SIERRA CLUB
MARYLAND CHAPTER

P.O. Box 278
Riverdale, Maryland 20738

Committee: Environment and Transportation
Testimony on: HB 1556- Environment - Advanced Clean Cars II Program and Advanced Clean Trucks Regulation - Application and Enforcement
Position: Oppose
Hearing Date: March 12, 2025

The Maryland Chapter of the Sierra Club urges an unfavorable report on HB 1556. This bill would prohibit the Maryland Department of Environment from enforcing penalties if manufacturers fail to meet the requirements of the Advanced Clean Cars II (ACC II) and Advanced Clean Trucks (ACT) rules in Maryland for Model Years 2027 and 2028.

In 2023, as required by law, the Maryland Department of the Environment (MDE) adopted the ACC II and ACT regulations. These regulations require vehicle manufacturers to sell an increasing percentage of zero-emission passenger cars, school buses, trucks, and delivery vans from Model Years 2027 through 2035.[1] Section 177 of the Clean Air Act allows states to adopt vehicle emissions standards that are more strict than federal standards if they are identical to those adopted by the state of California. The MDE has been a part of the highly successful Clean Cars program since 2007. In 2013, a memorandum of understanding (MOU) signed by ten state governors, including former Governor O'Malley, set a collective target for 3.3 million electric vehicles (EVs) to be on the roads by 2025. Based on NESCAUM's analysis of the data, over 3.3 million electric cars have been registered in these states as of December 31, 2024 – meeting and even exceeding the target on time.

No clean car state, including Maryland, has levied any penalties on vehicle manufacturers during the course of the program. While the regulations must remain identical to the state of California, MDE has full discretion related to the system for penalties. If HB 1556 passes, **Maryland would be the first Section 177 state to delay the ACC II and ACT standards.**

In addition to being a leading source of toxic air pollution that is hazardous to human health, transportation is the largest source of climate-damaging greenhouse gas (GHG) emissions in Maryland and the U.S. The MDE's Climate Pollution Reduction Plan notes that the ACC II and ACT rules are key programs needed for Maryland to meet its climate targets.

These standards are also necessary for Maryland to meet federal ambient air quality standards and to cut unhealthy air pollution. Vehicles are responsible for over 40% of Maryland's nitrous

[1] The Advanced Clean Cars II program applies to Model Years 2026-2035 and the Advanced Clean Trucks program applies to Model Years 2024-2035; Maryland's implementation of both programs begins with Model Year 2027.

oxide (NOx) emissions that contribute to ozone pollution. Over 80% of Marylanders live in areas designated as being in nonattainment of the National Ambient Air Quality Standards for ozone, with the Baltimore region and Cecil County in **serious nonattainment.** Residential neighborhoods located near major roads and highways face disproportionate burdens from transportation pollution and traffic. These neighborhoods are far more often communities of color due to decades of residential segregation, and bear a burden of higher rates of asthma and other health conditions and unremitting noise pollution. There is simply no other means for these areas to cut ozone pollution by the amount necessary to meet the federal air quality standards without reducing vehicle emissions.

Costs of Delaying the ACC II and ACT Regulations for Two Years

The Energy Policy Simulator (EPS), created by Energy Innovation Policy & Technology and RMI, is a policy modeling tool used by states such as Colorado, Georgia, Illinois, Michigan, Pennsylvania, Texas, Minnesota, and Wisconsin to develop all-sector climate action plans. EPS includes a feature to forecast the effect of the ACC II and ACT's rules for clean vehicle sales on emissions and vehicle sales, based on custom annual implementation schedules.

