



July 5, 2023

The Honorable Michael Regan
Administrator
Environmental Protection Agency
Mail Code 28221T
1200 Pennsylvania Avenue NW
Washington, DC 20460

Docket ID No. EPA-HQ-OAR-2022-0829

Submitted via Federal eRulemaking Portal: <https://www.regulations.gov>

RE: EPA Proposed Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles

Dear Administrator Regain:

On behalf of the members of the American Coalition for Ethanol (ACE), I appreciate the opportunity to comment on the notice of proposed rulemaking for Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles (herein referred to as the EPA “Proposal” or “Proposed Rule”).

ACE is a grassroots advocacy organization, powered by rural Americans from all walks of life who have built an innovative industry that delivers homegrown biofuel and food for a growing world. Our nearly 300 members include U.S. ethanol biorefineries, investors in biofuel facilities, farmers and companies that supply goods and services to the U.S. ethanol industry.

From the perspective of *tailpipe-focused* emissions, EPA’s proposal represents the most ambitious standards ever for light-duty vehicles, effectively requiring 60% of all vehicle sales to be battery electric vehicles (BEVs) only by 2030, ramping up to BEVs representing 67% of all vehicle sales just two years later (2032). The Agency is seeking comment on alternative compliance scenarios; Alternative 1 would require BEVs to represent 69% of all vehicle sales by 2032 and Alternative 2, the “least stringent,” would require BEVs to make up 64% of all vehicle sales by 2032.

While ACE members share EPA’s goal to significantly reduce lifecycle greenhouse gas (GHG) emissions from U.S. passenger vehicles, we know there is a better way than arbitrarily regulating a solution which merely focuses on the tailpipe and is practically unachievable. Therefore, ACE does not support the proposal nor either alternative.

To be clear, ACE members recognize BEVs can play a meaningful role in decarbonizing the transportation sector. We also support technology-neutral policies which enable electric vehicles to compete on a level playing field with other low carbon technology solutions such as ethanol. We oppose policies which tilt the scale in favor of BEVs and ignore the lifecycle GHG emissions associated with them.

Our comments will 1) discuss the practical, technical and legal problems associated with arbitrarily regulating BEVs as the only solution to reduce GHGs from the transportation sector, and 2) how EPA can fix its proposal to develop a practical and achievable technology-neutral final rule which achieves the goals we share to meaningfully reduce carbon pollution from transportation emissions.



Hurdles to Arbitrarily Regulating BEVs as the Only Way to Reduce Vehicle GHG Emissions

According to the U.S. Energy Information Administration, BEVs will comprise about 17% of all vehicle sales by 2030.¹ EPA's proposal aims to force an astonishing transition requiring BEVs to represent an average of 78% of all sales of sedans, 68% of all pickup sales, and 62% of all crossover and SUV sales by 2032.²

On the surface, this transition does not seem feasible, and in the draft regulatory impact analysis, the Agency itself admits that prior tailpipe GHG emission standards have underperformed relative to what was originally projected.

Automakers are highly skeptical of the feasibility of reaching this immense level of BEV sales in EPA's proposed timeframe. According to John Bozzella, the President and CEO of the Alliance for Automotive Innovation, "a lot has to go right for this massive – and unprecedented – change in our automotive market and industrial base to succeed, especially as 284 million light-duty vehicles across the country (that average 12 years in age) remain on the roads. As of last year, EVs accounted for just over 1% of all light-duty vehicles."³

The Auto Innovators have pointed out President Biden's 2021 Executive Order (EO 14037), which seeks 40 to 50% electric vehicle sales by 2030, was always a "stretch goal," and it includes plug-in hybrids, fuel cell, and BEVs and depends upon complimentary policy relating to dozens of factors outside of the vehicle, such as charging station availability, mineral availability, and grid capacity.⁴ EPA's proposal represents a "significant movement of the country's electrification goal posts – not by a little, but by a lot" according to Auto Innovators testimony from Mike Hartrick.

Setting aside whether this proposal is feasible or not from an automaker standpoint, the fact is the Agency is relying on dozens of factors outside of the direct control of automakers and their suppliers for the proposal to come to fruition. In fact, EPA itself lacks the jurisdiction to regulate or control complimentary polices needed to solve for many of these needs, such as securing foreign supplies of raw materials and minerals to make batteries, access to home and public charging infrastructure, state and local building codes, grid capacity and reliability, and perhaps most importantly, consumer preferences and fears associated with such a monumentally fast transition to BEVs.

