

Submitted electronically via: <https://dnrec.alpha.delaware.gov/public-hearings/comment-form/>

May 19, 2023

Kyle Krall
DNREC – Division of Air Quality
715 Grantham Lane
New Castle, DE 19720

Re: *Tesla Comments on amendments to 7 DE Admin. Code 1140, Docket #2022-R-A-0011*

Dear Mr. Krall,

Pursuant to the Delaware Division of Air Quality's Proposed Regulations regarding the state's adoption of the California Air Resources Board (CARB) Advanced Clean Cars II (ACCII) regulation, Tesla respectfully submits the following comments in support of Delaware's adopting the ACCII regulations by the end of 2023.

As an active participant in CARB rulemaking, Tesla supports expansion of the Zero Emission Vehicle (ZEV) regulations by the state of Delaware. Tesla believes the pace of electric vehicle innovation, cost-reductions, and deployment coupled with the public health and welfare imperatives to address criteria air pollution and accelerating impacts of climate change support adoption of ACCII before the end of 2023.

Tesla's Approach to Emissions Mitigation

Tesla's mission is to accelerate the world's transition to sustainable energy. Tesla believes the world will not be able to solve the climate change crisis without directly reducing air pollutant emissions—including carbon dioxide (CO₂) and other greenhouse gases (GHGs)—from the transportation and power sectors.

To accomplish its mission, Tesla designs, develops, manufactures, and sells high-performance fully electric vehicles and energy generation and storage systems, installs, and maintains such systems, and sells solar electricity. Tesla currently produces and sells four fully electric, zero emissions light duty vehicles: The Model S sedan, the Model X sport utility vehicle (SUV), the Model 3 sedan, and the Model Y mid-sized SUV. In addition, Tesla has announced plans to produce the Cybertruck (pickup truck) this year and began deliveries of the Semi (Class 8 truck) in December 2022. As an EV-only manufacturer, EPA recognized in its *2021 Automotive Trends Report* that Tesla had by far the lowest carbon dioxide emissions (0 g/mi) and highest fuel economy (119 miles per gallon equivalent) of all large vehicle manufacturers in MY 2020.¹

Tesla is also deeply committed to ensuring the U.S. remains a leader in advanced manufacturing.² All Tesla vehicles sold in North America are manufactured in the U.S. In 2022, the Tesla Model Y ranked as the most American-made car, based on overall contributions to the U.S. economy, and the Model 3 ranked just below as the second most American made car on the market.³ The National Highway Traffic Safety Administration

¹ EPA, [The 2021 EPA Automotive Trends Report, Greenhouse Gas Emissions, Fuel Economy, and Technology Since 1975](#) at 13 (Nov. 2021) (preliminary MY 2021 at 125.7 miles per gallon).

² See generally, Tesla, [Impact Report 2021](#) (May 6, 2022).

³ Cars.com, [Cars.com's American-Made Index Adds Tesla to Exclusive List of Multiyear Chart-Toppers, Model Y Nabs No. 1](#) (June 21, 2022); See also, Cars.com, [Tesla Model 3 Snags No. 1 Spot on Cars.com's 2021 American-Made Index®; First All-](#)

(NHTSA) similarly confirms that 100% of the vehicle, engine, and transmission assembly in each Tesla vehicle sold in the U.S. occurs in the U.S.⁴ In addition, Tesla's U.S. supply chain continues to expand and spans across more than 40 states.⁵

Tesla has continued a remarkable period of growth and scale based precisely on its advanced technology vehicle product offerings. In the U.S., Tesla conducts vehicle manufacturing and assembly operations at its factory in Fremont, CA, and produces electric drive trains and manufactures advanced battery packs, as well as Tesla's energy storage products, at its Gigafactory Nevada in Sparks, NV. Tesla also builds and services highly automated, high-volume manufacturing machinery at its facility in Brooklyn Park, MN, and operates a tool and die facility in Grand Rapids, MI.⁶ Tesla produces solar energy and vehicle charging products, including manufacturing of its DC-fast charging equipment for heavy duty vehicles, at its Gigafactory New York in Buffalo, NY. Tesla also recently opened a facility in Lathrop, CA dedicated to manufacturing the Megapack, Tesla's utility scale energy storage product.

In the spring of 2022, Tesla began production of Model Y vehicles at its newest vehicle and advanced battery manufacturing facility in Austin, TX. The project will invest over \$10B in factory development and create 20,000 new jobs.⁷ Upon full completion, the Gigafactory Texas will produce Tesla's new Cybertruck and Model Y crossover, and manufacture Tesla's new, advanced 4680 lithium-ion battery cell and battery packs.⁸ Globally, by 2030, Tesla aims to sell 20 million electric vehicles per year.⁹

Tesla supports Delaware Adopting the ACCII Regulations; low emission vehicle and greenhouse gas standards and adding the requirements for zero emitting vehicles for model year 2027 and beyond.