In Maryland, the EPS considered two scenarios: one that assumes ACC II and ACT are implemented starting in Model Year 2027, as is current law in Maryland, and the other deferring implementation to Model Year 2029, as is proposed in HB 1556. The cumulative differences in emissions and sales outcomes between 2027 and 2050 are summarized below:

- Change in Emissions due to HB 1556:
    - 12,358,883 net increase in metric tons (MT) of carbon dioxide equivalent (CO2e) emissions
        - 10,257,796 MT from light duty cars
        - 2,101,087 MT from light, medium, and heavy duty trucks and buses
- Change in EV Sales due to HB 1556:
    - Light duty cars and SUVs
        - 276,630 fewer battery electric vehicle (BEV) car sales
        - 248,619 more internal combustion engine (ICE) car sales
    - Light duty trucks
        - 4,215 fewer light duty BEV truck sales
        - 2,562 more gasoline light duty truck sales
        - 1,497 more diesel light duty truck sales
    - Medium and heavy duty trucks
        - 5,250 fewer BEV truck sales
        - 2,814 more light duty gasoline truck sales
        - 2,337 more light duty diesel truck sales

Nearly all of the 286,095 BEV sales reductions between the two EPS scenarios occur in 2027 and 2028. For context, according to the Maryland Motor Vehicle Administration (MVA), Maryland sold 1,804,624 vehicles in a similar two-year time period between November 2022 and November 2024. Of these sales, approximately one-third were new vehicles and two-thirds of the sales were used.

In regards to emissions, the over 12 million metric ton increase in net pollution is explained by the "climate time bomb" effect of the new ICE vehicles purchased in 2027 and 2028 being driven for the next 10-15 years, thus locking in tailpipe emissions for over a decade. According to S&P Global, the average American vehicle life is 12.6 years. According to the EPS analysis, in the first 15 years of the scenario, these added ICE vehicles will contribute on average 540,000 MT of CO2e per year. For context, one year of transport emissions in Maryland totaled approximately 34,000,000 MT of CO2e, per MDE 2017 values.

Advanced Clean Cars II program

The states that have adopted the ACC II rule include California, Massachusetts, New York, New Jersey, Oregon, Washington, Colorado, Delaware, New Mexico, Vermont, Rhode Island, and Washington, D.C.

An April 2023 report from Energy Innovation Policy & Technology calculates that, just by adopting the ACC II rule, Maryland will experience the following tangible public health benefits by 2050:[2]

- 3,150 Avoided Asthma Attacks
- 15,600 Avoided Lost Workdays
- 195 Avoided Premature deaths
- 5,380 Avoided Respiratory Symptoms and Bronchitis
- 60 Avoided Nonfatal Heart Attacks
- 48 Avoided Hospital Admissions
- 26 Avoided Respiratory ER Visits; and
- 91,800 Avoided Minor Restricted Activity Days

MDE states that the ACC II program is **"our single largest existing climate pollution reduction strategy over the long term."** According to MDE and MDOT, adoption of the ACC II rule will lead to: 5,978 tons of reduced NOx and 585 tons of reduced particulate matter (PM2.5) emissions between 2027-2040; reducing carbon dioxide emissions by 2.461 million metric tons in 2031, and health benefits of $603.5 million per year by 2040.

Benefits to Consumers

Electric vehicles can also generate considerable savings for consumers while reducing our dependence on foreign oil. According to the Union of Concerned Scientists, by switching to an electric car, the average driver in Annapolis could save $920 a year on fuel costs.

Also, according to the Department of Legislative Services (DLS): "To address consumer concerns regarding battery and range limitations, **ACC II requires stronger point of sale protections**. Under **ACC II all ZEVs must have a minimum battery warranty of 8 years or**

