HB 0894_aadams_fav.pdf
Uploaded by: Alexander Adams
Position: FAV

HB 0894
Alex Adams (info@pzevf.org)
Partners for a Zero Emission Vehicle Future
Favorable

Hearing on the Proposed Maryland Transportation Electrification and Modernization (TEAM) Act

February 25, 2022

Written Testimony

The Partners for a Zero Emission Vehicle Future (PZEVF) appreciates the opportunity to submit comments regarding Maryland's proposed legislation to accelerate the deployment of medium-duty (MD) and heavy-duty (HD) zero-emission vehicles (ZEVs) in the State.

PZEVF is a growing coalition of stakeholders from across the transportation sector united by a commitment to minimize transportation emissions and support the adoption of medium- and heavy-duty zero-emission vehicles. We support Maryland's interest in accelerating the adoption of zero-emission trucks to address the State's air quality and climate change goals and applaud the proposal to establish a Medium- and Heavy-Duty Zero Emission Vehicle Grant Program through the TEAM Act.

Unlike the case of consumers purchasing light duty vehicles, heavy-duty fleets evaluate and purchase commercial vehicles based mainly on the certainty of a return on investment and total cost of ownership. Today's vehicle and battery prices, together with the uncertainty of electricity charging costs, charging structure buildout, and vehicle residual values makes users extremely hesitant to move to new technologies

Unfortunately, ZEV trucks have substantially higher costs over the course of their lifespan than conventionally fueled trucks. This includes purchase prices that are 2-to-3 times higher than their diesel equivalents, as well as relative operational inefficiencies (i.e., it takes more ZEV trucks to perform the work of conventionally fueled trucks), the aforementioned lower residual values, and the additional required investments in new maintenance facilities, training, and parts inventories to facilitate the transition.

In the face of higher upfront and lifecycle costs posed by the transition to ZEVs, many operators and fleets may choose to keep older, higher-emitting trucks on the road for longer. As such, it is critical that Maryland provide incentives to offset the higher costs faced by MD and HD fleets and operators.

This is why PZEVF writes to express our support for and applaud the proposed establishment of Vehicle Grant Program as part of the TEAM Act. Government programs such as this will be vital to creating the environment in which a successful and rapid transition to a zero-emission vehicle future is possible.

Respectfully Submitted,

Partners for a Zero Emission Vehicle Future

HB 0894
Alex Adams (info@pzevf.org)
Partners for a Zero Emission Vehicle Future
Favorable

American Truck Dealers	*New Jersey Coalition of Automotive Retailers*
American Trucking Associations	*PACCAR*
Cleanfleets.net	*Trucking and Engine Manufacturers Association*
Daimler Trucks North America	*Truck Renting and Leasing Association*
Navistar	*Volvo Group North America*

Sysco Written Testimony_HB 894_MD.pdf
Uploaded by: Bernie Marczyk
Position: FAV

February 25, 2022

Chair Barve, Vice Chair Stein, and Honorable Members of the House Committee on Environment and Transportation:

On behalf of Sysco Corporation (Sysco), thank you for the opportunity to provide written testimony **supporting HB 894, the Transportation Electrification and Modernization (TEAM) Act**. As one of the largest Maryland heavy-duty commercial fleet operators, we applaud Governor Hogan and the Maryland Energy Administration for their commitment to reduce greenhouse gas emissions in the transportation sector.

Sysco is the global leader in selling, marketing, and distributing food and food-related products to restaurants, healthcare, and educational facilities, lodging establishments and other customers who prepare meals away from home. In Maryland, our broadline distribution facilities in Jessup and Pocomoke City and specialty meat company in Landover service thousands of Maryland customers each year, delivered by our fleet of over 500 heavy-duty trucks and trailers to ensure our customers' orders are fulfilled to their exact specifications.

Sysco has developed several ambitious corporate social responsibility priorities that will assist Maryland in achieving their carbon reduction goals. Electric vehicles are expected to have a major impact on the transportation industry to reduce carbon emissions, and at Sysco we continue to test technologies and forge new partnerships to achieve **our target of electrifying 35% of our nationwide fleet by 2030.** We are starting our fleet electrification efforts in California, but desire to expand to the East Coast, specifically Maryland, in the coming years.

While Sysco is committed to reducing transportation emissions, the upfront capital costs for purchasing electric trucks, trailers, and charging infrastructure in the current marketplace are cost-prohibitive, absent sufficient and sustainable public cost-sharing. **One Class 8 electric truck costs at least 300% more than a similar Class 8 diesel truck, and the affiliated on-site charging infrastructure adds approximately 20% to the final price tag.**

Due to the high-cost differential between these technologies, public grant incentive programs play a critical role in the development and deployment of Medium and Heavy-Duty Zero Emissions Vehicles across the transportation sector. **For this reason, we believe the Medium and Heavy-Duty Zero Emission Vehicle Grant Program established by HB 894 is essential and will go a long way in encouraging fleets to electrify their operations.**

Removing just one older Class 8 diesel truck from the road and replacing it with a Class 8 electric truck is the equivalent of reducing greenhouse gas emissions from 10 passenger cars. When fully funded and established, the Maryland Medium and Heavy-Duty Zero Emission Vehicle Grant Program has the potential to reduce the equivalent of greenhouse gas emissions from over 5 million miles driven by an average passenger vehicle and carbon dioxide emissions from nearly 2.5 million pounds of coal burned.

Additional benefits of electric truck deployment include:

- Reducing noise and air pollution at the home sites for commercial fleets and throughout their entire service areas, including in many environmental justice communities;

- Increasing worker health, satisfaction, and safety for drivers and others who are employed in loading and maintaining commercial fleets; and
- Removing older diesel vehicles from the roads, greatly reducing carbon dioxide emissions.

HB 894 will indisputably position the State of Maryland as a leader in mitigating emissions from the transportation sector. With its passage, Sysco looks forward to a long-term partnership with Maryland in the way of transportation sustainability.

If you have any questions or concerns, please feel free to reach out using the contact information below. Thank you for the opportunity to provide comments, and we look forward to working with the Maryland General Assembly and the Maryland Energy Administration throughout this project.

