May 24, 2023

Via Electronic Submission to: DNRECHearingComments@delaware.gov

DNREC - Office of the Secretary
89 Kings Highway
Dover, DE 19901
Attention: Theresa Newman, Hearing Officer

Re: Public Comments—Amendments to 7 DE Admin. Code 1140, Delaware Low Emission Vehicle Program, known as the Advanced Clean Cars II ("ACC II") Program; Register Notice SAN # 2022-01; Docket # 2022-R-A-0011.

To Whom It May Concern:

Please find below the comments from Valero on the proposed amendments to 7 DE Admin. Code 1140, Delaware Low Emission Vehicle Program, known as the ACC II Program. Valero appreciates the opportunity to provide feedback on the proposed amendments.

Introduction

Valero Energy Corporation and its subsidiaries (collectively, "Valero") submit these comments as part of DNREC's stakeholder engagement regarding ACC II. In addition to being the nation's largest independent refiner of petroleum fuels, Valero is one of the top producers of domestic biofuels. Valero was the first traditional petroleum refiner to enter large-scale ethanol production and is now the second largest ethanol producer in the U.S. Through our Diamond Green Diesel joint venture with Darling Ingredients, and following a recent expansion project to construct a new plant in Port Arthur, Texas, we are currently the leading renewable diesel producer in the world. Our Board recently approved a project to commission production of sustainable aviation fuel, and we are actively pursuing carbon sequestration opportunities in the United States that will substantially lower the carbon intensity of the ethanol we produce.

Comments

a. Transportation sector decarbonization should embrace all technologies fit for purpose.

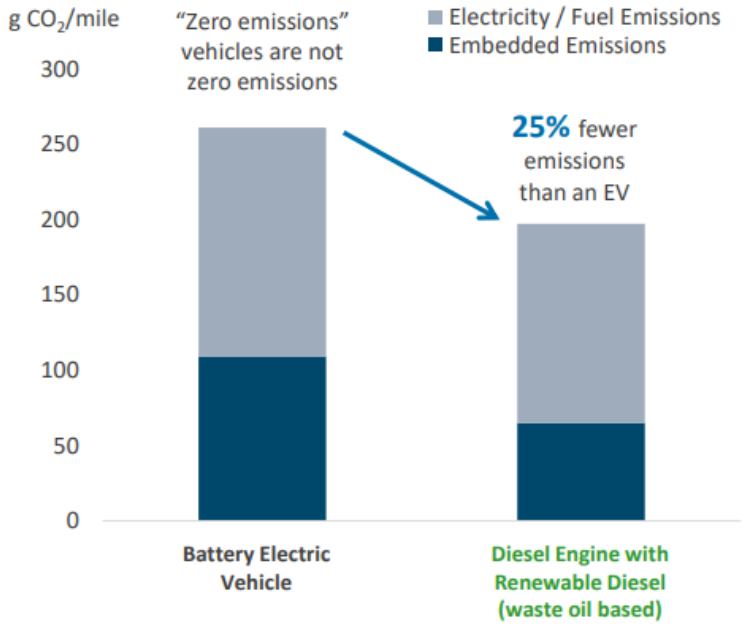
Valero recognizes DNREC's desire to expediently lower GHG emissions from the transportation sector. As a proud producer of the low-carbon liquid fuels that have been and will continue to be essential to the decarbonization of the transportation sector, Valero encourages DNREC to not limit its transportation sector planning to zero-emission vehicle ("ZEV") technologies. While ZEVs may provide options to help reduce GHG emissions, exclusive reliance on those technologies ignores both the full lifecycle GHG emissions of ZEVs and the benefits of low-carbon liquid fuels and other emerging technologies.

