Tesoro Refining & Marketing Company LLC

539 South Main Street
Findlay, OH 45840

SUBMITTED ELECTRONICALLY

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

Re: Comments on the December 7, 2021 public workshop on Potential Future Changes to the Low Carbon Fuel Standard (LCFS) Program

Ms. Laskowski:

Tesoro Refining & Marketing Company LLC, an indirect, wholly owned subsidiary of Marathon Petroleum Corporation, (collectively, "MPC") appreciates this opportunity to provide comments on the California Air Resources Board's (CARB) December 7, 2021 public workshop on Potential Future 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 that will meet the energy demands of today and into the future. MPC's commitment to lower carbon solutions is reflected in the conversion of its petroleum refineries into renewable fuel production facilities in Dickinson, North Dakota and Martinez, California. 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 the petroleum-based fuels.

The December 7, 2021 workshop presented several of CARB's initial concepts for future program changes and provided six broad principles for policy concepts that encompass specific, proposed changes to the LCFS regulation. Comments made here will focus on a subset of the specific changes that CARB is considering and requested feedback on.

Establish long-term market signal to attract investment in transportation decarbonization

MPC supports market-based programs that reduce the life-cycle carbon intensity (CI) of fuels within the transportation sector. As a major participant in the LCFS, as a marketer and producer of renewable and petroleum fuels, MPC uses the LCFS market signal to inform on future

investments that will reduce greenhouse gas (GHG) emissions in its transportation fuels. As investors evaluate the viability of a project over multiple years, the need for a steady, predicable, and feasible program cannot be underscored. Trends in the credit and deficit balances have resulted in the credit bank[1] maintaining a near constant position over the last seven quarters, despite the program having two CI standard reductions of 1.25% each. The effects of COVID-19 are still being felt on gasoline demand in California but increases in credit generation during this time have outpaced historic norms.

Given the expected growth of renewable fuels in the coming years, due in large to the California LCFS program, the need to re-evaluate the program targets is important. Without a strong market signal, investment will subside. MPC is supportive of a careful re-evaluation of the LCFS program targets. And like the 2018 rulemaking, CARB should illustrate to stakeholders alternating fuel supply scenarios which details how any new or updated CI will drive further reductions in the transportation sector, prior to adopting a new CI standard schedule. Socializing these scenarios and inviting stakeholder feedback will strengthen CARB's results and facilitate a steady, predictable, and feasible program.

Carbon reductions from petroleum projects

The 2018 amendments to the LCFS regulation enhanced the refinery-related provision and resulted in three approved refinery investment projects to date. A GHG reduction made within any part of the transportation fuel sector plays an important role in California achieving its GHG reduction goals. This was clearly articulated in the 2018 rulemaking when CARB stated:

> *"refinery investment projects…These projects have significant potential to reduce the carbon intensities of CARBOB and diesel by introducing transformative technologies thereby contributing to the goals of the LCFS."*[2]

Refineries are comprised of many complex, large scale industrial pieces of equipment that are not easily retrofit or optimized to reduce emissions from the production of transportation fuels. Many times, significant modernization, energy efficiency, and emission reduction projects within refineries require large amounts of capital and the LCFS incentive provides additional support to move them forward. These same projects may provide additional benefits to the State by reducing NOx, and other combustion emissions in largely disadvantaged communities, maintains Union jobs and supports the local economies surrounding the refineries.

CARB should not pick winners and losers based on a fuel type. Rather, CARB should develop a program that incentivizes emission reductions within the transportation fuel sector. A one CI reduction in a petroleum fuel provides the same GHG benefit as a one CI reduction in any other fuel type. CARB's life-cycle assessment of a petroleum fuel[3] illustrates that the refining portion of CARBOB and diesel makes up about 15 percent and 13 percent of the fuels CI, respectively

[1] Accessed 12.20.21. LCFS Quarterly Data Spreadsheet
[2] Accessed 12.20.21. CARB ISOR LCFS 2018, III-50
[3] Accessed 12.20.21. CA-GREET3.0 Lookup Table Pathways – Technical Support Documentation

and projects that reduce refining emissions should be incentivized by the LCFS as other fuel types are.