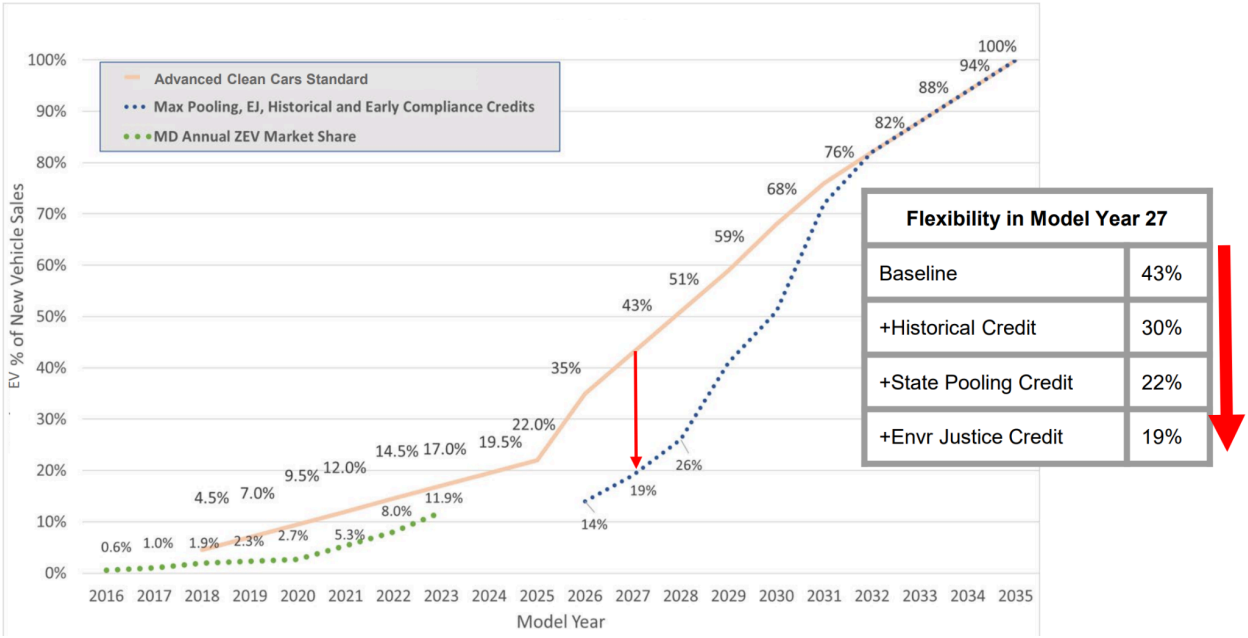
[2] Energy Innovation Policy & Technology LLC, "Nationwide Impacts Of California's Advanced Clean Cars II Rule" (April 9, 2023), https://energyinnovation.org/publication/nationwide-impacts-of-californias-advanced-clean-cars-ii-rule/.

100,000 miles, which generally provides coverage for a longer duration than the warranties offered on comparable gasoline vehicles. Additionally, all batteries on new and used ZEVs must be durable enough to maintain at least 70% of their range for 10 years or 150,000 miles for model years 2026 to 2029 and 80% for 10 years or 150,000 miles for model years 2030 and beyond."

Program Feasibility

The program has numerous flexibilities that manufacturers can use to meet the compliance requirements, including:

- **Historical credits (converted credits)**: Manufacturers can use converted credits from Advanced Clean Cars I to fulfill up to 15% of the annual requirement for Model Years 2027-2030 under ACC II. According to MDE, the industry is significantly exceeding standards in the final years of ACC I and has already accrued enough extra credits to maximize relevant flexibility through Model Year 2031. There are enough banked credits that **no OEM will have to change its production or sell fewer vehicles in Maryland.**
- **Credit pooling**: Manufacturers can transfer excess credits earned in **one state to another state** from the same or previous model year to fulfill up to 20% of the annual requirement in Model Year 2027, and 15% in Model Year 2028.
- **Early compliance credits**: Manufacturers can meet up to 15% of the annual requirement by banking credits from zero-emission vehicles sold in Maryland in Model Years 2025 and 2026. Because of the timing of Maryland's adoption, in Model Year 2026, Maryland will temporarily revert to the federal standard while generating more early compliance credits.
- **Environmental justice credits**: Manufacturers can earn credits to satisfy up to 5% of the annual requirement for new vehicles placed in community-based programs.
- **Plug-in hybrid vehicles**: Plug-in hybrids can be used to meet up to 20% of the annual requirement.
- **Banked credits**: Manufacturers can bank excess credits to use for future compliance for up to four model years.
- **Credit trading**: Manufacturers can trade or sell excess zero-emission vehicles and plug-in hybrid credits.
- **Three-year lookback provision**: If a manufacturer cannot meet the annual requirement in any model year (and chooses not to buy excess credits from another manufacturer) it can make up the deficit within three model years. For example, a manufacturer could resolve a 2027 model year deficit by the end of the 2030 model year. **This effectively means that any penalties assessed for the failure to comply with Model Year 2027 requirements would happen at the earliest in March 2031**.