In response to these practical hurdles, testimony from Mr. Hartrick of the Auto Innovators goes on to say "...there is no clear pathway to meet the totality of these needs in the timeframe considered in the proposed rulemaking without significant impacts to automakers, workers, consumers, and ultimately the availability of vehicles that meet the needs of individuals, families, and businesses across the country."

Non-binding company commitments about BEV production and EPA's reliance upon them does not prove the proposal is feasible. The number of these non-binding commitments and projections relied upon by the Agency is astounding and unprecedented. Indeed, recently in setting final 2023 through 2025 renewable volume obligations (RVOs) for advanced biofuel, EPA specifically chose not to rely on the non-binding production capacity forecasts and commitments of prospective advanced biofuel producers. As a result, the final advanced biofuel RVOs are lower than desired by many of these prospective biofuel producers, but achievable in EPA's view. Why would the Agency abandon that logic

¹ <https://www.eia.gov/outlooks/aeo/narrative/consumption/sub-topic-01.php>

² Table 80 of EPA's Proposed Rule

³ April 12, 2023 blogpost by John Bozzella, President and CEO of the Alliance for Automotive Innovation

⁴ <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/08/05/executive-order-on-strengthening-american-leadership-in-clean-cars-and-trucks/>



for this rulemaking and put all its faith in similarly non-binding commitments from BEV enthusiasts when proposing these ambitious tailpipe standards for vehicles?

Mr. Bozzella, the President and CEO of the Auto Innovators, sums it up this way: “The administration’s 50% (electric vehicle) goal in 2021 was aspirational, but it was also based on clearly defined climate goals, credible assumptions, and data. The 60+% BEVs by 2030 plan, on the other hand, is a house of cards. It rolls up rosy forecasts (like EV batteries will eventually cost automakers *nothing*) and other hopeful assumptions.”⁵

Among the rosy forecasts are battery costs. EPA states that “battery costs continue to decline,” but this is not true. Battery costs increased in 2022 and have been generally stagnant over the last four years.⁶ It must also be pointed out that the proposal will not make the U.S. more energy secure. In fact, the opposite is true. The lithium, nickel, copper, cobalt and other critical minerals necessary to make batteries and electric vehicles in the ambitious timeframe set forth by the Agency are not found in sufficient quantities in the U.S. Instead, these precious minerals must be mined and imported from countries such as China, Russia, and the Congo. EPA’s aggressive timeline will only serve to increase U.S. reliance on foreign supplies of minerals for BEVs.

Another misnomer is the assertion BEVs have no emissions. BEVs are not zero emission vehicles. They are zero *tailpipe* emission vehicles. EPA’s proposal conveniently ignores this reality by failing to account for the entirety of lifecycle GHG emissions associated with BEVs and the minerals/materials necessary to produce and power them. The Agency risks exposing itself to litigation regarding the potential arbitrary and capricious nature of a rule which ignores the lifecycle GHG emissions associated with BEVs in relation to how EPA assesses the emissions of biofuels.

What’s more, EPA lacks the authority to ignore upstream emissions for BEVs. The Agency has authority under 42 U.S.C. § 7521(a)(1) to prescribe “standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in its judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.” If BEVs are not “vehicles” “which cause, or contribute to, air pollution,” then EPA may not set standards for them. If BEVs are “vehicles” “which cause, or contribute to, air pollution,” then EPA must account for those emissions, which in the case of BEVs come from upstream electricity generating units.

Other legal questions have been raised given recent court rulings with respect to “major questions” doctrine. Some have suggested this proposal’s effect of forcing the production of BEVs to phase out internal combustion engines is similar to EPA’s Clean Power Plan to force changes in electric power generation, which was struck down by the Supreme Court in *West Virginia v. EPA*. And, just days ago, the Supreme Court used the ‘major questions doctrine’ to nullify the Administration’s student loan forgiveness plan in *Biden v. Nebraska*. The Agency risks inviting litigation given the vast and political significance of this rule without clear congressional authorization to mandate BEVs. In the end, litigation surrounding this rule could forestall meaningful GHG reductions from liquid transportation fuels simply because EPA unnecessarily put its thumb on the scale for a preferred outcome that doesn’t survive legal scrutiny.

