



ZERO EMISSION
TRANSPORTATION
ASSOCIATION

August 28, 2023

The State of Maine
Department of Environmental Protection
17 State House Station
Augusta, ME 04333

RE: Chapter 128: Advanced Clean Trucks Program

Submitted via email to rulecomments.dep@maine.gov.

The Zero Emission Transportation Association (ZETA) is an industry-backed coalition of over 60 member companies advocating for 100% electric vehicle (EV) sales. ZETA is committed to enacting policies that drive EV adoption, create hundreds of thousands of jobs, dramatically improve public health, and significantly reduce emissions. Our coalition spans the entire EV supply chain and includes vehicle manufacturers, charging infrastructure manufacturers and network operators, battery manufacturers and recyclers, electricity providers, and critical minerals producers, among others.

We thank the Maine Department of Environmental Protection (DEP) for the opportunity to comment on its proposal to adopt the Advanced Clean Trucks (ACT) program. ZETA supports ACT adoption in Maine and encourages the DEP to adopt the program without delay. This program is an important step towards decarbonizing the transportation sector and we believe its goals are achievable.

The automotive industry, led by innovations in electric drivetrains and pulled forward by rapidly expanding demand, has centered on electrification as the most commercially viable way to protect public health, our climate, and the environment by reducing tailpipe emissions. The full EV supply chain is preparing to support increased transportation electrification and Maine's ACT adoption will help ensure it has the regulatory certainty needed to protect the investments being made today that will put the sector on a path to a zero-emission future.

With an average lifespan of over 15 years, most heavy-duty vehicles (HDVs) spend more time on the road and travel more miles before retirement than light-duty vehicles. As a result, failing to electrify these vehicles now means that many of the fossil fuel-powered engines rolling off the assembly line today will remain on the road beyond 2040, adding hundreds of thousands of vehicle miles and continuing to emit harmful pollutants over the coming decades.

Frontline and historically disadvantaged communities will benefit the most from HDV electrification. Members of these communities are disproportionately likely to live near highways, airports, and ports, and suffer from poor air quality as a result. ACT adoption will promote HDV electrification and help protect these communities from harmful emissions. The ACT program also aligns with the environmental justice goals that the Biden-Harris Administration has placed a much-needed spotlight on.¹

Beyond the environmental, public health, and climate benefits, HDV electrification will help ensure the United States maintains its economic competitiveness with the rest of the world. Governments around the world are establishing more ambitious electrification goals to align with recent announcements from global manufacturers. Ensuring Maine regulations match or exceed these ambitions is vital to encouraging domestic investment in the industry.

Widespread electric vehicle adoption will reduce emissions, promote American economic competitiveness, and create good-paying jobs. Due largely to the incentives in the federal Inflation Reduction Act (IRA), industry is continuing to invest at unprecedented speed to scale the domestic EV supply chain at every stage of production. Since August 2022, the private sector has invested over \$70 billion in the domestic EV supply chain and has created over 32,000 American jobs.²

As demand for critical minerals to support the transition to EVs is expected to grow rapidly, it is first necessary to evaluate the current state of global production. For most minerals, production has grown in the past decade.³ While much of the production for critical minerals is concentrated in a handful of countries, the Carnegie Endowment for International Peace argues nearly all critical mineral demand could be met through reserves in democratic countries.⁴

The U.S. battery manufacturing industry is quickly scaling to meet the demand driven by transportation electrification. According to Argonne National Laboratory, domestic EV battery manufacturing capacity will increase by almost 20-fold between 2021 and 2030.⁵ Since January 2021, the U.S. private sector has announced over \$100 billion in battery manufacturing investments, translating to over 190 new or expanded processing and manufacturing facilities with enough production to power 10 million EVs each year.⁶

¹ <https://www.whitehouse.gov/briefing-room/presidential-actions/2023/04/21/executive-order-on-revitalizing-our-nations-commitment-to-environmental-justice-for-all/>

