Tesoro Refining & Marketing Company LLC

539 South Main Street
Findlay, OH 45840

SUBMITTED ELECTRONICALLY

October 22, 2021

Rajinder Sahota
Deputy Executive Officer
Climate Change and Research
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: Comments on the 2022 Scoping Plan Update – Scenario Inputs Technical Workshop

Ms. Sahota:

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) 2022 Scoping Plan Update – Scenario Inputs Technical Workshop.

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 in 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 approximately 50 percent less than the petroleum-based fuels.

MPC is also proud to have Virent, Inc. (Virent), a wholly owned subsidiary of MPC, in its portfolio. Virent is creating alternatives to petroleum-based products by using a wide range of naturally occurring, renewable resources as feedstocks to provide drop-in sustainable aviation fuel (SAF), renewable gasoline, renewable diesel, and chemicals for use in the production of 100% bio-based plastics, fibers and films.

Virent is currently working to commercialize its patented BioForming® technology to provide renewable gasoline and its BioForm® Synthesized Aromatic Kerosene (SAK) aviation fuel. The blending of SAK with hydro-processed esters and fatty acids (HEFA), will enable the introduction of drop-in, 100% SAF to the California market. Because Virent's SAK is made from plant-based

feedstocks, the life-cycle carbon impact is less than that of petroleum-based fuels. Virent is targeting greater than 50 percent reduction in greenhouse gas emissions for both its renewable gasoline and SAK, with the potential to achieve net zero emissions using options such as renewable electricity, renewable natural gas (RNG) and carbon capture and sequestration. Virent has also developed data from engine testing showing that a SAK/HEFA blend is cleaner burning and has lower particulate matter emissions than conventional jet fuel. Virent's renewable gasoline is also a drop-in product that can be used in today's infrastructure and domestic fleet without any modifications or blend wall limitations.

One of the key objectives of the 2022 Scoping Plan Update is to lay out a path for achieving Carbon Neutrality in California by 2045. The "Proposed PATHWAYS Scenario Modeling Assumptions" document, which was shared in the September 30, 2021 workshop, introduced four draft Carbon Neutral scenarios. Each scenario represents a different view on what will be required to achieve Carbon Neutrality within the State. MPC is encouraged to see the Low Carbon Fuels for Transportation Sector listed but believes these same low carbon fuels will play a much broader role throughout the sectors CARB is evaluating. It is important that CARB takes the necessary steps to ensure that the Scoping Plan Update does not discourage stakeholders from implementing solutions today that will provide the jobs necessary to support California's low carbon economy of the future.

In many of the four draft Carbon Neutral scenarios that CARB has defined, a portion of a given sector's technology is expected to be electrified, without regard to any other technologies that can achieve similar, or better, life-cycle emission reductions. One example of this gap is in the Aviation Sector, under Alternative 3, which states "10% of aviation fuel demand is met by electricity or hydrogen in 2045." Given the growing number of renewable fuel production facilities that are in operation today, and with more coming online in the future, it is important for CARB to consider technology solutions that are available to produce SAF.

To highlight the important role renewable fuels will play in California's future, MPC recommends CARB include the portion of RNG, renewable propane, renewable gasoline, renewable jet and renewable diesel that can reasonably be expected to displace a higher carbon energy source for each sector listed in the four draft Carbon Neutrality scenarios. The combination of market mechanisms, along with the utilization of carbon capture and sequestration in the production of fuels, will provide a sustainable, low carbon future for California.

Sincerely,

Brian McDonald
Regulatory Affairs Specialist

Cc: Matthew Botill, Division Chief, Industrial Strategies