For these reasons, MPC disagrees with the further limiting, and ultimate phasing out of the refinery investment provision. The existing provision has controls in place to cap the use and generation of credits including: 1) limiting the total number of process improvement project credits that can be used for any entity's compliance obligation to 10 percent and 2) discounting the total number of LCFS credits earned by a refinery's product ratio of gasoline and diesel produced for sale in California divided by the total amount of fuel produced at the refinery.

Adding intrastate jet fuel as an obligated fuel

While transportation emissions represent a large portion of California's GHG emissions[4], the intrastate aviation portion is very small. MPC is concerned the challenges associated with placing an obligation on aviation fuel used in intrastate flights will be too great to efficiently achieve the concepts goals. As an aviation fuel producer, MPC does not know if the fuel it produces is used for intrastate, interstate, or international flights after it is sold. As such, assigning an obligation to the portion of aviation fuel used for intrastate flights would require the volume to be accounted for throughout the fuels supply chain, including fuel storage terminals located within and outside an airport. Potentially requiring the current fuel supply chain to be separated into two systems, one for intrastate fuel and another for interstate and international fuel. CARB's proposal does not discuss which party, the producer, or the user of the aviation fuel would be the obligated party, however, assigning this obligation to either will create new challenges for both. MPC recommends CARB evaluate other proposals to incentivize the use of sustainable aviation fuel and bring those to stakeholders.

Updating the LCFS regulation to reflect changes in technology and data

The LCFS is a science-based regulation with data sets covering many years from various sources. It is imperative that CARB updates 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. For example, Argonne National Laboratories GREET 2021[5] includes updates to the farming inputs and on-farm energy consumption used to grow and harvest the corn and soybeans used to produce renewable fuels. It also includes updates to capture life-cycle emissions from the production of lithium used in electric vehicle batteries to more accurately identify sources of emissions that have not been available in the existing CA-GREET 3.0.

In addition to GREET, substantial changes have taken place within California's electrical grid since the last model update was adopted in 2018. The benefits associated with lower CI grid electricity are reflected in CARB's Smart Charging or Smart Electrolysis Provision[6] and should be reflected in this amendment to the regulation. On February 23, 2021, the US EPA published

[4] Accessed 12.21.21. CA GHG Inventory Trends July 28, 2021
[5] ANL GREET
[6] LCFS Update 2021 Carbon Intensity Values for CA Grid

updated data for the Emission & Generation Resource Integrated Database (eGRID)[7] to reflect emissions year 2019 (455 lb CO2e/MWh), representing a 20 percent reduction in electricity emissions from the previous GREET model update year of 2014[8] (570.5 lb CO2e/MWh). MPC recommends CARB rely on the most recently published eGRID values when making any updates to the LCFS regulation, or CA-GREET.

Streamlining implementation of the LCFS

Efforts to streamline the implementation of the LCFS program are encouraged. Based on CARB's proposals in this section, it is difficult for MPC to comment too specifically at this time on certain items such as replacing the individual CI's for CARBOB, diesel with a single Lookup Table CI, and removal of the "deemed-complete" designation for fuel pathways. These proposals are potentially significant changes to how entities report, comply, and transact under the LCFS program. MPC suggests that a larger discussion be held in a future workshop so that CARB can discuss these concepts in more detail with stakeholders.

Third-party pre-project baseline data verification for petroleum projects is appropriate and aligns with the fuel pathway application process. This change could free staff time to focus on methodologies to calculate emission reductions from new projects rather than confirming data sets.

Specific revisions to the LCFS regulation could also help streamline implementation. One revision that MPC has identified is the need for CARB to more clearly explain what a "process change" used within section 95488.9(c) means. Doing this will allow for pathway applicants to better understand the types of changes made within an existing fuel pathway, at a facility or within the pathways system boundary that would allow for submission of a new a provisional pathway petition. MPC proposes the following explanation for "process change" within section 95488.9(c).

