



November 17, 2014

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Thank you for submitting the combined standardized regulatory impact assessment (SRIA), the summary (Form DF-131), and other related documents for the proposed Low Carbon Fuel Standards and Commercialization of Alternative Diesel Fuels regulations as required in California Code of Regulations, title 1, section 2002(a)(1). Given that the two regulations are related, we appreciate the combined discussion of regulatory impacts. As proposed regulations were not attached, we are unable to conclude whether the SRIA covers all impacts that may occur as a result of the proposed regulations that will be submitted to the Office of Administrative Law for public comment. These comments are thus based solely on the SRIA.

Based on our understanding, the low carbon fuel standards will apply to all transportation fuels, with a goal of reducing the carbon intensity of fuels consumed by 10 percent by 2020 relative to the 2010 level. The SRIA indicates the regulations have more stringent requirements closer to 2020, instead of keeping the path linear over time. The standards will apply to fuel producers, importers, and wholesalers, who would then be assumed to pass on any additional costs to consumers. If affected businesses produce fuels that have higher carbon intensity, they can buy fuels with a lower carbon intensity to blend, or they can buy credits to offset the extra emissions that would be generated by the consumption of the fuels they supply. Likewise, if affected businesses produce fuels that more than meet the carbon intensity standards, they will generate credits that represent the amount of emissions that consumption of their fuels would avoid. These credits are specific to the low carbon intensity program, and are not related to allowances under the cap and trade program. The higher costs for carbon-intensive suppliers and the additional revenue for less carbon-intensive suppliers generate market-based incentives for innovation and additional investment. The impacts to consumers will be felt through higher relative prices for carbon-intensive fuels and lower relative prices for less carbon-intensive fuels.

The alternative diesel fuel regulations are related in that they set the standards that the new fuels must meet, and also establish procedures for commercialization of the new fuels such as biodiesel. As biodiesel has lower carbon intensity than conventional diesel, it would be one option for suppliers to use when meeting the low carbon intensity standards. Since biodiesel can increase emissions of nitrogen oxides (NOx) if burned by conventional heavy-duty diesel engines, the alternative diesel fuel proposal would set NOx significance thresholds, above which mitigation would be required. The mitigation provision would sunset in 2023, when new technology diesel engines are expected to reach 95 percent of the heavy-duty fleet.

Based on a credit price of \$100 and assumptions regarding how quickly the supply of less carbon-intensive fuels grows, ARB estimates the petroleum and coal industry would be a net purchaser of credits (the equivalent of \$1.6 billion in additional production costs), while the

natural gas and electricity distributors would be net sellers (lowering production costs by \$490 million), in 2022. The balance, presumably, would come from new, less carbon-intensive sources, such as alternative diesel fuels, although not specifically stated in the SRIA. ARB estimated alternative diesel fuels regulations would have a cost reaching \$14.57 million in 2022. The combined effects would reduce consumer expenditures on gasoline and diesel by \$1 billion, on natural gas by \$1 million, and on electricity by \$223 million, while increasing those on renewables by \$2.7 billion. The additional costs to consumers of higher prices for conventional transportation fuels would be partially offset by lower prices from electricity and natural gas. As production of conventional fuels is expected to remain the same, California is assumed to export more to offset decreased demand within the state. ARB also projected the impact of these effects on the state economy in terms of GDP, personal income, output, and investments, which were presented in terms of percentage changes. From a modeling standpoint, because there will be offsetting price and quantity impacts, consumer spending variables in REMI may thus be a more appropriate means of addressing these issues than consumer price variables alone, which may not capture the correct impacts.

Finance broadly agrees with the methodology used to assess the regulatory impacts, and agrees that the likely impacts would be to raise costs for carbon intensive suppliers, lower costs for less carbon intensive suppliers, and that these cost changes would be passed through to consumers. However, there are a number of areas where the discussion of potential impacts could be strengthened, particularly with respect to the changing supply of fuels.