DNREC should evaluate the merits of all fuels and vehicle technologies on a full lifecycle basis. The National Bureau of Economic Research has acknowledged that "…despite being treated by regulators as 'zero emission vehicles', EVs are not necessarily emissions free."[1] In fact, the Hummer EV using U.S. average grid electricity is reported as generating higher carbon dioxide emissions per mile than many smaller, more efficient gasoline-powered cars.[2]

A lifecycle analyses conducted by Southwest Research Institute finds that GHG emissions from a light-duty internal combustion engine ("ICE") vehicle that runs on renewable diesel with a carbon intensity of 25 g/MJ results in 25% fewer lifecycle GHG emissions when compared to a comparable battery electric vehicle ("BEV") using U.S. average grid electricity, as illustrated below. In Delaware's case, the GHG emission intensity of grid electricity is slightly greater than the U.S. average (870.1 lbsCO_2e/MWh versus the national average of 857.0 lbsCO_2e/MWh), resulting in an even greater disparity in GHG emission performance between low-carbon liquid fuels and EVs.[3]

[1] *See* http://www.nber.org/papers/w21291.
[2] *See* https://qz.com/2154558/big-electric-trucks-and-suvs-are-the-new-gas-guzzlers.
[3] *eGRID Summary Tables 2021*, U.S. ENVIRONMENTAL PROTECTION AGENCY, https://www.epa.gov/egrid/summary-data.

Figure 1: U.S. Light-Duty Vehicle Lifecycle Emissions
(Sept. 2022 Valero Investor Relations Presentation)



DNREC should remain open to emerging innovative approaches and new technologies for reducing GHG emissions from ICE vehicles, such as on-board carbon dioxide capture and subsequent sequestration.

There are other complexities associated with a singular transition to ZEVs that DNREC should also consider, including:

- Significant environmental impacts arise from other aspects of the ZEV lifecycle, including raw material acquisition and processing, and battery production, transport, disposal, and recycling.[4]

- ZEVs are more expensive on average than their ICE vehicle counterparts and unaffordable for many households—in the first calendar quarter of 2022, the average price of top-selling light-duty BEV in the U.S. was about $20,000 more than the average price of top-selling ICE vehicles.[5] The price disparity has not improved, with the average price of light-duty EVs near $66,000 in August 2022 and continuing to

[4] *See* Perry Gottesfeld, *Electric cars have a dirty little recycling problem–batteries*, CANADA'S NATIONAL OBSERVER, Jan. 22, 2021, https://www.nationalobserver.com/2021/01/21/opinion/electric-cars-have-dirty-little-recycling-problem-their-batteries.
[5] Registration-weighted average retail price for the 20 top-selling BEVs and ICE vehicles in the U.S. S&P Global, *Tracking BEV prices – How competitively-priced are BEVs in the major global auto markets?*, May 2022.

rise.[6] By contrast, the median per capita and household income in Delaware are approximately $72,724 and $38,917, respectively.[7]

- A transition to ZEVs would expose Delaware residents to supply chain vulnerabilities largely beyond the control of regulators. For instance, by 2030, Wells Fargo projects a risk of shortages across all of the key components of EV batteries, except manganese,[8] which is underscored by long lead times for the EV battery supply chains,[9] and a reliance on geopolitical rivals who control those supply chains.[10]

- Cold climate conditions like those experienced in Delaware have been shown to significantly reduce the battery range and efficiency of BEVs.[11]

b. DNREC lacks the legal and legislative authority to adopt a transportation electrification mandate like California's ACC II standards.

It is crucial that the policy guiding DNREC's rulemaking actions be supported by law in order to avoid inefficient expenditures of time and resources, or worse, misleading the public by setting expectations regarding outcomes that are not within DNREC's authority to mandate. Section 177 of the Clean Air Act ("CAA") provides that a state may only adopt "such standards [that] are identical to the California standards for which a waiver has been granted for such model year".[12] As of the date of this letter the U.S. Environmental Protection Agency ("EPA") has not granted a preemption waiver under the CAA for California's ACC II rules. Unless and until EPA grants such a preemption waiver, any state's adoption of these rules is premature and inconsistent with the express terms of § 177.[13]

The measures contemplated by California's ACC II are extraordinary. In considering their adoption in Delaware, there is little to no legal analysis to confirm that the novel approaches and requirements mandated under the regulations are within the authority of DNREC and do not offend