Sincerely,

Brad Christie

Brad Christie
Director of Government Relations, Sysco Corporation
Bradley.christie@sysco.com
832.906.1812

Our goal is to electrify 35% of our diesel truck fleet by 2030. A public-private partnership with the State of Maryland can help us meet this goal.

Providing incentives for private companies to electrify their heavy-duty commercial fleets supports several Maryland economic and environmental goals:

- **Reduces noise and air pollution** not only at the home sites for commercial fleets but also throughout their entire service areas, including in many environmental justice communities.
- **Increases worker health, satisfaction, and safety** for drivers and others who are employed in loading and maintaining commercial fleets.
- Removes older diesel vehicles from the roads, **greatly reducing carbon dioxide emissions**

Electric Truck Deployment Data

Over the next decade, Sysco has the capacity to deploy up to 95 electric tractors at our two Maryland sites (Jessup and Pocomoke City), replacing our heavy-duty diesel fleet. Deploying 95 electric tractors is the equivalent of:

- **Reducing GHG emissions from:**
  - 1,031 passenger cars; and
  - 11,913,815 miles driven by an average passenger car.

- **Reducing carbon dioxide emissions from:**
  - 533,420 gallons of gasoline consumed;
  - 465,668 gallons of diesel consumed;
  - 5.2 million pounds of coal burned; and
  - 10,975 barrels of oil consumed.

Why are incentives needed?
While Sysco is committed to reducing transportation emissions, the upfront capital costs for purchasing electric trucks, trailers, and charging infrastructure in the current marketplace are cost-prohibitive absent sufficient and sustainable public cost-sharing. **One Class 8 electric truck costs at least 300% more than a similar Class 8 diesel truck,** and the affiliated on-site charging infrastructure adds approximately 20% to the final price tag.

For example, Sysco projects the costs of replacing its current diesel vehicle fleet on their scheduled retirement timeline with new diesel vehicles through 2031 would be $10.26 million. Without any incentives, the cost to transition these same vehicles to electric and install necessary charging infrastructure over the same time frame would total $39 million. With the proposed the Maryland **Medium and Heavy-Duty Zero Emission Vehicle Grant Program**, the total cost to transition to electric vehicles would be reduced closer to parity with diesel vehicles, a much more reasonable cost difference that makes deployment an economic reality.

About Sysco in Maryland: Sysco is global leader in selling, marketing and distributing food and food-related products to restaurants, healthcare and educational facilities and lodging establishments who prepare meals away from home. In Maryland, we operate 3 facilities and employ 921 people. Our Maryland based fleet is comprised of 292 tractors and 204 trailers.

Please contact Bernie Marczyk with Cornerstone Government Affairs (202-744-8933 or bmarczyk@cgagroup.com) with any questions.

HB 894 _ FAV_MML.pdf
Uploaded by: Bill Jorch
Position: FAV

Maryland Municipal League

The Association of Maryland's Cities and Towns

TESTIMONY

February 25, 2022

Committee: House Environment and Transportation

Bill: HB 894 - Transportation Electrification and Modernization (TEAM) Act

Position: Support

Reason for Position:

The Maryland Municipal League supports House Bill 894, which extends the Electric Vehicle Recharging Equipment Rebate Program and creates the Medium and Heavy Duty Zero Emission Vehicle Grant Program.

Electric vehicle recharging stations are popping up within municipalities around the State as electric vehicles gain popularity. Extending the life of the Electric Vehicle Recharging Equipment Rebate Program will allow local governments to continue to invest in this infrastructure making it easier to own and operate an electric vehicle.

Municipal governments are also actively seeking opportunities to switch some of their vehicle fleet to electric. The new Medium and Heavy Duty Zero Emission Vehicle Grant Program created in this bill will accelerate this transition. Any State assistance for acquisition and installation costs of zero emission vehicles and equipment that can be used in a public works capacity in a municipality is welcome.

These two programs could dramatically facilitate the proliferation of electric vehicles in the State. As such, the League respectfully requests that this committee provide HB 894 with a favorable report.

FOR MORE INFORMATION CONTACT:

Scott A. Hancock	Executive Director
Angelica Bailey	Director, Government Relations
Bill Jorch	Director, Research and Policy Analysis
Justin Fiore	Manager, Government Relations

1212 West Street, Annapolis, Maryland 21401

410-268-5514 | 800-492-7121 | FAX: 410-268-7004 | www.mdmunicipal.org

HB0894-ET_MACo_SUP.pdf
Uploaded by: Dominic Butchko
Position: FAV

MARYLAND Association of COUNTIES

House Bill 894

Transportation Electrification and Modernization (TEAM) Act

MACo Position: **SUPPORT**

To: Environment and Transportation and Economic Matters Committees

Date: February 25, 2022

From: Dominic J. Butchko

The Maryland Association of Counties (MACo) **SUPPORTS** HB 894. This bill would reduce emissions from motor vehicles by directing resources to counties to help expand electric vehicle (EV) charging infrastructure and fleet electrification.

Vehicle emissions represent one of the largest sources of air pollutants in most communities; as such, counties recognize the importance of reducing vehicle emissions as part of an effective strategy to fight climate change. For example, a 2020 study found that vehicles accounted for nearly 35% of Baltimore City's total emissions. By encouraging the electrification of both public and private vehicles, and harnessing Maryland's progress toward cleaner sources for our power companies, the State can target one of the most substantial contributors to climate change. While there are some concerns with how electrification may increase pollution from power generation in the short term, as utilities continue to adopt more environmentally friendly technology, the level of harmful emissions is expected to decrease.

HB 894 would support EV charging infrastructure and fleet electrification through several grants and rebate programs. The Medium and Heavy-Duty Vehicle Zero Emission Grant Program established under this legislation allows county governments to apply for grants to upgrade their fleets and install any required charging infrastructure. By providing more resources to aid local governments, the State will help to facilitate a faster transition.