Tesla supports the development and adoption of strong state vehicle NOx, GHG emissions performance standards and ZEV standards for light to heavy-duty vehicles. For many years, these standards have helped drive investment in electric vehicle manufacturing and technology because those performance standards incentivize manufacturing vehicles with zero tailpipe emissions and provide a mechanism by which vehicle manufacturers that deploy innovative technologies and out-perform the standards are rewarded as they can earn and sell tradeable compliance credits.¹⁰

To that end, ACCII rules provide future protections to Delaware's air pollution mitigation strategy that ensure pollution reduction, increased deployment of emission reduction technology, and facilitation of increased investment for the portion of the motor vehicle sector that needs it most, by fostering technological innovation in ZEV manufacturing.

[Electric Vehicle to Top the List in Its 16-Year History](#) (June 23, 2021);, American University, Kogod School of Business, [2021 Made in America Index](#) (Oct. 15, 2021) (Finding in 2021, each of Tesla's vehicles - the Model S, 3, X and Y - ranked in the top 10 and Tesla was the only manufacturers to have representation from its entire portfolio in the top 10.).

⁴ NHTSA, [Technical Support Document: Proposed Rulemaking for Model Years 2024-2026 Light Duty Vehicle Corporate Average Fuel Economy Standards](#) (Aug. 2021) at 96, Table 2-6.

⁵ See e.g., AutoNews, [Suppliers Starting to Set Stage for Tesla in Texas](#) (Sept. 5, 2021).

⁶ See Tesla, [Manufacturing: Build a Sustainable Future](#).

⁷ See, e.g., KXAN/Austin Business Journal, [Musk teases huge job number at Austin-area Tesla factory](#) (Dec. 20, 2021); Reuters, [Musk says Tesla's Texas factory is \\$10 bln investment over time](#) (Dec. 15, 2021).

⁸ See Tesla, [Tesla Battery Day Presentation](#) (Sept. 22, 2020).

⁹ Tesla, [Impact Report 2020](#) (Aug. 10, 2021) at 2.

¹⁰ See, e.g., Virginia McConnell, Benjamin Leard & Fred Kardos, Resources for the Future, [California's Evolving Zero Emission Vehicle Program: Pulling New Technology into the Market](#) at 22-31 (Nov. 2019). (California state Zero Emissions Vehicle credit banking and trading).

Transportation emissions reductions should be top priority for DE, especially from passenger and light-duty vehicles.

As shown in the October 13, 2022, stakeholder meeting presentation by the Delaware Department of Natural Resources and Environmental Control, in 2017, the transportation sector accounted for 75% of Delaware's NOx emissions.¹¹ Further, in 2018, passenger cars and light-duty trucks represented 60% of Delaware's GHG emissions from transportation.¹²

Air pollution is estimated to cause over 200,000 premature deaths in the U.S. each year; with more than half caused by transportation emissions.¹³ Recent findings indicate that the U.S. health care costs from air pollution and climate change exceed \$800 billion per year.¹⁴ These negative effects of air pollution disproportionately harm the most vulnerable populations, including children, the elderly, and residents in low-income and disadvantaged communities.¹⁵ Indeed, two-thirds of Americans who live near high-volume roads are people of color and the median household income in these communities is roughly 20% below the national average.¹⁶ Repeatedly, peer reviewed, government and inter-governmental studies point toward electrification as key to addressing criteria air pollutants, improving air quality, and lowering the risk of respiratory illness.¹⁷

The American Lung Association (ALA) recently estimated that wide-spread transportation electrification across the United States translates into \$72 billion in avoided adverse health effects. Electrification would save approximately 6,300 lives per year and avoid more than 93,000 asthma attacks, and 416,000 lost workdays annually due to significant reductions in transportation-related pollution.¹⁸ Other studies have found dramatic localized air quality and public health benefits will result for electrifying the heavy-duty fleet.¹⁹

¹¹ See slide 8, <https://documents.dnrec.delaware.gov/Admin/Hearings/2022-R-A-0011/Exhibits/Stakeholder-Meetings/20221013/Presentation.pdf>

¹² Ibid. See Slide 14.

¹³ Atmospheric Environment, [Air pollution and early deaths in the United States. Part I: Quantifying the impact of major sectors in 2005](#) (Nov. 2013); See also, PNAS, [Fine-scale damage estimates of particulate matter air pollution reveal opportunities for location-specific mitigation of emissions](#) (April 8, 2019) (Over 100,000 premature death just from PM 2.5).