[6] Andrew J. Hawkins, *EV prices are going in the wrong direction*, THE VERGE, Aug. 24, 2022, https://www.theverge.com/2022/8/24/23319794/ev-price-increase-used-cars-analysis-iseecars; *see also*, Justin Banner, *The Cheapest Ford F-150 Lightning Pro Sees Another Price Increase to Nearly Sixty Grand*, MOTORTREND, Dec. 15, 2022, https://www.motortrend.com/news/2023-ford-f-150-lightning-pro-price-increase-msrp/.
[7] Estimates as of July 1, 2021, representing the income over the past 12 months, in 2021 dollars. U.S. Census Bureau, *Quick Facts – Delaware*, https://www.census.gov/quickfacts/fact/table/DE/PST045221.
[8] Colin M. Langan, et al., *BEV Teardown Series: The Untold Electric Vehicle Crisis, Part 1: Tesla Model Y–The Pace Car*, WELLS FARGO, May 11, 2022.
[9] IEA 2022 Global EV Outlook.
[10] *Id.*
[11] *See* Jon Witt, *Winter & Cold Weather EV Range Loss in 7,000 Cars*; RECURRENT, Dec. 12, 2022, https://www.recurrentauto.com/research/winter-ev-range-loss; *see also 20 popular EVs tested in Norwegian winter conditions*, NORWEGIAN AUTOMOBILE FEDERATION, Mar. 12, 2020, https://www.naf.no/elbil/aktuelt/elbiltest/ev-winter-range-test-2020/.
[12] 42 U.S.C. § 7507(2).
[13] 42 U.S.C. § 7507.

principles of state or federal law. DNREC should consider whether the measures called for in the California ACC II rule conflict with or are otherwise preempted by the statutory mandates of federal legislation such as the Energy Policy and Conservation Act ("EPCA"); the federal CAA; the Energy Independence and Security Act ("EISA"), including the Renewable Fuel Standard ("RFS").

ACC II will have vast nationwide political and economic significance. Requirements that mandate a shift from ICEV to ZEV sales will significantly impact supply chains, consumer costs, electric power infrastructure, domestic energy security, and interstate commerce.

Additionally, ACC II includes measures that may violate other constitutional provisions and principles. These include, but likely are not limited to, the Dormant Commerce Clause, which prohibits state regulations that improperly discriminate against out-of-state commercial interests or that unduly burden interstate commerce; the dormant foreign affairs preemption doctrine under the Supremacy Clause, which preempts state laws that intrude on the exclusive federal power to conduct foreign affairs; the Takings Clause of the Fifth Amendment, which precludes the taking of private property (or the elimination of entire industries) for public use without just compensation; and the equal sovereignty doctrine, which constrains the federal government from treating states disparately.

Because the measures called for under ACC II are unprecedented in their scope and reach, Delaware should conduct sufficient legal review to confirm that the recommended actions are authorized under applicable law and that they are not preempted or precluded as a matter of law before establishing a recommendation for rulemaking.

c. Limitations of CAA § 177.

The early stages of California's ZEV program were mired by low consumer acceptance, slow technological advancement, missed goals, and backtracking. While California's goals remained aspirational, it always maintained (and several times applied) the ability to re-write the rules when the program proved infeasible for automakers.[14, 15, 16] The limitations in § 177 of the CAA do not provide states (other than California) with the flexibilities to adjust ambitious targets

[14] California Air Resources Board ("CARB" or "ARB"), *ARB Modified Zero-Emission Vehicle (ZEV) Regulation* (April 24, 2003) https://ww2.arb.ca.gov/news/arb-modifies-zero-emission-vehicle-zev-regulation (providing that ARB voted to modify California's ZEV rule in order to allow automakers to meet part of their ZEV requirement).
[15] CARB, *Notice of Public Hearing to Consider Proposed Amendments to the California Zero-Emission Vehicle Regulations Regarding Treatment of Majority Owned Small or Intermediate Volume Manufacturers and Infrastructure Standardization* (May 1, 2001) https://ww3.arb.ca.gov/regact/charger/notice.htm (stating that "[a]t a January 25, 2001, hearing, the Board approved major changes to the ZEV regulations that will significantly reduce the number of ZEVs required during the near term").
[16] CARB, *Proposed 2014 Amendments to the Zero Emission Vehicle Regulation* (September 2, 2014) https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2014/zev2014/zev14isor.pdf?viewType=Print&viewClass=Print (stating that "California could see about 26,000 fewer ZEVs and TZEVs delivered in the 2018 through 2025 model years than would be delivered under the existing regulation").