This bill would allocate funds to help local governments and private actors convert to fully electric vehicles. By providing additional resources, HB 894 will both ease and quicken the transition from fossil fuels. Accordingly, MACo urges a **FAVORABLE** report on HB 894.

HB0894 - FAV - Transportation Electrification and

Uploaded by: Landon Fahrig

Position: FAV

Maryland Energy Administration

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor
Mary Beth Tung, Director

TO: Members, House Environment and Transportation Committee
FROM: Mary Beth Tung – Director, MEA
SUBJECT: HB 894 - Transportation Electrification and Modernization (TEAM) Act
DATE: February 25, 2022

MEA POSITION: FAV

Taking a more holistic approach to zero-emission vehicle and infrastructure programs is the next logical step for Maryland. The TEAM Act will help solidify Maryland as a national leader in transportation sector decarbonization by incorporating light-duty vehicles, medium- and heavy-duty (MHD) vehicles, and related infrastructure. In brief, the bill will:

- Create a new program to incentivise the purchase of zero-emission passenger vehicles;
- Establish a flexible, new program to offer grants for zero-emission MHD vehicles and corresponding equipment;
- Extend and enhance the existing Electric Vehicle Supply Equipment Program to stimulate the purchases of electric vehicle chargers; and
- Alter the allowable uses of revenue from alternative compliance payments (ACP) to support these efforts.

The existing EVSE Rebate Program has been highly successful, and there is little need for change. The small changes provided in the bill simply help ensure the program's continued success through FY25.

Creating a new MHD ZEV program will help combat the role that aging conventional commercial and fleet vehicles play in transportation sector emissions. Federal emissions standards were strengthened beginning in Model Year 2014, with a second set of stronger federal standards beginning in Model Years 2018 or 2021, but decades-old diesel trucks that are still in use play an outsized role in current fleet emissions. With the TEAM Act, Maryland will have the resources to harness the knowledge gained about the light-duty industry within Public Conference 44 before the Public Service Commission, and through the Maryland Zero Emission Electric Vehicle Infrastructure Council ("ZEEVIC") and use it to identify and address the needs of the MHD industry.

Light-duty passenger ZEVs have not received State incentives for the past two fiscal years. The TEAM Act reestablishes a ZEV incentive similar to what the State has previously provided, altering the previous program slightly to include both new vehicle purchase price limits and additional incentives for low-to-moderate income purchasers. This is a belt-and-braces approach to equity and it will also reduce the overall cost of the program.

The costs of the MHD ZEV program may be covered in part through the modification of allowable uses of ACP. Currently, the bulk of anticipated ACP may only be used for low-income solar projects.

However, there are many barriers to this application, and greater benefits for some of Maryland's most vulnerable ratepayers could be had at a significantly lower cost via other programs, including transportation programs that directly benefit environmental justice (EJ) communities. By allowing ACP to be used for EJ targeted programs (still including solar and other renewables), but also allowing for transportation sector decarbonization, weatherization, and energy efficiency, the State should realize more positive impact, more quickly, and for less money overall.

MEA kindly asks the committee to issue a **favorable report** for HB 894.

HB894 - Maryland Motor Truck Association - Support

Uploaded by: Louis Campion

Position: FAV

Maryland Motor Truck Association

9256 Bendix Road, Suite 203, Columbia, MD 21045
Phone: 410-644-4600 Fax: 410-644-2537

HEARING DATE: **February 24, 2022**

BILL NO/TITLE: **House Bill 894 – Transportation Electrification and Modernization (TEAM) Act**

COMMITTEE: **House Environment and Transportation Committee**

POSITION: **Support**

Maryland Motor Truck Association recognizes the continued need to lower greenhouse gas emissions from the transportation sector. One of the most significant barriers to adoption of zero emission trucks is the non-existing infrastructure in the state. Included in House Bill 894 is $5 million to establish a grant program for medium-and heavy-duty vehicles powered by battery electricity or a hydrogen fuel cell. Although it is unclear whether this would be for vehicle replacement, charging stations, or other infrastructure, MMTA appreciates the recognition that we must have infrastructure before we can have large scale adoption of these vehicles.

For the reasons noted above, Maryland Motor Truck Association asks for a favorable report.

About Maryland Motor Truck Association: Maryland Motor Truck Association is a non-profit trade association representing the trucking industry since 1935. In service to its 1,000 members, MMTA is committed to supporting and advocating for a safe, efficient, and profitable trucking industry across all sectors and industry types, regardless of size, domicile, or type of operation.

For further information, contact: Louis Campion, (c) 443-623-4223

HB 894 Matthew ChenSemaConnect
Uploaded by: Matthew Chen
Position: FAV

February 24, 2022

The Hon. Kumar P. Barve
Chair, Environment and Transportation Committee
Maryland House of Delegates
Room 251
House Office Building
Annapolis, Maryland 21401

RE: HB 894 -- Transportation Electrification and Modernization (TEAM) Act

Dear Chairman Barve:

I am writing on behalf of SemaConnect in support of House Bill 894 – The Transportation Electrification and Modernization (TEAM) Act.

Headquartered in Bowie, Maryland, SemaConnect is a leading developer, manufacturer and provider of plug-in, zero-emission (ZEV) infrastructure including commercial-grade electric vehicle charging systems and comprehensive network services. At present, SemaConnect is in the top two of smart networked, Level 2 electric vehicle charging system manufacturers in the North American market, with over 15,000 stations installed nationwide. SemaConnect's plug-in ZEV infrastructure is deployed in a wide range of applications that include multifamily, workplace, fleet, and public charging.

House Bill 894 – The Transportation Electrification and Modernization (TEAM) Act – is an important part of reinforcing Maryland's competitiveness for EV industry investment, accelerating deployment of EV infrastructure, and supporting the state's goal of having 300,000 EVs on Maryland roads by 2025. Already, the Maryland Energy Administration (MEA) has successfully overseen EV infrastructure programs (such as the Charge Ahead grant program for Level 2 EV charging stations). We strongly support HB 894 and commend both the proposed extension of the Electric Vehicle Recharging Equipment Rebate Program through 2025 and the proposed increase in the maximum amount of rebates that the MEA may award each fiscal year. If passed by the General Assembly, the bill will help ensure that Maryland remains a leading destination for EV industry investment by supporting job growth, business expansion, and new charging infrastructure.