The low carbon fuels standards assume that the supply of less carbon intensive fuels ramps up sharply before 2020. If this does not happen, the demand for credits would be much higher, leading to higher prices for producers and consumers. With a thinly-traded market for credits, the prices may in fact spike, as has been observed in other markets. Over time, the high prices would provide additional incentives to invest, but in the short term this would lead to much higher impacts on businesses and individuals. ARB has been discussing the relative tradeoffs in setting price floors and ceilings for credits in public meetings. If the floor is too low, there won't be the scale of investment needed, and if the ceiling is too high there may be disproportionate costs paid by consumers. Volatility in credit prices may also lead to very different incentives and impacts than what would hold under an average price scenario, since it is predictably high prices that are more likely to lead to investment. The issue of credit prices is central to how the regulatory impacts will play out, and that discussion should also be incorporated into the SRIA.

The incentives for innovation will also depend on whether demand for less carbon-intensive fuels will be met through new production in California, or whether such fuels would be imported. Again, this is related to the credit price and the relative cost points of California and external producers. It would greatly enhance transparency of the discussion to report these in terms of units that are more easily comparable, such as price increase per gallon or price decrease by kilowatt-hour. The overall impacts—to output, employment, and other variables—should also be reported in standard units such as constant dollars or numbers of jobs in addition to the percentages cited.

A natural question is how credit trading authorized by these regulations would relate to allowances offered under the cap and trade program. They are distinct programs, but they are all part of a multi-pronged approach to meeting the requirements outlined in AB 32. The SRIA implies that one justification for low carbon fuel standards rests on the innovation aspect—simply increasing carbon prices would not give sufficient incentives to develop new fuels. The absence of new fuels would limit future opportunities to lower greenhouse gas emissions, and

fostering that market is a key benefit of this regulation. Having such a market would also put California firms at a competitive advantage if more stringent federal or international carbon-intensity standards are implemented. The SRIA could do a better job of laying out how the low carbon fuel standards fit into the larger picture, and how the regulatory impacts may interact with other parts of the overall strategy for addressing carbon emissions.

The discussion of alternatives should be enhanced by including numbers so that readers can directly compare the impacts. Stating that there are lower costs under an alternative is not as useful as reporting on the magnitude of the difference. In the first alternative, we also suggest it should be designed so that there is the same carbon intensity standard for all transportation fuels, rather than just exempting diesel. That is, there should have been an offsetting decrease in carbon intensity for gasoline if diesel is exempted. This would raise costs for gasoline, which then could be compared to the avoided costs for diesel.

Some of the discussion of impacts for the alternative diesel fuel should also be expanded. The \$14.57 million cost for alternative diesel fuel implementation in 2022 far exceeds the total of \$880,600 annualized capital costs for two new refineries, \$40,000 annual operating and maintenance costs, and \$35,200 a year reporting and recordkeeping costs for biodiesel producers. We presume the difference stems from mitigation costs. If so, ARB needs to address how businesses will react in response. Otherwise, ARB needs to explain what else is included in that calculation, and how the impacts will be felt by businesses and individuals.

Finally, given the scale of new production assumed under the SRIA, there could be fiscal costs to the state for licensing, inspecting, and otherwise ensuring the new producers can scale up supplies. There could also be impacts from the price changes, as there are for other consumers. A discussion of total costs and benefits of proposed regulations and additional fiscal costs of administering a regulation should be outlined in the final regulations. This includes not just fiscal costs to ARB, but to other state agencies as well, such as the Department of Industrial Relations, or the California Department of Transportation. Including this in the SRIA would give more confidence that the scale of innovation and commercialization assumed is reasonable, and that government operations have been fully considered.

Finance understands that the proposed regulations may change after the public comment period and following the ARB Board hearing next February. 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,



Irena Asmundson
Chief Economist

cc: Ms. Panorea Avdis, Governor's Office of Business and Economic Development
Ms. Debra Cornez, Office of Administrative Law
Ms. Amy Whiting, California Air Resources Board