to accommodate the realities of record inflation, extraordinary supply chain disruptions, global uncertainty due to the war in Ukraine, and critical concerns about the availability, cost and foreign dependence of minerals needed for ZEV batteries. Rather, states may adopt and enforce standards to control emissions from new motor vehicles only if "such standards are identical to the California standards".[17]

Delaware must carefully consider what the implications will be if reality cannot keep pace with its ambitions – e.g., if automakers cannot supply ZEVs in the numbers needed to meet the DNREC's proposed ZEV sales mandates, if consumers choose not to or cannot afford to purchase the ZEVs, and if the electrical grid and ZEV charging infrastructure cannot keep pace with the growth in ZEV fleet. Without the option of modifying the rules to accommodate ZEV realities, states adopting California's standards via § 177 risk creating for themselves a quagmire in which automakers are unable to sell and consumers unable to purchase the new vehicles.

d. California's struggles present a cautionary tale for Delaware.

DNREC should consider the implications that a strategy focused on a singular technology may have on community decision-making, consumer choice, and the unintended consequences that reliance on electrification may present, including foreign supply chain disruptions and forced labor in the production of the raw materials needed to manufacture batteries.[18]

California policymaking is hardly an unqualified success story. Its climate policies—like the ZEV sales mandates—have had major inflationary impacts on gasoline and energy prices, as well as negative impacts on jobs in certain industries that are directly related to traditional fuels and vehicles.[19] While often lauded as the measuring stick for GHG emission reduction policies, California's transportation fuel prices are now the highest in the nation, averaging approximately $4.81 per gallon of gasoline.[20] According to a 2021 Report from the California Public Utilities Commission, "it is already cheaper to fuel a conventional ICE vehicle than it is to charge an EV" in the San Diego Gas & Electric Co. service area.[21] The California Energy Commission projects that both commercial and residential electricity prices will continue to rise, reaching over $8/gasoline gallon equivalent ("GGE") by 2026 for the residential sector and nearly $7/GGE for the commercial sector.[22] If environmental justice is truly a commitment for Delaware, it should carefully consider the criticisms of California's climate approach, such as those leveled by The

[17] *See* 42 U.S.C § 7507.
[18] *See* U.S. Department of Energy, *2022 List of Goods Produced By Child Labor or Forced Labor*, at 50-51, https://www.dol.gov/sites/dolgov/files/ILAB/child_labor_reports/tda2021/2022-TVPRA-List-of-Goods-v3.pdf.
[19] California Legislative Analyst's Office, *Assessing California's Climate Policies – An Overview* (Dec. 21, 2018).
[20] AAA, *California Average Gas Prices – Current Avg.*, https://gasprices.aaa.com/?state=CA (accessed May 10, 2023).
[21] CPUC, Utility Costs and Affordability of the Grid of the Future: An Evaluation of Electric Costs, Rates, and Equity issues Pursuant to P.U. Code § 913.1, at 116-117 (May 2021).
[22] CEC, "Presentation - Transportation Energy Demand Forecast," 21-IEPR-03 (Dec. 14, 2021).

Two Hundred, which point out the disproportionate impacts to working and minority communities.[23]

As California has faced rolling blackouts and historic energy prices, Governor Newsom in his May 2022 state budget proposal has pivoted to the use of traditional fuel infrastructure to ensure system reliability to protect against outages.[24]

Moreover, unworkable ZEV sales mandates put Delaware at risk of missing out on real carbon reductions available through incentivizing low-carbon liquid fuels and by encouraging the development of emerging carbon removal technologies.

e. DNREC must provide for a transparent and reasoned economic analysis.

DNREC has failed to prepare a comprehensive costs model with respect to the proposed ACC II adoption. Without doing so, DNREC could not and cannot adequately consider alternatives that emphasize affordability alongside emissions reductions. DNREC has also failed to convey the consequences and difficulties associated with the major technology transformation required under the rulemaking. For example, DNREC neglects both defined and less defined risks as well as potential impacts to Delaware stakeholders. DNREC has not estimated what Delaware's total costs of compliance would be under ACC II. Neither has DNREC provided any discussion quantifying impacts to Delaware's job market. Accordingly, Delaware's analysis in support of ACC II is absent and inadequate.