As the market share of electric vehicles continues to grow, affordable and easily accessible EV charging is essential. While EV charging stations currently are concentrated in areas with high EV adoption, charging infrastructure must be widely available to ensure that drivers are not inconvenienced when needing to recharge their vehicles. Federal and state incentives and rebates have proven effective for increasing EV adoption and deploying EV charging stations.

Maryland continues to be a leader with its policies that promote EV sales and EV infrastructure deployment. In a 2021 report, the American Council for an Energy-Efficient Economy (ACEEE), a nonprofit research organization, ranked Maryland 4th out of 30 states studied for transportation electrification.[1] The ACEEE report found that Maryland is among the top 15 states for:

- Electricity grid optimization
- Equity (including state EV school bus deployment requirements)
- Incentives for EV deployment
- Transportation electrification outcomes

The ACEEE report also said, "The most common state actions to electrify transportation include planning for more EVs and EV charging options (23 states); incentives such as rebates, tax credits, and grants to buy large electric pickups and delivery trucks (27 states); using federal funds to buy electric transit buses (48 states); utility programs that offer lower electric rates at preferred times for EV (Level 2) charging (36 states); and utility funding to spur EV and EV-charging adoption in low-income areas and environmental justice communities (15 states)." Sustained engagement from Maryland policymakers in support of transportation electrification has been very beneficial for the state's high ranking for policies that promote EV adoption. According to the U.S. Department of Energy's Alternative Fuels Data Center, Maryland has approximately 1,000 public Level 2 charging station locations with 2,469 charging ports and 196 public DC fast charging station locations with 589 EVSE ports today.[2]

Even though Maryland already has taken important steps to deploy EV charging infrastructure, many more charging stations are needed to meet projected demand statewide. A 2019 study from the National Renewable Energy Laboratory (NREL) found that "[…] significant expansion of Maryland's electric vehicle charging infrastructure will be required to support the state's PEV [plug-in electric vehicle] goal for 2025. Analysis shows that a fleet of 300,000 PEVs will require 17,400 workplace Level 2 plugs, 9,300 public Level 2 plugs, and 1,000 fast charge plugs. These estimates assume that future PEVs will be driven in a manner consistent with present day gasoline vehicles and that the majority of charging will happen at residential locations."[3]

To be sure, implementation of the federal Infrastructure Investment and Jobs Act (IIJA) will disburse an unprecedented amount of public funding for EV charging infrastructure across the nation. According to the U.S. Department of Transportation, "Under the Bipartisan Infrastructure Law, Maryland would expect to receive about $63 million over five years to support the

[1] State Transportation Electrification Scorecard, The American Council for an Energy-Efficient Economy (ACEEE), February 2021: https://www.aceee.org/research-report/t2101

[2] https://afdc.energy.gov/fuels/electricity_locations.html#/analyze?region=US-MD&fuel=ELEC&ev_levels=dc_fast

[3] https://www.nrel.gov/docs/fy19osti/71198.pdf

expansion of an EV charging network in the state (6). Maryland will also have the opportunity to apply for grants out of the $2.5 billion available for EV charging."[4]

To complement these federally funded programs, Maryland should continue to encourage EV industry investment by maintaining its historic pro-business EV policies and expanding them where appropriate. In addition, with the expiration of the federal Section 30C Alternative Fuel Refueling Property tax credit (in December 2021) and uncertainty over its renewal, Maryland has a timely opportunity to attract more EV industry investment by strengthening its state incentive and rebate programs.

Affordable and equitable access to EV charging infrastructure is essential for the benefits of EV adoption to be fully realized. For example, growing numbers of passenger and fleet EVs will improve air quality, particularly in communities located in and around major transportation corridors. We also believe that successfully deploying EV charging infrastructure requires appropriately balancing the role for DC fast charging stations near high-volume transportation corridors with the strong use case for Level 2 charging stations at longer-duration locations from residential homes and workplaces to hotels and transit parking facilities.

In closing, we appreciate your consideration of our comments and your commitment to ensuring that EV charging is affordable, reliable, and widely available across the state of Maryland.

Sincerely,

Matthew E. Chen
Director, Government Policy & Programs
SemaConnect, Inc.

[4] https://www.transportation.gov/sites/dot.gov/files/2022-01/BIL_Maryland.pdf

HB 894 Richard Tabuteau Volvo

Uploaded by: Richard Tabuteau

Position: FAV

3500 Deer Creek Road, Palo Alto CA 94304
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TESTIMONY REGARDING HB 829
being heard by the Maryland House Environment and Transportation Committee
on Friday, February 25, 2022 at 1:00 PM

Dear Chair Barve, Vice Chair Stein, and Members of the Committee:

Thank you for the opportunity to comment on HB829, Department of the Environment – Zero-Emission Medium and Heavy-Duty Vehicles - Regulations, which requires the Department of the Environment to adopt the Advanced Clean Truck (ACT) Regulation by the end of 2022. In 2021, California's ACT Regulation was adopted by five additional states – Massachusetts, New Jersey, New York, Oregon & Washington – and several states are planning to adopt the regulation in 2022. As one of the initial signatories to the 2020 Multi-State Zero Emission Medium- and Heavy-Duty Vehicle Memorandum of Understanding, Maryland joined 15 other states and the District of Columbia in committing to make sales of all new medium- and heavy-duty vehicles in signatory jurisdictions zero emission vehicles by no later than 2050, including at least 30% of new truck sales by 2030. To have any chance of meeting its goals, truck operators in Maryland must have access to the newest models of zero emissions trucks in all classes on the market and the ACT is the key regulatory tool to ensure that these advanced vehicles are available to Maryland's truck fleets. The ACT rule will encourage manufacturers to focus more time, energy, and resources on selling electric trucks to operators in the state. This will not only help accelerate the adoption of these trucks but will guarantee there is ample supply of electric trucks of all classes available in Maryland.