⁵ June 28, 2023 blogpost by John Bozzella, President and CEO of the Alliance of Automotive Innovation

⁶ Lithium-ion Battery Pack Prices Rise, Bloomberg NEF (Dec. 6, 2022). <https://about.bnef.com/blog/lithium-ion-battery-pack-prices-rise-for-first-time-to-an-average-of-151-kwh/>



Even if the U.S. somehow reaches 50% BEV sales by 2030 (President Biden's original executive order), the U.S. will consume over 1 trillion gallons of motor gasoline in the next decade. As stated earlier, ACE shares EPA's goal to significantly decarbonize transportation related GHG emissions in the U.S. We strongly urge the Agency to rework its proposal to develop a more practical technology-neutral approach discussed below.

Recommended changes to ensure final rule achieves meaningful reductions in GHGs

EPA itself acknowledges millions of vehicles with internal combustion engines will continue to be sold well beyond 2032 and millions more of these vehicles will remain on U.S. roads for decades to come.⁷ Given this reality, we recommend the Agency develop a technology-neutral final rule which gives much more consideration to replacing the fossil fuel-based gasoline powering these vehicles with a lower carbon and higher-octane alternative, such as ethanol. President Biden himself has said we "simply cannot get to net-zero [emissions] by 2050 without biofuels."⁸

Many leading corn ethanol producers are on a trajectory to both net-zero and net-negative lifecycle emissions in the not-too-distant future. Compared to the massive supply chain disruptions and hurdles that must be cleared to achieve a transition to 67% BEVs by 2032, billions of gallons of low carbon and high-octane renewable liquid fuels such as ethanol are available right now to rapidly decarbonize transportation-related GHG emissions. Importantly, today's vehicle fleet and refueling infrastructure is mostly compatible with renewable fuels such as ethanol, biodiesel, and renewable diesel, making for a smoother, lower cost transition with the added benefit of not having to wait for immediate reductions in GHG emissions. If the overarching goal for the Biden Administration is net-zero emissions by mid-century, let's start making progress *right now* by taking full advantage of the 15 billion gallons of domestically produced ethanol available today as an affordable way to boost octane and meaningfully reduce GHG emissions from gasoline powered engines.

EPA's final rule must address fuel quality and establish new certification fuel pathways to account for the tremendous benefits of high ethanol blends such as E15 and E85. This is the most effective way to rapidly reduce carbon pollution from light-duty vehicles. We strongly encourage the Agency to pay particularly close attention to the comprehensive comments submitted on July 2 by Pearson Fuels, the largest distributor of E85 in California, supplying more than 315 retail E85 stations. ACE specifically supports the recommendations Pearson Fuels makes with respect to establishing a GHG emissions factor or restoring a multiplier for E85 utilized in flexible fuel vehicles (FFVs) and developing an incentive to facilitate the development of hybrid FFVs such as the Toyota Hybrid Flex Corolla being pioneered in Brazil.

We welcome EPA specifically identifying fuel and the opportunity to address particulate matter (PM) emission reductions from sources of liquid fuels in a separate future rulemaking. Given the inescapable link between vehicle emissions and the fuel used to power the engines in those vehicles, we strongly recommend the Agency not wait for a future rulemaking but rather address fuel quality and PM reductions as part of the final rule for 2027 and later model year vehicles. EPA's proposal explains the complications facing refiners with respect to reducing the content of high-boiling point compounds in gasoline given the need to meet market octane requirements (since removing aromatics from gasoline requires a method to replace the octane those aromatics contained). This presents another opportunity for the Agency to rely on greater concentrations of ethanol in gasoline because ethanol delivers the highest-octane rating for fuel at the lowest cost, allowing automakers to benefit by

⁷ Fed. Register Page 29,397 of EPA's Proposed Rule

⁸ U.S. President Joe Biden during an April 12, 2022 visit to Iowa announcing a temporary national emergency waiver for E15. <https://www.whitehouse.gov/briefing-room/speeches-remarks/2022/04/12/remarks-by-president-biden-on-lowering-energy-costs-for-working-families/>



continuing to develop high-compression and fuel-efficient engine technologies to reduce vehicle GHG emissions. We believe high octane, low carbon blends comprised of 25 to 30 percent ethanol would enable more fuel-efficient vehicles, reduce GHG emissions, and reduce other pollutants.

There are approximately 25 million FFVs in the U.S. today. The ideal way to transition from today's legacy fleet of internal combustion engines to new vehicles with advanced engine technologies designed to run optimally on a high-octane fuel is to utilize FFVs as bridge vehicles that can provide immediate demand for midlevel ethanol blends.

