



September 14, 2026

California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: Comments of the Renewable Fuels Association on “Appendix B: Supplemental Analysis on Costs and Benefits of Expanded E15 Availability, as Authorized by AB 30”

The Renewable Fuels Association (RFA) offers the following comments in response to Appendix B¹ to CARB’s “Proposed Amendments to the California Reformulated Gasoline Regulations, Staff Report: Initial Statement of Reasons.”²

Appendix B discusses the “potential economic impacts and other impacts that may result from increased sales of E15 in California as authorized by AB 30.” As CARB notes, the impacts associated with increased sales of E15 are attributable to Assembly Bill 30 (AB 30), which authorized the use of E15 in California, rather than CARB’s Proposed Amendments. Still, CARB presents Appendix B “...to assist public understanding of issues associated with varying levels of potential penetration of E15 sales in California.”

The following comments are intended to further inform CARB’s analysis of the economic impacts of E15.

I. E15 Retail Infrastructure Costs

RFA agrees with CARB that the most significant cost associated with offering E15 at retail would be related to installation of new underground storage tanks. But, as CARB correctly notes, “...existing USTs in California are nearly all E15 compatible as the State Water Resources Control Board (SWRCB) required E15 compatible tanks as of January 1, 2026.” Appendix B also correctly acknowledges that “the small percentage of noncompliant tanks yet to be replaced already require replacement, so costs would not be related to E15 use. Therefore, retail outlets will only incur costs for tank installation if they choose to add a new tank to support E15 sales.”

¹https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2026/e15%20Reform%20Fuel/E15_ISOR_Appendix%20B.pdf

²https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2026/e15%20Reform%20Fuel/E15_ISOR%20w%20Updated%20TOC.pdf

Drawing from a 2022 report conducted by the U.S. Department of Agriculture, CARB estimates the cost per retail outlet to offer E15 could range from \$25,000 (“light conversion scenario”) to \$449,000 (“extensive conversion scenario,” in which new USTs are installed).

Analysis by the Petroleum Equipment Institute (PEI) found the cost per retail outlet to offer E15 may be much lower than estimated by CARB, depending on the equipment already installed at the facility.³ PEI determined the following:

- The average cost to offer E15 at a retail station that already has installed E15-compatible equipment above- and below-ground is **as low as \$1,167**. As CARB notes, the overwhelming majority of California retail stations already have E15-compatible USTs installed. Moreover, any dispensers installed or replaced in the last 10-15 years are highly likely to be certified as E15-compatible. Of the two major U.S. fuel dispenser manufacturers, one has sold only E15-compatible dispensers since 2008, and the other has sold E15-compatible dispensers as the standard option since 2016.
- The cost to add a single E15-compatible UST system (tank, piping, and components) would be expected to average \$112,968.
- Upgrading non-compatible existing dispensers (including hanging hardware) to E15 using approved retrofit kits would be expected to average less than **\$4,200 per dispenser**.
- In the most extreme scenario, the average cost to add or replace one existing UST and replace 10 dispensers with E15 compatible equipment would be expected to cost \$321,778.

RFA encourages CARB to seek up-to-date information from equipment installers on the actual costs to install or replace existing equipment with E15-compatible equipment.

II. Impact of LCFS and RFS Credit Values

Appendix B includes analysis of the potential economic impact related to increased LCFS and RFS RIN credit generation under various E15 adoption scenarios. Depending on the credit values assumed, Appendix B shows the potential for significant economic benefits associated with increased credit generation. However, CARB states that it “...makes no assumption on whether any credit generation benefit would be passed along to the consumer.”

³ <https://ethanolrfa.org/file/3158/USDA-letter-e15-PEI6984.pdf>

Real-world experience and evidence from the marketplace show that a substantial portion of LCFS credit and RIN credit values are indeed being shared with consumers in the form of lower retail prices for ethanol-blended fuels. For example, a recent U.S. Department of Energy (DOE) report based on actual reported prices found that E15 has been selling recently for \$0.47 per gallon less than standard E10 gasoline, on average, an 11.5 percent discount.⁴

Similarly, actual prices recently reported by E85 retailers in California show that the fuel is often selling for \$2.50-\$3.00 per gallon less than prices for E10 in the same location (often a 40-50 percent discount).⁵ These large discounts for ethanol-blended fuels are being enabled, in large part, by the fact that a significant portion of RIN and LCFS credit values are being passed through to consumers. As noted in Appendix B, ethanol-blended fuel prices in California also reflect the fact that “...ethanol use does not incur a compliance obligation under the Cap-and-Invest regulation.”

As CARB continues to analyze the economic impacts of E15 expansion in California, RFA encourages the staff to consider the passthrough of RIN and LCFS credit values to pump prices for E15 and E85, as well as the avoidance of Cap-and-Invest costs.