Tesla's mission is to accelerate the world's transition to sustainable energy. Moreover, 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 (GHG)—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, and installs, and maintains such systems. Tesla currently produces and sells four fully electric, zero emissions vehicles (ZEVs): the Model S sedan, the Model X sport utility vehicle (SUV), the Model 3 sedan, and the Model Y mid-sized SUV. Tesla will also be introducing a medium duty pickup truck, the Cybertruck, and a Class 8 heavy-duty truck, the Tesla Semi. The Tesla Semi will come in two models with ranges of 300 and 500 miles respectively and will demonstrate that an all-electric truck can meet virtually any duty cycle when paired with the megawatt charging system that Tesla and the industry is developing.

The ACT rule is not only an essential tool for addressing GHG and tailpipe emissions from the truck sector, it is also reasonable and warranted given the level of demand that can be observed in the marketplace. On the heavy-duty side, since unveiling the Tesla Semi in late 2017, a significant number of fleets with substantial freight needs have placed reservations for the truck, indicating broad industry demand for heavy-duty electric vehicles. These fleets will be deploying the Tesla Semi in a wide range of applications, including but not limited to, manufacturing, retail, grocery and food distribution, package delivery, dedicated trucking, rental services, intermodal, drayage, and other applications. Companies with operations throughout North America representing every major trucking sector and category of the economy have reserved the Tesla Semi, ranging from food service to logistics to retail.

The reason for this strong interest is clear – the economics of electrified heavy-duty vehicles are incredibly compelling for end-users. With the per mile operational costs being so much less expensive than that of diesel trucks, economic minded operators will maximize the use of their electric trucks and quickly expand the number of electric trucks in their fleets.

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Tesla is not alone in its efforts to manufacture electrified medium and heavy-duty vehicles, with numerous other major manufacturers announcing plans to make zero emission Class 8 trucks.[1][2] A similar picture emerges in the context of electric pick-up trucks, with several major legacy and new automakers unveiling plans to manufacture electric pick-up trucks.[3][4] According to a report from CalStart,[5] there will be nearly 200 models of zero emission medium and heavy-duty vehicle models in commercial production by the end of 2023 (several years before the ACT requirements would even come into effect for Maryland).

Strong consumer demand helps drive investments from vehicle manufacturers. Yet, strong regulations that set a clear direction for industry, such as the ACT rule, accelerate the pace of innovation and ensure the industry makes these vehicles available to consumers. As has been the case with the ZEV regulations on light-duty vehicles, EV model availability and supply is significantly more robust in states that adopted the ZEV rule, than in those that did not. In a similar vein, states that adopt the ACT should see more electric trucks models available to operators in those states compared to states that do not put a regulatory scheme in place. With growing demand and wide availability, supported by a strong regulatory framework, the broader industry could easily exceed the targets in the rule, giving momentum towards meeting state emission reduction goals.

Thank you for the opportunity to provide this testimony in support of SB687.

Zach Kahn
Senior Policy Advisor, Northeast

[1] "8 electric truck and van companies to watch in 2020"; Shane Downing, GreenBiz, January 13, 2020. https://www.greenbiz.com/article/8-electric-truck-and-van-companies-watch-2020
[2] "Big Rigs Begin to Trade Diesel for Electric Motors", Susan Carpenter, New York Times, March 19, 2020; https://www.nytimes.com/2020/03/19/business/electric-semi-trucks-big-rigs.html
[3] *Id.*
[4] https://www.ford.com/trucks/f150/f150-lightning/2022/
[5] https://calstart.org/zero-emission-model-numbers-expected-double-2023/

HB894_FAV_Tabuteau
Uploaded by: Richard Tabuteau
Position: FAV

VOLVO

TO: The Honorable Kumar P. Barve, Chair
Members, House Environment and Transportation Committee
Maryland Energy Administration

FROM: Richard A. Tabuteau

DATE: February 25, 2022

RE: **SUPPORT** – House Bill 894 – *Transportation Electrification and Modernization (TEAM) Act*

INTRODUCTION

The Volvo Group drives prosperity through transport and infrastructure solutions, offering trucks, buses, construction equipment, power solutions for marine and industrial applications, financing and services that increase our customers' uptime and productivity. Founded in 1927, the Volvo Group is committed to shaping the future landscape of sustainable transport and infrastructure solutions. The Volvo Group is headquartered in Gothenburg, Sweden, employs nearly 100,000 people and serves customers in more than 190 markets.

Volvo Group North America, with headquarters in Greeensboro, NC, employs over 13,000 people in the United States and operates 11 manufacturing and remanufacturing facilities in seven states. In Maryland, the Volvo Group's , Hagerstown facility manufactures powertrains for its Class 8 heavy duty trucks and buses sold in North America in Washington County where it proudly employs over 1,700 people, many of which are members of the Local UAW Union.

In the past few years, the Volvo Group has made major investment in the Hagerstown facility, including $43 million in powertrain production upgrades and expansion; $76 million for R&D, including electromobiity assemby and fossil-free solutions to power electric trucks. Since 2011, $212 millon has been invested in the 1.5 million square foot facility.

Co-located is the company's powertrain engineering and testing division. In 2021, the company announced a $33 million expansion of the research and development site for the construction of a new, state-of-the-art Vehicle Propulsion Lab (VPL). The all-new VPL, slated to open in the second quarter of 2023, will enable the company the ability to more quickly develop and test battery-electric and hydrogen-based fuel cell solutions, as well as internal combustion engines, which will be powered by fossil-free fuels in the future, for our Class 8 trucks and coach buses.

The Volvo Group has invested heavily in sustainability efforts both in our facilities and our product offerings. In fact, the battery electric drivetrain is assembled in Hagerstown for the Volvo VNR electric and the Mack LR electric trucks. At our facility, we installed approximately 5,000 solar panels that produce 1.3 megawatts of electricity to help offset energy demands. The facilitiy is part of Maryland's Green Registry and a Superior Energy Performance Platinum-Certified Partner by the U.S. Department of Energy.

