not a simple task. As applicants are required to collect three months of operational and production data, this time is unlikely to align with a new quarter. For these reasons MPC recommends that CARB implement a Pathway Credit True-Up that includes the first day of production and operational data submitted in the provisional pathway application. If a quarterly report deadline has passed and the quarterly report includes fuels produced during the three-month data collection period, the Pathway Credit True-up should be reconciled during the annual report process.

Further, MPC recommends a streamlined process outlined in the LCFS Regulation to address how the pathway applicant shall obtain a new CI when an existing production facility is modified. This process should not require submission of a new pathway application to receive a new CI. Instead, the process should rely on three months of data submitted to CARB after the pathway applicant submits in writing a notification detailing the process change, its impact to the facility operation and a discussion on any new energy or emission sources. To better clarify what constitutes a process change the following explanation for "process change" within section 95488.9(c) is recommended.

"A process change means a change at a Fuel Production Facility or a change within the Fuel Pathway system boundary which results in a reduction of the Life Cycle Greenhouse Gas Emissions. It does not mean simple maintenance or optimization of plant efficiency. Process changes being implemented as a result of provisions within the LCFS regulation will be considered based on at least three months of operating data."

Updating data used to determine emission factors and making the data sources and methodology to calculate emission factors more transparent is a needed step for the LCFS.

The LCFS is a science-based regulation with data sets covering many years from various sources. It is imperative that CARB update its models, emission factors, and tools to reflect updates in technology, available data, and trends in the type and amount of energy that is used to produce all transportation fuels. Recommended updates include:

- eGRID values. The 2018 LCFS rulemaking¹ updated the eGRID values used in the CA GREET model with the United States Environmental Protection Agency (US EPA) 2014 data set.² Because GHG emissions from electricity have declined further in the past eight years,³ an update to this readily available data set is necessary.
- Life-cycle emissions from the production and use of minerals. With research^{4,5} expanding to better understand the environmental footprint of batteries used in electric vehicles, the production of electricity and storage, CARB must take the step to utilize this data and update CA GREET. This is especially important as the demand for critical minerals is expected to grow significantly over the next several decades⁶. While the U.S. may be developing policies to reduce emissions, other countries may not. If CARB does not account for the emissions tied to the production and use of these minerals, significant emission leakage may occur. MPC recommends CARB hold a workshop in the coming months to discuss accounting for emissions from the expanded use of technologies utilizing increasing amounts of precious minerals being incentivized by the LCFS. In that workshop CARB should propose a method to capture these emissions within the LCFS.
- Data sources for default emission factors. The Tier 1 calculator for biodiesel and renewable diesel default oil extraction emission factors for plant-based feedstocks such as canola oil, corn oil and animal fat feedstocks such as tallow oil rely on data from the 2016 version of GREET. While MPC recognizes these oil extraction energy values were not part of Argonne National Laboratories' update to GREET 2021⁷ and public data may not be available to assess the range of oil extraction energies from oil extraction facilities, CARB may consider taking the data collected through its pathway applications under advisement, while maintaining all protections afforded to any data or information that has been marked as Confidential Business Information, when determining new default emission factors that more accurately reflect the emissions from these feedstock sources.
- Feedstock pre-treatment emission factor. Most, if not all, feedstocks used to produce renewable diesel are pretreated to remove solids and other contaminants that degrade catalyst performance. Some fuel production operations include a pretreatment facility within the boundaries of the production process, and some do not. For pathway applicants whose processes do not include on-site pre-treatment, and do not provide site specific data through a joint application or some other means, MPC recommends CARB develop a default pre-treatment emission factor and require its use

¹ CARB: 2018 Rulemaking [Appendix C-1](#)

² EPA: [eGRID2014v2](#)

³ EPA: Sources of Greenhouse Gas Emissions – [Electric Power 1990-2020](#)

⁴ Degan et al. [Life cycle assessment of the energy consumption and GHG emissions of state-of-the-art automotive battery cell production](#)

⁵ ANL: [Life-cycle Analysis of Vehicle/Fuel Systems Using the GREET Model](#)

⁶ EIA: [The Role of Critical Minerals in Clean Energy Transitions](#)

⁷ ANL: [Summary of Expansions and Updates in GREET 2021](#)

- Transparency of default emission factors. The public, non-confidential data behind many of the default emission factors is not readily available to the users of the models. To improve transparency of the program, MPC recommends CARB in its updates to the LCFS regulation include a document like the CA-GREET 3.0 Supplemental Document and Tables of Changes⁸ that illustrates and derives the values used as the default emission factors. If the emission factor is the sum of multiple inputs, for example a process like rendering of tallow, CARB should identify the portions of the process the emissions are occurring within.

The verification process should be improved and build on efficiencies identified over the last two years.

The verification process was part of the 2018 LCFS rulemaking and parties were required to begin using third-party verifiers in 2021 for data year 2020. Working through the process in these past two years, MPC has several recommendations to improve this process.

1. Require the verifier to make site visits to the operating facilities only if it is the first year that the verifier is completing the verification for that specific facility.
2. For subsequent verifications of the same facility by the same verifier, provide the verifier the option to determine if a site visit is warranted, for example, based on process changes made to the facility as documented in the monitoring plan.
3. Remove the requirement for the verifier to make a site visit to the record locations. Most, if not all, companies today use electronic records and retrieval systems. Current technology is widely available today that allows for secured digital sharing of a user's computer screen with individuals not at the same physical location. Utilizing this technology is more efficient without compromising the integrity of the verification.

If you have any questions about anything discussed here, feel free to reach out to me at bcmcdonald@marathonpetroleum.com

Sincerely,

Brian McDonald
Marathon Petroleum Corporation | Corporate Environmental

Cc: Rajinder Sahota, Deputy Executive Officer, Climate Change and Research
Matthew Botill, Division Chief, Industrial Strategies
Anil Prabhu, Manager, Fuels Evaluation Section
Rui Chen, Manager, Fuel Project Evaluation Section
Jordan Ramalingam, Manager, Low Carbon Fuels Policy

⁸ CARB [CA-GREET3.0 Supplemental Document and Table of Changes](#)