



Emily Wimberger
Chief Economist
California Air Resources Board
1001 I Street
Sacramento, CA 95814

December 22, 2017

Dear Ms. Wimberger:

Thank you for submitting the standardized regulatory impact assessment (SRIA) and the summary (Form DF-131) for the proposed regulation Low Carbon Fuel Standard (LCFS) 2018 Amendments, as required in California Code of Regulations, title 1, section 2002(a)(1). As proposed regulatory amendments were not submitted with the SRIA, these comments are solely based on the SRIA and other publicly available information.

The proposed amendments extend the LCFS program to reduce the carbon intensity of gasoline and diesel in 2030 by 18 percent compared to 2010. These transportation fuels are the largest source of greenhouse gas emissions for the state, and reducing the CO₂ emissions per energy expenditure helps meet the state's overall climate goals. In 2010, the average carbon intensity was around 100 grams of CO₂-equivalent per megajoule (gCO₂e/MJ), and with substitution towards alternative transportation fuels (such as hydrogen or electricity), more efficient refining processes, and blending of less-carbon intensive fuels, the carbon intensity is expected to fall to around 90 gCO₂e/MJ by 2020 under current regulations.

Suppliers of fuels that have a lower carbon intensity than required during a year generate credits, which they can sell to suppliers of fuels that are above the required carbon intensity. One credit is equivalent to a metric ton of CO₂-equivalent (MTCO₂e), the same as in the cap and trade program, but the LCFS credits can only be banked over time or traded between suppliers of fuels. The proposed amendments sets a price ceiling of \$200 and allow suppliers to run deficits at a penalty of up to \$1000 per credit, providing an effective backstop even if no credits are supplied. The proposed regulations also add new sources of LCFS credit generation including alternative jet fuels, propane, as well as a protocol for carbon capture and sequestration (CCS) projects.

Finally, the proposed regulations will impose a requirement for independent third-party verification of CI's on individual fuel pathways. The price of reducing carbon intensity is passed on to consumers and provides an incentive to suppliers of low-carbon intensity products. The credit price will depend on how much overall transportation demand there is, as well as how much supply of low-carbon fuels expands. The credit price has fluctuated between \$22 and \$122 since the program started.

The SRIA assumes that by 2030, demand for transportation fuels will fall 35 percent from the 16 billion gallons of gasoline and 4 billion gallons of diesel in 2016. Supplies of alternative fuels and the transition to electric, hydrogen, or natural gas powered vehicles will expand gradually to higher levels than under the baseline, allowing the 18 percent target to be met while keeping credit prices around \$85 to \$115 after 2022. By 2030 it is estimated that gasoline retail prices will rise between 10-21 cents per gallon and diesel prices rise between 13-25 cents per gallon. The higher prices will cost state and local governments around \$6 million in additional fuel costs, but they will collect around \$88 million more than they would have otherwise in taxes in 2030.

Direct health benefits alone would average \$49 million a year under the proposed regulations. Under an alternative scenario of a 25 percent reduction in carbon intensity by 2030, the credit price would remain at \$200 starting in 2020, although with greater environmental and health benefits. Under the second alternative scenario, with fewer pathways to meeting the 18 percent reduction, costs to buyers of credits would be higher with similar health and environmental benefits to the proposed amendments.

Finance generally concurs with the methodology used to estimate the economic and fiscal impacts under proposed regulatory changes and alternatives, and note the efforts made to analyze a wide range of impacts within numerous markets and sectors of the California economy. However, there are two areas where changes are needed.

First, the SRIA baseline incorrectly assumes the continuation of certain policies through 2030 rather than requirements established in statute or regulation, which leads to an underestimate of the cost of complying with the proposed regulations. In particular, federal renewable fuel subsidies are currently worth around \$1.5 billion annually. Costs would be higher if they are not assumed to continue through 2030. Federal fuel economy standards are also assumed to be held constant past 2025. These assumptions support the 35 percent reduction in transportation fuel demand in the baseline, which would be an overestimate of the reduction under current policies. For example, a recent California Energy Commission forecast has a 10 percent reduction in transportation fuel demand.

Second, the SRIA must explain how carbon intensity connects with the supply and demand of alternative fuels, and how those quantities connect with credits. Currently, the discussion jumps from carbon intensity measured in percentage reductions from a 2010 baseline to alternative fuel volumes to credits generated to prices of credits. The reader must be able to account for the impacts to carbon intensity from the mechanisms of supply and demand described in the SRIA.

These comments are intended to provide sufficient guidance outlining revisions to the SRIA. The SRIA, a summary of Finance's comments, and any responses must be included in the rulemaking file that is available for public comment. Finance understands that the proposed regulations may change during the rulemaking process. If any significant changes to the proposed regulations result in economic impacts not discussed in the SRIA, please note that the

revised economic impacts must be reflected on the Standard Form 399 for the rulemaking file submittal to the Office of Administrative Law. Please let us know if you have any questions regarding our comments.

Sincerely,

A handwritten signature in blue ink, appearing to read "Irena Asmundson".

Irena Asmundson
Chief Economist

cc: Ms. Panorea Avdis, Director, Governor's Office of Business and Economic Development
Ms. Debra Cornez, Director, Office of Administrative Law
Mr. Richard Corey, Executive Officer, California Air Resources Board
Ms. Jessica Charrier, Manager, California Air Resources Board