The Volvo Group is the only major heavy-duty truck manufacturer that produces all its vehicles for the North American market in the U.S. In 2020, the Volvo Group's global net sales amounted to about $36.8 billion. Volvo shares are listed on Nasdaq Stockholm. For more information, please visit www.volvogroup.com.

TRANSITION TO ZERO-EMISSION VEHICLES

In 2020, the Volvo Group made a global commitment to having 100% of its product sales being fossil free by 2040, including a nearer term goal of 35% of product sales being zero-emission by 2030. We have more than 5,000 electric transit buses in service throughout the world and have been selling heavy-duty battery electric trucks in Europe since 2019. In the United States, we have Class 8 battery-electric tractors and refuse trucks as well as compact construction equipment all being used in customers' commercial operations. In addition to batteries, we recognize that hydrogen fuel cells will be needed to power electric drivelines for heavy transport and demanding long-haul applications and we have formed a joint venture with Daimler Trucks to accelerate the development of this technology.

Volvo Trucks just announced the commercial production of its second-generation Class 8 VNR Electric truck which has 565kWh of battery capacity and a range of 275 miles along with a 90-minute charge time. In addition, Mack Trucks produces a Class 8 LR Electric refuse truck, Nova Bus produces a fully electric LFSe, and Volvo Construction Equipment produces an electric mini excavator and wheel loader. Most importantly VGNA has gained substantial additional understanding of both the expected advancements in battery technology and the needed marketplace conditions to support battery electric vehicles through the CARB-funded Volvo LIGHTS project operating in southern California (www.lightsproject.com).

We are very excited about this transition to a zero-emissions transportation future; however, unlike consumers purchasing electric cars, these vehicles must be cost competitive with their diesel counterparts with similar reliability and ease of use if fleets are going to consider purchasing them.

Currently, battery-electric heavy-duty trucks cost at least double the cost of a comparable diesel truck, without consideration for charging equipment.

MARYLAND HB894

For this reason, the Volvo Group supports House Bill 894 which, among other provisions, establishes the Medium- and Heavy-Duty Zero Emission Vehicle Grant Program. It authorizes the Maryland Energy Administration, between 2023 and 2025, to issue grants to a person or unit of government for the cost of a medium- or heavy-duty zero emission vehicle. The grant may also be used for medium- or heavy-duty zero emission vehicle supply equipment, defined as property used for recharging or refueling the vehicles. It requires the Governor to include in the annual budget bill an appropriation of at least $5,000,000 for the program.

Recognizing these costs and the risk that comes from embracing new technology, the state of California established HVIP, its medium- and heavy-duty incentive program, more than 10 years ago, funding more than 7,000 advanced technology vehicles. In addition, several utilities in California have established well-funded charging infrastructure incentive ("make-ready") programs available several years in advance of regulatory requirements.

The significantly higher cost of Class 8 battery-electric trucks and charging infrastructure (charger and cost of civil and electrical upgrades) and the many unknowns (variability in the electricity rates, maintenance, and total cost of ownership, etc.) make it nearly impossible at this stage of the market's development for fleets to purchase and integrate battery-electric trucks into fleet operations without significant and sustained funding. For this reason, we believe House Bill 894 is an important first step, though Maryland should consider appropriating far greater funding for Class 8 battery-electric trucks, charging equipment and infrastructure investments. Additionally, establishing competitive electric utility rate structures, expedited permitting and market development programs such as the Low Carbon Fuel Standard will further catalyze the adoption of these advanced technologies.

For more information call:
Richard A. Tabuteau
347.886.2904

Ashman Testimony - HB894.pdf
Uploaded by: Tom Lonergan-Seeger
Position: FAV

Gaithersburg
A CHARACTER COUNTS! CITY

February 22, 2022

Delegate Kumar Barve
Chair, Environment and Transportation Committee
Room 251
House Office Building
Annapolis, MD 21401

Delegate C.T. Wilson
Chair, Economic Matter Committee
Room 231
House Office Building
Annapolis, MD 21401

RE: Support for HB894

Dear Chair Barve, Chair Wilson, and Committee Members:

The Mayor and City Council of Gaithersburg support House Bill 894 – Transportation Electrification and Modernization (TEAM) Act, and respectfully request that you grant this bill a favorable report.

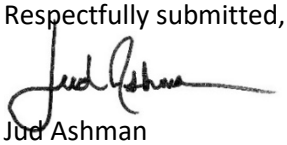
This bill would extend the duration of the Electric Vehicle Recharging Equipment Rebate Program, increase the total amount of rebates issued under the Program, and authorize the Maryland Energy Administration to offer additional benefits under certain circumstances, among other advantages. The City of Gaithersburg recognizes the importance of providing public charging stations to support the growing use of hybrid and plug-in electric vehicles. The City recently announced a partnership with Pepco to install 4 new electric-vehicle ("EV") charging stations at municipal parks and facilities around Gaithersburg, but we are aware that much more will need to be done. This bill's enhancement of an electric vehicle recharging equipment rebate to local governments will help us to further expand this infrastructure to support the nascent demand for electric and hybrid vehicles.

Among the bill's most advantageous components are the proposed additional benefits for the installation of qualified electric vehicle recharging equipment in multifamily housing, planned urban developments, and condominiums in environmental justice communities. Several census tracts within the City of Gaithersburg are located within Equity Focus Areas, as identified by the Montgomery County Planning Department, and Equity Emphasis Areas as defined by the Metropolitan Washington Council of

Governments (MWCOG). Equity Focus Areas are parts of Montgomery County that are characterized by high concentrations of lower-income people of color, while Equity Emphasis Areas are small geographic areas that have significant concentrations of low-income, minority populations, or both. As we know, low-income and minority communities are most vulnerable to environmental justice issues, with residents at a much higher risk for health problems from environmental exposures. These census tracts also include high numbers of naturally-occurring affordable, multifamily rental housing units, where funds may not be readily available to support the costs associated with purchasing and installing EV recharging equipment. The enhanced rebates made accessible by HB 894 could incentivize property owners and managers to purchase this equipment, providing some of our most vulnerable residents with access to these charging stations.