III. E15 Energy Density

Appendix B notes that “there is a decrease in energy content from going to E15 from E10...” and that this factor has implications for total fuel consumption. CARB cites USDA information that assumes “...it will take 1.78% more E15 fuel to make it equal on a per mile-driven basis as E10.” Thus, CARB finds that “...the reduced energy content of E15 has the potential to have a net overall increase in statewide fuel consumption.”

However, testing of 20 vehicles in a controlled environment by the University of California, Riverside, found less severe impacts on fuel economy when replacing E10 with E15.⁶ The UCR testing, sponsored in part by CARB as part of the multimedia evaluation, found that fuel consumption when using E15 increased by an average of only **1.3 percent** across all vehicles. In fact, some vehicles (especially those with gasoline direct injection and turbocharging) experienced *lower* fuel consumption when using E15 versus E10. For example, the 2018 Honda Fit that was tested experienced fuel economy of 37.87 miles per gallon on E15, compared to 37.12 miles per gallon on E10.

RFA encourages CARB to rely on the fuel economy data from the UCR vehicle testing when making assumptions about average fuel economy when using E15 and E10.

⁴ <https://afdc.energy.gov/files/u/publication/alternative-fuel-price-report-april-2026>

⁵ www.E85prices.com and Pearson Fuels mobile application.

⁶ <https://ww2.arb.ca.gov/resources/documents/fuels-multimedia-evaluation-e15>

IV. Consumer Cost

In estimating the consumer cost impacts of E15 adoption, CARB concludes that “the additional consumer costs associated with the additional fuel purchases necessary to replace the lost energy density of E15 relative to E10 would range from \$268.5M to \$805.4M in the above scenarios” (i.e., 25 percent and 75 percent market adoption, respectively).

However, this calculation by CARB mistakenly assumes that E15 would be priced the same as E10 at retail. As demonstrated in states across the country where E15 is being sold today, E15 is typically priced 20-40 cents below E10 at retail. And as highlighted earlier, a recent DOE report based on actual price reporting data found that E15 has been selling for \$0.47 per gallon less than standard E10 gasoline on average, an 11.5 percent discount.

If, instead, E15 is assumed to cost 8 percent less than E10 at the pump, on average, the cost savings to California consumers substantially outweigh the minor increase in fuel consumption.

The table below recreates CARB’s analysis (Table 4 in Appendix B).

	E10 Baseline (gallons)	25% E15 (gallons)	50% E15 (gallons)	75% E15 (gallons)
Volume of Fuel	13,318,149,611	13,377,415,377	13,436,681,143	13,495,946,908
Difference from 2025 E10 consumption*	0	59,265,766	118,531,532	177,797,297
Average retail price	\$4.53	\$4.53	\$4.53	\$4.53
Total Fuel Cost	\$60,331,217,738	\$60,599,691,657	\$60,868,165,578	\$61,136,639,493
Cost Difference		\$268,473,919	\$536,947,840	\$805,421,755

**Assumes 1.78% fuel consumption increase for E15*

However, when corrections are made to the fuel consumption difference for E15 versus E10 (i.e., 1.3 percent versus 1.78 percent) and the price difference (assuming an average price for E15 of \$4.17 per gallon, an 8 percent discount to E10), the results change dramatically. Rather than an additional cost of \$268.5 to \$805.4 million, the corrected results show **additional savings to California consumers of \$1-3 billion**. Notably, the results of the 50-percent and 75-percent market adoption rate scenarios in the table below are similar to the findings of a study conducted by economists at the University of California, Berkeley, and U.S. Naval Academy (finding an aggregate \$2.7 billion savings).⁷

	E10 Baseline (gallons)	25% E15 (gallons)	50% E15 (gallons)	75% E15 (gallons)
Volume of Fuel	13,318,149,611	13,361,433,597	13,404,717,583	13,448,001,570
Difference from 2025 E10 consumption**	-	43,283,986	86,567,972	129,851,959
Average retail price	\$4.53	\$4.44	\$4.35	\$4.26
Total Fuel Cost	\$60,331,217,738	\$59,324,765,172	\$58,310,521,486	\$57,288,486,688
Cost Difference		\$(1,006,452,566)	\$(2,020,696,252)	\$(3,042,731,050)

***Assumes 1.3% fuel consumption increase for E15*

Sincerely,



Maddie Jenks
Director of Regulatory Affairs

⁷ [https://ethanolrfa.org/file/3007/E15%20in%20California Initial%20Report Disclaimer.pdf](https://ethanolrfa.org/file/3007/E15%20in%20California%20Initial%20Report%20Disclaimer.pdf)