¹⁴ Medical Society Consortium, [The Costs of Inaction: The Economic Burden of Fossil Fuels and Climate Change on Health in the United States](#) (May 20, 2021).

¹⁵ U.N. Environmental Programme, [Young and old, air pollution affects the most vulnerable](#) (Oct. 16, 2018).

¹⁶ Union of Concerned Scientists, [Delivering Opportunity: How Electric Buses and Trucks Can Create Jobs and Improve Public Health in California](#), (Oct. 11, 2016), at 10.

¹⁷ See e.g., International Panel on Climate Change (IPCC), [AR 6 Climate Change 2022: Impacts, Adaptation and Vulnerability](#) (Feb. 28, 2022) at 7-120; USGCRP, [National Climate Assessment 4, Volume II, Chapter 29](#) at Box 29.2 (In transportation, for example, switching away from petroleum to potentially lower GHG fuels, such as electricity and hydrogen, is projected to reduce local air pollution. In California, drastic GHG emissions reductions have been estimated to substantially improve air quality and reduce local particulate matter emissions associated with freight transport that disproportionately impact disadvantaged communities”).

¹⁸ American Lung Assoc., [The Road to Clean Air Benefits of a Nationwide Transition to Electric Vehicles](#) (Mar. 31, 2022) at 5-6. See also, ZETA, [Medium- and Heavy Duty Electrification: Weighing the Opportunities and Barriers to Zero Emission Fleets](#) (Jan. 26, 2022) at 8-9.

¹⁹ See, Texas A&M, [Tailpipe Emission Benefits of Medium- and Heavy-Duty Truck Electrification in Houston, TX](#) (Apr. 14, 2021) (Finding that by electrifying 40% of the predominantly diesel-fueled MHDVs in the eight-county area, Texans could avoid 21 tons per day of NOx — over a quarter of the 80 tons per day emitted by greater Houston's on-road traffic. This

EV charging infrastructure is expanding rapidly, fueled by private and public funding to meet the needs of tomorrow's EV drivers.

The bipartisan infrastructure and investment and jobs act invests \$7.5 billion to build out the first-ever national network of EV chargers.²⁰ Delaware's share is expected to be \$18 million over five years to support the expansion of an EV charging network in the state. Additionally, in 2022, Electrify America received a \$450M investment and Blackrock, and Daimler Truck and NextEra Energy Resources recently announced a \$650M investment in US charging infrastructure.²¹ The International Energy Agency, in its 2022 Trends in Charging Infrastructure reported that "the United States counts about 22 000 fast chargers, of which nearly 60% are Tesla superchargers."²² Tesla also plans to double the size of our Supercharging network in the next 18-24 months.²³ Other automakers, such as Volvo, GM and others are following in Tesla's footsteps and entering into EV charging partnerships and investments as well.²⁴

EV cost premiums, driven by critical supply chain issues are loosening.

Contrary to outdated arguments from some stakeholders that "EVs are simply not affordable for most people" and that "limited supplies of key raw materials are causing costs to rise,"²⁵ the New York Times recently reported that, "[i]ncreased competition, government incentives and falling prices for lithium and other battery materials are making electric vehicles noticeably more affordable. The tipping point when electric vehicles become as cheap as or cheaper than cars with internal combustion engines could arrive this year for some mass market models and is already the case for some luxury vehicles."²⁶ At the time of this submission, Tesla's Model 3 rear-wheel drive priced at \$40,240 before federal incentives, helping to reduce the average vehicle price in the US to \$48,008 as of March 2023.²⁷ In fact, Tesla's best-selling model, the Model Y, which was the third best-selling passenger car in the world in 2022,²⁸ costs less than the average new car in America at its current base price before federal incentives of \$47,240.

could be achieved by electrifying a little over 60,000 MHDVs, about 1% of all the vehicles in greater Houston. By comparison, it would take 3.8 million light duty vehicles to achieve the same amount of NOx reductions. Electrification of MHDVs is the quickest way to take the biggest bite out of greater Houston's NOx emissions.)