The City of Gaithersburg recognizes the financial, environmental, and health benefits of EVs, and supports efforts to make charging stations more accessible for the community. For the reasons stated herein, we respectfully seek a favorable vote on House Bill 894.

Respectfully submitted,



Jud Ashman
Mayor

HB 894 LOS.pdf
Uploaded by: Tyler Abbott
Position: FAV

Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

February 25, 2022

The Honorable Kumar P. Barve, Chair
Environment and Transportation and Economic Matters
House Office Building, Room 251
Annapolis, Maryland 21401

Re: House Bill 894 – Transportation Electrification and Modernization (TEAM) Act

Dear Chair Barve and Members of the Committee:

The Maryland Department of the Environment (MDE or the Department) supports HB 894 - *Transportation Electrification and Modernization (TEAM) Act*. HB 894 will provide Maryland with the ability to expand the use of zero emission vehicles (ZEVs) in the state that are essential to achieving our climate and air quality goals.

Maryland has been a key supporter of introducing light duty ZEVs into the marketplace. In 2007, Maryland adopted the California Clean Cars Program, including its ZEV standard. In 2013, recognizing the important contribution that ZEVs have in improving air quality and reducing greenhouse gas (GHG) emissions from the transportation sector, Maryland joined eight other states in signing the regional ZEV Memorandum of Understanding (MOU). This MOU established commitments from the states to work together to develop policies and programs that accelerate the introduction of ZEVs into the region by removing barriers and offering incentives. To achieve these goals, a multi-state ZEV Action Plan was developed to aid both public and private entities in accelerating ZEV deployment in the region. Maryland has been active in implementing policies and programs from the Action Plan that reduce the cost for both the ZEV vehicles as well as the purchase and installation of charging infrastructure.

Transportation accounts for almost half of all GHG emissions generated in the state and is a significant source of nitrogen oxides (NOx) emissions that contribute to ground-level ozone pollution. The current Greenhouse Gas Reduction Act (GGRA) was signed into law by Governor Hogan in 2016, and has a goal of a 40% reduction in GHG emissions from 2006 levels by 2030. Maryland has made a lot of progress over the past few decades toward clean air and is now in attainment with all criteria pollutant national ambient air quality standards, except for ground level ozone. Emissions of NOx are the leading contributor to ground level ozone.

This bill will provide a rebate for qualified plug–in electric drive vehicles, fuel cell electric vehicles (EVs), plug-in hybrid EVs, and plug-in electric motorcycles purchased or leased new and titled for the first time on or after July 1, 2022, but before July 1, 2025. Plug-in electric and plug-in hybrid EVs must have a manufacturer's suggested retail price that doesn't exceed $55,000. The bill also includes an additional $500 rebate for individuals who claimed and received a federal Earned Income Tax Credit in the most recent taxable year. This provision will provide greater access to these clean vehicles by targeting additional incentives for those most in need of the rebate to cover the increased cost of plug-in EVs. The bill provides a record level of funding for light-duty ZEV rebates by allocating $12 million toward the excise tax credit.

In addition to the light-duty vehicle rebate, the bill also extends a rebate program for EV recharging equipment to 2025, and increases the total amount of rebates to $2 million. Recharging equipment is vital to ensure the successful adoption of

EVs in Maryland. The bill also includes a new rebate program for qualified zero emission medium-and heavy-duty (MHD) trucks and sets aside $5 million in total funding for these rebates. This rebate aligns with goals set out in the MHD ZEV MOU Governor Hogan signed, along with 16 other states and the District of Columbia. Among other things, this MOU established a goal of 30% MHD ZEVs in the region by 2030. MHD trucks are the second largest contributors of GHG and NOx emission from the transportation sector in Maryland. ZEV trucks are a new and growing market and rebates for their purchases and recharging infrastructure will help offset the increased costs associated with the technology.

In the coming years, continued work will be needed on ZEV programs to ensure that the state can meet its ZEV, air quality, and climate goals and the rebates included in this bill will help Maryland's efforts to achieve these goals.

Thank you for your consideration. We will continue to support HB 894 during the committee's deliberations, and I am available to answer any questions you may have. Please feel free to contact me at 410-260-6301 or tyler.abbott@maryland.gov.

Sincerely,

Tyler Abbott

cc: George "Tad" Aburn, Director, Air and Radiation Administration

HB894_FAV_Higgins
Uploaded by: William Higgins
Position: FAV

February 23, 2022

To: The Honorable Kumar P. Barve, Chair, House Environment and Transportation Committee

Re: Letter of Support - House Bill 894, the Transportation Electrification and Modernization (TEAM) Act

Via Email: kumar.barve@house.state.md.us

Dear Chair Barve:

On behalf of Nikola Corporation (Nikola), we would like to submit this letter of support for HB 894, the Transportation Electrification and Modernization (TEAM) Act.

Nikola, a leading designer and manufacturer of heavy-duty commercial battery electric (BEV), fuel cell electric vehicles (FCEV), and energy infrastructure solutions, is paving the way as a global leader in zero-emissions transportation. Through a business model that will enable customers to integrate next-generation truck technology and hydrogen fueling infrastructure and maintenance, Nikola and its strategic business partners and suppliers are on a mission to leave the world a better place. Nikola is headquartered in Phoenix, AZ with a national dealer network that covers the state of Maryland.

As a global leader in zero-emissions transportation and infrastructure, Nikola firmly believes programs that incentivize the purchase of zero emission medium and heavy duty (MDHD) vehicles are critical to addressing the overall reduction of carbon emissions from the transportation sector. As a business looking to grow our zero-emission transportation and infrastructure operations in Maryland, we strongly support the provisions in the TEAM Act that will create a medium-and heavy-duty Zero Emission Vehicle (ZEV) grant and ZEV infrastructure program administered by the Maryland Energy Administration (MEA). Such grants and programs will play a critical role in cultivating and accelerating market and fleet adoption of zero-emission and low-carbon transportation technology.