As a matter of fact, the Department of Energy Oak Ridge National Lab has investigated the use of high-octane ethanol blends such as E25 and E30 in FFVs that are designed and compatible with ethanol blend levels from 0 to 85 percent and can therefore seamlessly and with OEM approval utilize midlevel ethanol blends.⁹ Key findings from Oak Ridge include: "Experiments were performed with four FFVs using an E10 (92 RON) and E30 (100 RON) fuel. The two direct-injection FFVs demonstrated performance improvements for E30 compared to E10 of 2.5 to 3 percent, based on the 15-80 wide-open throttle acceleration time. Three of the four FFVs showed performance improvement with high-octane E30 compared to regular E10. (...) Marketing E25 or E30 to FFV owners as a performance fuel may enable greater utilization of ethanol in the near term and could help establish the refueling infrastructure to enable manufacturers to build dedicated vehicles designed for a high-octane midlevel ethanol blend."

Vehicle incentives/credits are not the only area in which EPA seems to penalize technologies designed to operate efficiently on ethanol-blended fuel, indeed another inequity exists with the Agency's outdated fuel economy formula. In previous statements, EPA has acknowledged part of the fuel economy formula (the R-factor) unfairly penalizes fuel containing ethanol. Consequently, EPA is discouraging automakers from developing efficient engines that require higher octane ratings and higher ethanol content. EPA has previously said the 0.6 R-factor is erroneous and fails to achieve the statutory purpose of evaluating the fuel economy of fuels containing ethanol. The auto industry has asked EPA for an R-factor of 1.0. In response, EPA has suggested the correct value may lie "between 0.8 and 0.9." ACE supports an R-factor of 1.0.

Section 202(a)(3)(A)(ii) of the Clean Air Act authorizes EPA to look beyond the basic engine to set its engine or vehicle emission standards. Specifically, the statute says "in establishing classes or categories of vehicles or engines for purposes of regulations under this paragraph, the Administrator may base such classes or categories on gross vehicle weight, horsepower, *type of fuel used*, or other appropriate factors (emphasis added)." To account for the "type of fuel used" EPA needs to conduct a full lifecycle GHG emissions analysis.

The full lifecycle GHG emissions analysis in the final rule must be based upon the latest version of the Greenhouse Gases, Regulated Emissions, and Energy Use in Technologies (GREET) model developed by U.S. Department of Energy's Argonne National Laboratory. GREET is considered the gold-standard for calculating energy use, GHGs, and other regulated emissions that occur during the full lifecycle production and combustion of all transportation fuels and sources. GREET is used by the California Low Carbon Fuel Standard program and the Oregon Clean Fuels program and has more than 40,000 registered users worldwide. Congress directed the Treasury Department to use GREET for the new 45Z clean fuel production tax credit in the Inflation Reduction Act (IRA).

⁹ Effects of High-Octane Ethanol Blends on Four Legacy FFVs and a Turbocharged GDI Vehicle." Thomas, J, West, and Huff, S, U.S. DoE ORNL. March 2015.



While it may be an inconvenient truth for some to accept, corn ethanol is a proven and cost-effective low carbon fuel playing an important role in reducing GHG emissions and air pollution from the transportation sector. In fact, the RFS has cut GHG emissions by nearly 600 million metric tons since 2007, exceeding EPA's original expectation of 444 million metric tons.¹⁰

Ethanol and Agriculture are Part of the Solution

ACE members believe ethanol can and should be an even bigger part of the solution to climate change, and we are encouraged by statements from you and USDA Secretary Vilsack that biofuels and agriculture will have a seat at the table as the Biden administration determines how to achieve the ambitious yet important goal of reaching net-zero carbon emissions in the U.S. by midcentury.

The science is clear: agriculture is critical to reduce GHG emissions. In 2018, the Intergovernmental Panel on Climate Change (IPCC) found that 89% of the globe's capacity to mitigate carbon emissions comes from agricultural soil carbon sequestration.¹¹ Farmers help mitigate climate change through practices such as conservation tillage which promotes soil carbon sequestration. It is estimated that U.S. farmers already store 20 million metric tons of carbon per year and scientists with EPA and USDA believe agricultural soil has the potential to sequester an additional 180 million metric tons per year.¹²

We are particularly encouraged by new funding provided to USDA through the IRA to scale the deployment of climate-smart farming practices and demonstrate the link those practices have on reducing GHG emissions from products such as biofuels.