² <https://www.whitehouse.gov/briefing-room/statements-releases/2023/08/16/fact-sheet-one-year-in-president-bidens-inflation-reduction-act-is-driving-historic-climate-action-and-investing-in-america-to-create-good-paying-jobs-and-reduce-costs/>

³ <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2022-full-report.pdf>

⁴ <https://carnegieendowment.org/2023/05/03/friendshoring-critical-minerals-what-could-u.s.-and-its-partners-produce-pub-89659>

⁵ <https://publications.anl.gov/anlpubs/2022/11/178584.pdf>

⁶ <https://www.energy.gov/investments-american-made-energy>

While petroleum can't be recycled, the critical minerals in EV batteries can. The global market for battery recycling alone is expected to grow as an increasing number of EVs approach their end-of-life, and while the volume of such feedstocks is less than 2 GWh today, it could reach 100 GWh by 2030 and 1.3 TWh by 2040.⁷

Expanded EV deployment will lead to significant changes to the 24-hour electricity demand cycle. By incorporating emerging technologies such as power storage and grid-scale battery technology, using smart software to optimize charging schedules, capitalizing on time-of-use rates, and ensuring strategic charging buildout, transportation electrification has the potential to become a mechanism for reinforcing and stabilizing U.S. electricity infrastructure.⁸

While the buildout of heavy-duty electric vehicle (HDEV) charging infrastructure is still in the nascent stages, so too is HDEV deployment. It is also important to remember that just as HDEV deployment will not occur all at once, neither will HD charger deployment. Initial strategic buildout of depot-based charging in high-priority areas will help ensure HD charger manufacturing capacity can scale while continuing to support a more rapid HDEV transition.

As studied by the International Council on Clean Transportation, the vast majority of class 4-8 HDEV charging will occur overnight at depots, with the exception of single-unit long-haul trucks.⁹ Depot charging is ideal for minimizing cost and maximizing battery health, whereas on-route charging prioritizes convenience. Despite public and private sector investments to build out HDEV charging capacity, more support will be needed in the coming years to ensure the expected growth of HDEVs is complemented with adequate charging infrastructure. Policies such as the ACT program provide the regulatory certainty necessary to support those investments by clarifying expected HD charging demand.

EVs are now available in all medium- and heavy-duty classes, with many models presenting fleet operators with a favorable total cost of ownership today.¹⁰ That should be expected to improve further over the timeframe covered by the ACT program and continued innovation by industry will only increase product offerings and vehicle capabilities in the coming years.

Maine has an opportunity to lead in this space by adopting the Advanced Clean Trucks program. Doing so will produce good-paying American jobs, reduce consumer costs, improve public health, and reduce carbon emissions. It will also send a strong signal across the EV supply chain

⁷ <https://www.iea.org/reports/the-role-of-critical-minerals-in-clean-energy-transitions/reliable-supply-of-minerals>

⁸ <https://www.zeta2030.org/policy-brief-powering-the-ev-market-how-electricity-providers-are-planning-for-the-future>

⁹ <https://theicct.org/wp-content/uploads/2023/05/infrastructure-deployment-mhdv-may23.pdf>

¹⁰ <https://theicct.org/publication/cost-zero-emission-trucks-us-phase-3-mar23/>

that robust demand for electric automotive technologies is here to stay, laying the groundwork for further industry expansion.

ZETA and our member companies appreciate the opportunity to submit comments on this proposed action. For a more comprehensive discussion on how the EV supply chain is preparing for a fully electric future, we encourage the DEP to review ZETA's comments to the U.S. Environmental Protection Agency on its proposed rule to set phase 3 greenhouse gas emissions standards for model year 2027-2032 heavy-duty vehicles.¹¹

Thank you for your consideration of these comments. If you have any questions or concerns, please contact me at al@zeta2030.org.

Sincerely,

A handwritten signature in black ink, appearing to read 'AG', is positioned above the typed name and title.

Albert Gore
Executive Director
Zero Emission Transportation Association (ZETA)

¹¹ <https://www.regulations.gov/comment/EPA-HQ-OAR-2022-0985-2429>