Moreover, DNREC cannot merely rely on and extrapolate from CARB's data and analysis without adequately considering differences in scale, climate, terrain, and state economies that will have profound impacts on Delaware's experience implementing ACC II. State specific and regional factors are material and must be considered. In sum, DNREC has rushed its consideration of ACC II without performing an independent analysis to ensure the regulations are properly and thoroughly vetted for application in Delaware.

As discussed above, as California has felt the real-world implications of its climate policy with rolling blackouts and sky-high energy prices, it is now implementing a broader approach to GHG reductions that includes investment in carbon capture and fossil fuel infrastructure to ensure future system reliability. DNREC need not focus on an inexplicable fear of prolonged reliance on liquid fuels infrastructure; rather, it can and should present a transparent, technology-neutral approach that allows for innovation that would better serve Delaware's most vulnerable communities. For example, DNREC and the Delaware Department of Transportation ("DelDOT")

[23] *See* Plaintiffs' Complaint, *The Two Hundred for Homeownership, et al. v. California Air Resources Board, et al.*, No. 1:22-CV-01474.
[24] *See* https://www.ebudget.ca.gov/2022-23/pdf/Revised/BudgetSummary/ClimateChange.pdf.

highlighted practical challenges inherent to EV adoption in its 2022 National Electric Vehicle Infrastructure ("NEVI") Plan.[25] These include the following acknowledgments:

- "Local permitting processes are not always clear. Delays have occurred in previous infrastructure deployments as a result of unclear or undefined local permitting processes for charging stations."[26]
- "Delivery delays are already occurring for some charging station manufacturers; this problem can get more challenging as all states work to accelerate the speed of infrastructure deployment."[27]
- "Robust research on cyber security threats in a growing electric vehicle charging market is in its infancy and focuses on identifying the risks. This research has been conducted by the Department of Energy's National Renewable Energy Laboratory, as well as researchers at universities around the world, and insurance companies concerned with indemnifying these emerging risks. Some of the risks this research has identified includes:
    - Payment fraud at public charging stations
    - Vehicles made immobile or inoperable
    - Vulnerabilities in data exchanged between vehicles and charging stations
    - Leakage of personally identifiable information from users of charging station
    - Vehicle GPS data
    - Grid stability and reliability
    - Unknown risks as EVs are further integrated into the grid through distributed energy resources and technologies like vehicle to grid (V2G)"[28]

DNREC falls short in communicating such challenges and representing the concerns of stakeholders associated with singular reliance on electrified transport in its assessment of ACC II.

Delaware stakeholders should be afforded an opportunity to evaluate the data, costs, and underlying assumptions before DNREC proceeds with the adoption of ACC II.

Conclusion

Delaware should support and foster technological innovations in the transportation sector by embracing technology-neutral approaches to decarbonization. Decarbonizing the transportation sector will require multiple technologies competing in an open market that rewards technologies

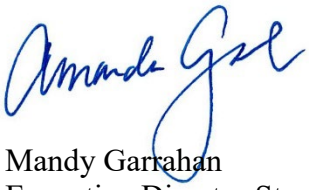
[25] State of Delaware, National Electric Vehicle Infrastructure Plan [hereinafter Delaware NEVI Plan], Delaware Dep. of Transportation & Delaware Dep. of Natural Resources and Environmental Control; https://deldot.gov/Programs/NEVI/pdfs/Delaware%20NEVI%20Plan%20-%20SUBMITTED.pdf?cache=1683588751639
[26] Delaware NEVI Plan at 6-7.
[27] *Id.*
[28] *Id.* at 12-1.

based on emissions reductions and costs. Valero is prepared to work with DNREC to help ensure its GHG reduction goals are achieved.

* * *

Valero appreciates the opportunity to comment and would welcome the opportunity to have additional discussions on these issues. Please do not hesitate to contact me with any questions or if Valero or I can otherwise be of assistance.

Sincerely,



Mandy Garrahan
Executive Director Strategic Planning & Public Policy