Source: MDE, January 2025

With all the added flexibility mechanisms, MDE calculates that the effective sales requirement for zero-emission vehicles is as low as 19% in Model Year 2027 and 26% in 2028. For context, 12.2% of light-duty vehicles sales in Maryland were electric in the last quarter of 2024.[3] The number of light-duty EVs registered in Maryland increased more than six-fold from 2020 to 2023, with a 50% increase from 2022-2023 alone, such that the total number of light-duty EVs in the state topped 103,000 at the end of 2023.

According to DLS: "numerous manufacturers have responded positively to ACC II. Ford has stated that EVs are an important part of their long-term plans, GM and Cadillac have committed to meeting ACC II ZEV percentage requirements, and Volvo discontinued manufacturing diesel-powered vehicles in March 2024 and plans to sell only ZEVs worldwide by 2030." DLS further noted: "The manufacturers continue to invest hundreds of billions of dollars to develop and produce multiple models of ZEVs, including pickup trucks, SUVs, and passenger cars. Additionally, a set regulatory structure like ACC II generally provides industries with the stability necessary to plan for future production and growth."

Charging Feasibility

[3] Atlas Public Policy (data available to subscribers only)

The International Council on Clean Transportation estimated in 2023 that adoption of ACC II would result in approximately 333,000 light-duty ZEVs on Maryland's roads in 2027 and 474,000 in 2028. With proper planning, a strong market signal with ACC II, state investments such as the Maryland Electric Vehicle Supply Equipment Rebate Program ($2.5M in FY25), the Maryland Smart Energy Communities Grant Program ($1.5M in FY25, including for EV charging), and numerous utility charging infrastructure incentive programs, it is feasible to provide the needed charging infrastructure to support Maryland's growing EV adoption. Maryland's gap in charging stations needed in Model Year 2027 is approximately equal to the amount of charging stations that came online in New York between 2023 and 2024, which is implementing the program a year ahead of Maryland.

Advanced Clean Trucks (ACT) program

The ACT program is a public health imperative. Trucks and other large vehicles account for 9% of vehicles on the road, but contribute 21% of carbon pollution and 48% of PM2.5 emitted by Maryland's transportation sector. People who are heavily exposed to PM2.5 and other toxic truck emissions like nitrogen oxides are at a greater risk for developing asthma and other lung diseases, such as chronic obstructive pulmonary disease (COPD) and lung cancer. This pollution is concentrated in communities that are disproportionately burdened by transportation pollution. Low-income communities and communities of color bear an unfair burden of medium and heavy-duty truck pollution, having suffered generations of systematic marginalization that forces them to live closer to warehouses, transit centers, and highways.

According to a report by Environmental Resources Management (ERM), the Union of Concerned Scientists and the Natural Resources Defense Council (NRDC), the ACT rule is estimated to reduce Maryland's annual fleet greenhouse gas emissions by **40 percent below 2022 levels by 2050 and avoid over 38,000 cases of acute bronchitis, exacerbated asthma, and other respiratory symptoms** in Marylanders. In addition, Maryland fleets would save $498 million in 2050 under ACT. In fact, the total net societal benefits of ACT are estimated to add up to $978 million in 2050, and total $6.6 billion cumulatively from 2022-2050.

The ACT program is already a success. In California, the state has exceeded its ACT goal two years ahead of schedule, reaching five times the required sales numbers.

Other states that have adopted the ACT rule include California, Massachusetts, New Jersey, New York, Oregon, Washington, Vermont, Colorado, New Mexico, and Rhode Island.