In 2018 ACE published a White Paper, titled "The Case for Properly Valuing the Low Carbon Benefits of Corn Ethanol," explaining if policymakers encouraged investment and adoption of more technology innovation, many ethanol plants would respond to the market signal to produce even cleaner fuel.¹³ A study published by MIT, Harvard, Tufts, and Environmental Health & Engineering Inc. scientists cites ACE's 2018 White Paper and reinforces the fact that the GHG reduction benefits of corn ethanol have been significantly undervalued because some regulatory bodies refuse to apply or use the latest lifecycle science. The MIT/Harvard/Tufts study found that average corn ethanol reduces GHGs by 46 percent compared to gasoline and given improvements occurring in corn farming and within ethanol facilities, corn ethanol's carbon footprint will continue to decline over time.¹⁴

Understanding the need to more reliably validate how climate-smart agriculture reduces ethanol GHG emissions, ACE is proactively working to document the benefits climate smart practices have on the carbon intensity of corn ethanol in a scientifically irrefutable manner. We are leading a USDA funded Regional Conservation Partnership Program (RCPP) project, in partnership with top land-grant scientists and the U.S. Department of Energy's Sandia National Laboratory, to validate the current predictive

¹⁰ Unnasch, S. (2019) GHG Reductions from the RFS2 – A 2018 Update. Life Cycle Associates Report LCA. LCA.6145.199.2019 Prepared for Renewable Fuels Association.

¹¹ Smith, P., D. Martino, Z. Cai, D. Gwary, H. Janzen, P. Kumar, B. McCarl, S. Ogle, F. O'Mara, C. Rice, B. Scholes, O. Sirotenko, 2007: Agriculture. In Climate Change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [B. Metz, O.R. Davidson, P.R. Bosch, R. Dave, L.A. Meyer (eds)], Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, at p. 499 (emphasis in original), available at <https://www.ipcc.ch/site/assets/uploads/2018/02/ar4-wg3-chapter8-1.pdf> (last viewed July 16, 2020) (hereafter, 2018 IPCC Agriculture Chapter).

¹² Greenhouse Gas Mitigation Potential in U.S. Forestry and Agriculture. EPA 430-R05-006.

¹³ The Case for Properly Valuing the Low Carbon Benefits of Corn Ethanol. (2018) <https://ethanol.org/ethanol-essentials/low-carbon-benefits-of-corn-ethanol>

¹⁴ <https://ethanol.org/news/news/2021/01/26/new-study-showing-corn-ethanol-reduces-carbon-emissions-by-nearly-50-percent-cites-ace-low-carbon-white-paper/>



model results of climate smart practice adoption showings significant GHG benefits of reduced tillage, cover crops, and nutrient management on corn ethanol's carbon footprint.¹⁵

The best way to unlock decarbonization opportunities from climate-smart agriculture is through technology neutral clean fuel policy which stands up markets to help offset farmer cost of adoption. For example, in 2020, Argonne National Laboratory indicated no-till, cover crops and nutrient management could be worth \$279 per acre if they were allowed to generate credits under California's Low Carbon Fuel Standard (LCFS).¹⁶ At that value, farmers would rapidly adopt practices leading to meaningful reductions in the lifecycle carbon emissions of biofuels.

Unfortunately, the California LCFS does not yet allow carbon credits for biofuels produced from climate-smart agriculture, and since EPA's proposal puts all our eggs in one basket, it fails to unlock the significant carbon mitigation potential from agricultural lands and ethanol.

We can and should do better. With this in mind, the result of our RCPP project will be the establishment of a non-proprietary, scientifically verified protocol for biofuel producers and farmers to document the carbon intensity benefits of changes in agricultural practices that are validated with on-farm data at production level scale.

ACE is pleased Congress provided significant resources in the IRA for USDA to build upon the progress we are making to validate the benefits of climate smart practice adoption and view this as an opportunity to scale farmer access to state LCFS markets and federal policies such as the RFS. We have briefed top EPA leadership about this partnership and want to work in collaboration with the Agency on this project to ensure corn ethanol benefits are acknowledged by EPA as part of the climate solution.

In conclusion, EPA should reconsider its proposal, develop a technology-neutral approach to decarbonizing transportation fuel, and engage with ACE as we implement our project to ensure fair and accurate accounting for GHG reductions from climate-smart agriculture and ethanol.

Thank you for your time and consideration of our comments.

Sincerely,

Brian Jennings, CEO
American Coalition for Ethanol

¹⁵ <https://ethanol.org/carbon/usda-rcpp/>

¹⁶ <https://iopscience.iop.org/article/10.1088/1748-9326/ab794e>