²⁰ <https://www.whitehouse.gov/briefing-room/statements-releases/2021/08/02/updated-fact-sheet-bipartisan-infrastructure-investment-and-jobs-act/>

²¹ https://www.bloomberg.com/news/articles/2022-08-16/car-charging-investment-soars-driven-by-ev-growth-and-government-funds?cmpid=BBD081622_hyperdrive&utm_medium=email&utm_source=newsletter&utm_term=220816&utm_campaign=hyperdrive#xj4y7vzkg&leadSource=verify%20wall

²² <https://www.iea.org/reports/global-ev-outlook-2022/trends-in-charging-infrastructure>

²³ <https://techcrunch.com/2023/02/15/tesla-agrees-to-double-supercharger-network-open-to-all-evs-under-bidens-7-5b-charging-plan/>

²⁴ <https://www.eenews.net/articles/how-carmakers-are-crafting-the-ev-charging-experience/>

²⁵ See page 2,

https://www.caesarrodney.org/pdfs/Public_Comments_on_Alternative_to_proposed_DNREC_EV_mandate2.pdf

²⁶ <https://www.nytimes.com/2023/02/10/business/electric-vehicles-price-cost.html>

²⁷ [https://www.coxautoinc.com/market-insights/kbb-atp-march-2023/#:~:text=The%20average%20transaction%20price%20\(ATP,compared%20to%20year%20Dago%20levels.](https://www.coxautoinc.com/market-insights/kbb-atp-march-2023/#:~:text=The%20average%20transaction%20price%20(ATP,compared%20to%20year%20Dago%20levels.)

²⁸ <https://www.carscoops.com/2023/05/tesla-model-y-becomes-worlds-3rd-best-selling-car-challenging-toyotas-reign/>

Through the Bipartisan Infrastructure Law, the federal government is investing nearly \$3 billion to “expand domestic manufacturing of batteries for electric vehicles.”²⁹ The Biden-Harris administration efforts to expand domestic sourcing of critical minerals necessary for electric vehicle batteries is historic. These strategic federal investments ensure a domestic end-to-end supply chain of critical minerals and mitigate vulnerabilities. The impact of federal investments in the domestic supply chain guarantees the affordability of electric vehicles in perpetuity. Further, the Inflation Reduction Act provides significant tax incentives to develop domestic critical mineral resources and processing, leading to billions of dollars of planned investment in domestic battery cell and pack manufacturing.³⁰

Tesla suggests that Delaware adjust the State Implementation Plan (SIP)³¹

Importantly, the current 2015 NAAQS standard set at .70 ppb mentioned in Caesar Rodney Institute comments³² was scientifically controversial with public health advocates. As a result, the 2020 decision is under reconsideration by the Biden Administration.³³ Their suggestion that submitting for an exemption to the SIP for New Castle Counties’ non-attainment would be an appropriate alternative³⁴ simply ignores scientific evidence that attainment is possible and that local emissions reductions through the highest emitting sector are reasonable. EPA expects its final reconsideration in spring of 2024.³⁵ Based upon scientific evidence indicating a more stringent standard will provide significant public health and welfare benefits, Delaware should expect the Ozone NAAQS levels to be lowered. Thus, planning to reduce transportation emissions now is critical to ensure that Delaware is on the path to attainment under future, more stringent NAAQS standards. Tesla suggests that Delaware consider revising the SIP to include ACCII.

In the new light duty GHG and multi-pollutant standards EPA states, “[w]hile tailpipe emissions controls for criteria pollutants from conventional ICE-based vehicles can have effectiveness values greater than 90 percent under certain circumstances, electrification provides 100 percent effectiveness under all operating and environmental conditions. This is nearly two orders of magnitude more effective than the historical improvements in GHG emission reductions.”³⁶ This shows that EVs are the most effective vehicle technology for reducing not only GHG but criteria pollutants that lead to ozone non-attainment.

²⁹ <https://www.energy.gov/articles/biden-harris-administration-awards-28-billion-supercharge-us-manufacturing-batteries>

³⁰ <https://www.whitehouse.gov/cleanenergy/clean-energy-updates/2023/03/31/treasury-releases-guidance-to-drive-investment-in-critical-minerals-battery-supply-chains-in-america/>

³¹ <https://www.epa.gov/sips-de>

³² https://www.caesarrodney.org/pdfs/Public_Comments_on_Alternative_to_proposed_DNREC_EV_mandate2.pdf

³³ <https://www.epa.gov/ground-level-ozone-pollution/epa-reconsider-previous-administrations-decision-retain-2015-ozone>

³⁴ https://www.caesarrodney.org/pdfs/Public_Comments_on_Alternative_to_proposed_DNREC_EV_mandate2.pdf

³⁵ https://www.epa.gov/system/files/documents/2023-03/O3_Recon_v2_Draft_PA_Mar1-2023_ERDcmp_0.pdf

³⁶ See page 161, <https://www.epa.gov/system/files/documents/2023-04/lmdv-multi-pollutant-emissions-my-2027-nprm-2023-04.pdf>

Conclusion

Tesla strongly supports Delaware's amendments to 7 DE Admin. Code 1140 without amendment thereby reducing criteria and greenhouse gas air pollutants and protecting the public health and welfare of Delaware residents.

Respectfully submitted,

Shatorah Roberson
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