Program Feasibility

As with the ACC II regulation, the ACT program gradually ramps up over time, encourages early voluntary action, and contains significant flexibilities. The ACT regulation uses a credit and deficit system. Deficits are generated by selling vehicles into the state; credits are earned by selling ZEVs. Manufacturers achieve compliance when total credits retired equal total deficits.

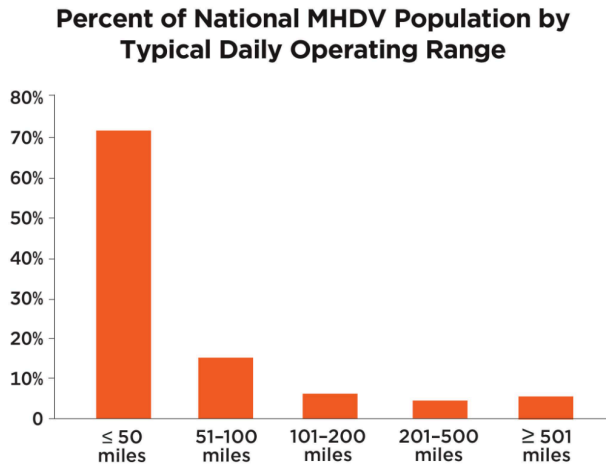
- **Plug-in hybrid vehicles**: Up to 50% of ACT sales requirements can be met with plug-in hybrids through 2035.

- **Credit trading**: Manufacturers can trade credits across truck classes and manufacturers, with vehicles from heavier classes earning more credits.
- **Credit banking**: Excess credits can be banked for five years for use in future model years when a manufacturer has a deficit.
- **Early compliance credits**: Manufacturers can earn early action credit for eligible ZEVs sold in Model Years 2025 and 2026, before ACT goes into effect.
- **Lookback provision**: If a manufacturer does not have sufficient credits, it has one year to make up the deficit, meaning that Model Year 2027 compliance will be determined in March 2028. **Maryland can adopt a California amendment to the ACT rule that would provide manufacturers with a three-year makeup window** if they fall short of zero-emission sales in a given year. This would effectively mean that the first determination of compliance would be March 2031, giving manufacturers plenty of time to make up deficits or purchase credits.

Additionally, a detailed study by Environmental Defense Fund (EDF) and Roush Industries indicates that "based on the upfront purchase price alone, by 2027 electric freight trucks and buses will be less expensive than their combustion engine counterparts in all categories except shuttle buses (which are close to price parity)."

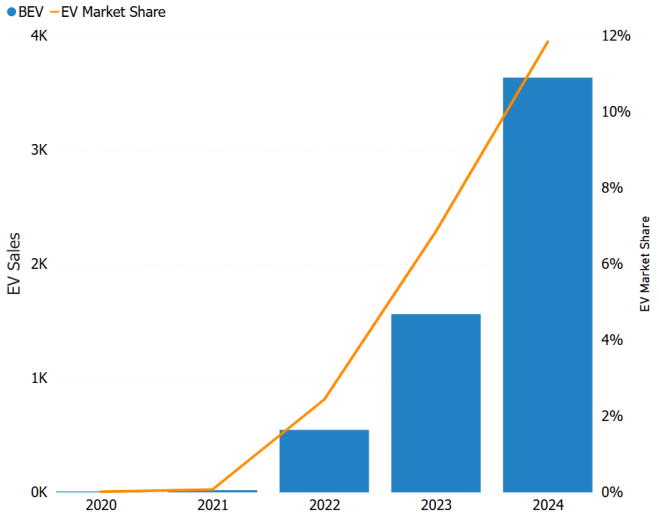
Maryland's Clean Trucks Market

According to MDE, in 2023 Maryland's zero-emission heavy-duty EV sales were higher both in absolute terms and in market share than in most other ACT states. And across the country, the medium and heavy duty vehicle (MHDV) market is entering a new phase, with sales in Maryland nearly doubling every year over the past three years.[4] Over 85% of MHDVs have daily operating ranges of less than 100 miles, a use case which is easily met by existing technologies and incremental increases in charging infrastructure. This is because most MHDVs regulated by ACT are Class 2b-3, the size of a Ford F-250 or small delivery trucks, which are usually left parked for more than nine hours at a time when not in use.[5]