> *"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. Any CI revisions will be valid in any quarter for which the reporting deadline has not passed."*

Another area MPC has identified to help streamline the programs implementation is the need to establish a process to ensure a pathway application is certified in a timely manner. MPC appreciates the challenges the number of pathway petitions present, as CARB discussed during the December 7, 2021 workshop.[9] However, CARB should also be preparing for an even greater number of pathway petitions in the near future. Continued investments within the low carbon transportation fuel sector will add to CARB's workload and could cause a substantial backlog of pathway petitions.

[7] US EPA eGRID2019
[8] GREET Supplemental documentation
[9] LCFS workshop 12.7.21

To alleviate issues caused by delays in certifying a pathway applicants fuel CI, in its October 14, 2020 workshop CARB proposed a "credit true-up" for users of Temporary Pathway CI's. CARB's proposal would allow "Tier 1/Tier 2 fuel pathway holders to request true-up of credits using the certified CIs for fuel transactions reported using temporary fuel pathway CIs".[10] MPC sees this as a step in the right direction but believes CARB should go further and establish a process that allows a pathway petitioner to request for an expedited pathway review. The expedited pathway review could be conducted by a dedicated staff person or a certified Life Cycle Analysis (LCA) contractor that would work with the pathway petitioner and verification body to ensure compliance with the regulation and assist the pathway applicant in receiving a certified fuel CI in a timely manner.

Additional Stakeholder Concepts

Use of site-specific agricultural inputs in fuel pathway life cycle analyses is an important change for CARB to make in the next rulemaking. Allowing for site-specific agricultural inputs into a fuel pathway will send a signal to fuel suppliers that biomass-based feedstocks from the use of climate-smart agricultural practices play an important role in decarbonizing the transportation fuel sector.

To recognize the benefits of climate-smart practices MPC recommends that CARB accept "User Defined" values for agricultural feedstocks as part of the "Greenhouse Gases Emissions Factors Used in CA-GREET 3.0 for Carbon Intensity Calculation table" in its simplified CI calculator for biodiesel and renewable diesel[11]. To calculate emissions from the use of climate-smart agricultural techniques CARB should adopt by rule, the Argonne National Laboratory Feedstock Carbon Intensity Calculator (FD-CIC) 2021 tool[12] in its next rulemaking.

CARB requested feedback on two concerns with the use of site-specific agricultural inputs, the first was verification of the farming data, and second was the potential for GHG leakage. MPC submitted comments as part of the U.S. Department of Agricultural (USDA) Request for Information on the development of a USDA Climate-Smart Agricultural and Forestry Partnership Program.[13] These comments recommended the formation of a "USDA regenerative farming certification" program that would rely on verified farming data to calculate a soil organic carbon emission factor by county. If implemented, CARB could rely on this or a similar certification process to verify site-specific agricultural inputs for those LCFS pathway's utilizing these inputs.

An example of the potential leakage concern was provided in the December 7, 2021 workshop[14], whereby those with lower agricultural emissions will elect to use site specific inputs and others with higher-than-average agricultural emissions will elect to report average values. Within the LCFS, CARB uses a baseline for CARBOB and the diesel when determining the number of credits or deficits a fuel receives. Establishing a similar baseline for agricultural emissions will allow practitioners of climate-smart agricultural practices and purchasers of feedstocks to benefit from the enhanced techniques. MPC recommends CARB rely on the most recent farming emission

[10] LCFS workshop 10.14.20
[11] CARB Tier 1 Calculator
[12] ANL (FD-CIC)
[13] USDA Docket
[14] CARB LCFS Workshop 12.7.21 Speaker notes

factors as its baseline. CARB may then assess whether a change to the baseline is required given the amount of site-specific agricultural inputs used in pathway applications. If the use of site-specific agricultural inputs causes a statistically relevant deviation of the average farming emission factors, CARB should take on a future rulemaking to adjust the average farming emission factors and compensate for the increased use of site-specific agricultural inputs.

Sincerely,

Brian McDonald
Regulatory Affairs Specialist

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