[4] Atlas EV Hub EV Market Dashboard, data from Experian.
[5] Ready for Work 2.0 at 22. https://www.ucs.org/resources/ready-work-2

Electric MHDV Sales and Market Share in Maryland



Source: Atlas Public Policy

Charging Infrastructure

A report by Atlas Public Policy assessed the feasibility of charging infrastructure needed to support the ACT rule in Maryland. The analysis found "The majority of zero-emission MHD vehicles in Maryland under ACT compliance will be class2b/3 trucks" – which by 2032 will require approximately 21,000 Level 2 charging ports and 485 en-route fast charging ports. The report noted that, "For comparison, the majority of Maryland's 84,000 light-duty EVs are likely already charged at a Level 2 charger at home." To charge class 4-8 trucks under ACT, Maryland will need about 14,000 charging ports, two-thirds of which can be Level 2 ports at depots, as compared to the higher-powered charging ports making up the remaining third.[6] Atlas finds that the electricity required to charge these medium- and heavy-duty EVs in 2032 is equivalent to only 2.1% of the state's 2022 total electricity sales.

Addressing Claims by Manufacturers

Some manufacturers have incorrectly informed dealers that diesel trucks are unavailable or that zero-emission truck sales ratios are required to obtain diesel inventory. Investigations, such as one by the California Air Resources Board (CARB), have indicated that "inconsistencies in communication have led dealers and fleets to believe that the ACT regulation's requirements are leading to the product shortages in the medium- and heavy-duty space which, upon discussions with all affected parties, is not backed by the data available." Additionally, CARB notes that "while OEMs are largely informing dealers and fleets that the ACT regulation is placing limits on the number of ICE vehicles which can be delivered, they have alternatively confirmed with CARB staff that this is not the case for the 2024 MY, which is consistent with the current ACT credit surplus."

[6] This analysis is based on ACT being in place in Maryland by Model Year 2025.

CARB analysis shows some manufacturers selling zero-emission trucks in the U.S. at significantly higher prices than in Europe (up to 30% higher), raising questions about potential price manipulation. In 2024, U.S. zero-emission tractors averaged $88,828 more to purchase than in Europe, despite falling battery prices in both markets.

Historically, automakers have consistently claimed that key environmental and safety regulations, from catalytic converters to airbags, were not feasible. Here are some examples from a blog released from the Union of Concerned Scientists:

- "*"[I]f GM is forced to introduce catalytic converter systems across the board on 1975 models . . . it is conceivable that complete stoppage of the entire production could occur, with the obvious tremendous loss to the company, shareholders, employees, suppliers, and communities."* – Ernie Starkman (GM) in his push to weaken the 1975 tailpipe emissions standards put in place by the Clean Air Act.
- "*"Many of the temporary standards are unreasonable, arbitrary, and technically infeasible. . . . [If] we can't meet them when they are published we'll have to close down."* – Henry Ford II (Ford), responding to the first motor vehicle safety standards.
- "*"We don't even know how to reach [35 miles per gallon by 2020], not in a viable way. [It] would break the industry."* — Susan Cischke (Ford), discussing the requirements of the Energy Independence and Security Act (EISA), which have led to the strong standards we have today.

Delaying ACC II and ACT implementation in Maryland would unnecessarily harm public health, hinder progress on achieving our climate goals, and erode consumer choice for more sustainable EVs.

For these reasons we urge an **unfavorable report** on HB 1556.

Lindsey Mendelson
Senior Clean Transportation Representative
lindsey.mendelson@mdsierra.org

Josh Tulkin
Chapter Director
josh.tulkin@mdsierra.org