Additionally, House Bill 894 will further strengthen Maryland's commitment to the Multi-State Medium and Heavy-Duty Zero Emission Vehicle Memorandum of Understanding[1] signed by Governor Hogan along with 14 other states and the District of Columbia in July of 2020. This MOU established an objective of ensuring that 100 percent of all new medium and heavy-duty

[1] https://www.nescaum.org/documents/mhdv-zev-mou_12-14-2021.pdf/

vehicle sales will be ZEV's by 2050, with an interim target of 30 percent ZEV sales by 2030. Legislative actions like the TEAM Act are in direct alignment with the goals established in the MOU and will serve to reduce harmful greenhouse gas emissions in the transportation sector, stimulate job creation and economic growth, and benefit disadvantaged communities that have been disproportionately exposed to greater levels of pollution.

We respectfully ask for a ***favorable*** report on HB 894 to pave the way for a cleaner Maryland and look forward to working in collaboration with you and the MEA as this effort moves forward.

Sincerely,

William Higgins
Manager, State and Local Affairs Eastern/Mid-Atlantic Region
Nikola Corporation
will.higgins@nikolamotor.com

HB894_MDSierraClub_fwa - 25Feb2022.pdf
Uploaded by: Josh Tulkin
Position: FWA

P.O. Box 278
Riverdale, MD 20738

Committee: **Environment and Transportation**
Testimony on: **HB 894 – "Transportation Electrification and Modernization (TEAM) Act"**
Position: **Favorable with amendment**
Hearing Date: **February 25, 2022**

The Maryland Chapter of the Sierra Club supports HB 894 with one amendment. The bill was introduced on behalf of the Maryland Energy Administration (MEA) to authorize creation of new incentive programs and modification of an existing incentive program designed to encourage the purchase or lease of zero-emission vehicles and recharging equipment for those vehicles. The programs also would provide incentives to help pay for installation of the vehicle recharging equipment and would all be administered by MEA.

HB 894 would extend and enhance MEA's Electric Vehicle Recharging Equipment Rebate Program, establish the Medium and Heavy-Duty Zero-Emission Vehicle Grant Program, establish the Maryland Zero-Emission Vehicle Rebate Program, and authorize the use of the Maryland Strategic Energy Investment Fund to provide supplemental funding for zero-emission vehicles and zero-emission vehicle infrastructure programs that benefit environmental justice communities.

The amendment we propose regards one aspect of the Maryland Zero Emission Vehicle Rebate Program. In keeping with the name of and intent of that program, the amendment would add a fourth requirement for a fuel cell electric vehicle (see page 8 of the bill, lines 4 to 10) to be eligible to receive a rebate. The power for the fuel cell electric vehicle, which most likely would be hydrogen, must be produced using a zero-emission source such as solar or wind power.

Transportation is now the largest contributor to climate-damaging greenhouse gas emissions in Maryland. Vehicle tailpipes also are a major source of toxic emissions including benzene, nitrogen oxides, sulfur dioxide and tiny particulate matter (PM2.5) that are linked to various cancers, heart disease, asthma, emphysema, other respiratory diseases, and premature death. Vehicle tailpipe emissions also contribute to ozone, smog, and acid rain. More than 85% of Marylanders live in counties that do not meet federal clean air standards for ozone. Ground level ozone damages crops, trees, and other vegetation. Acid rain affects soils, lakes, streams, and the Chesapeake Bay, and enters the food chain via water, produce, meat and fish.

Zero-emission vehicles emit no greenhouse gas or toxic pollution from their tailpipes and have much lower fuel and maintenance costs. Programs such as those proposed or modified by this legislation, which encourage the purchase or lease of zero-emission vehicles and recharging equipment and fund the installation of vehicle recharging stations, deserve our support.

Passage of HB 894 containing the amendment described above would be good for public health and our environment. We urge a favorable report on this bill with the amendment we propose.

Brian Ditzler
Transportation Chair
Brian.Ditzler@MDSierra.org

Josh Tulkin
Chapter Director
Josh.Tulkin@MDSierra.org

Ext. Comm. - Letter - 2022 - Maryland HB 894 - EV
Uploaded by: Joshua Fisher
Position: FWA

February 23, 2022

The Honorable Kumar Barve
House Environment and Transportation Committee
Room 251
House Office Building
Annapolis, Maryland 21401

HB 894: Transportation Electrification and Modernization (TEAM) Act
Position: Favorable with Amendments

Dear Chair Barve:

The Alliance for Automotive Innovation[1] (Auto Innovators) supports HB 894, which seeks to establish a Zero Emission Vehicle (ZEV) rebate program. It is critical for states and automakers to work together with the spirit that **"More is Better"** to develop policies that will encourage ZEV adoption. That is why we support consumer focused incentives, and we applaud the state's previous efforts to ensure funding for electric vehicles.

Industry Commitment to ZEVs

Automakers shared our industry's commitment to an electric future in a letter to President Biden. Nearly 70 models of plug-in hybrid (PHEV), fully electric (BEV), and fuel cell electric vehicles (FCEV) are available now to consumers — and more are on the way. Automakers are providing our customers with record-breaking choice in energy-efficient models, while also providing even safer, more environmentally friendly, affordable vehicles. The automotive industry is investing more than $330 billion by 2025 in its commitment to vehicle electrification. Electric vehicles (EVs) are an important part of our mission, both in the U.S. and around the world. The auto industry has shown its commitment to EVs, but supportive state policies, like consumer rebates, are critical to increasing EV deployment.

Consumer Focused Policies are Critical to Maryland's Goals

Maryland previously set a goal of 60,000 EVs on the road by 2020 and 300,000 EVs by 2025.

[1] Focused on creating a safe and transformative path for sustainable industry growth, the Alliance for Automotive Innovation represents the manufacturers producing nearly 99 percent of cars and light trucks sold in the U.S. Members include motor vehicle manufacturers, original equipment suppliers, technology and other automotive-related companies and trade associations. For more information, visit our website http://www.autosinnovate.org.

1050 K Street, NW
Suite 650
Washington, DC 20001

AutosInnovate.org

To date, approximately 42,000 EVs have been sold in Maryland, well short of its goals.[2] Long ago, Maryland also chose to follow the California Advanced Clean Car rules which are expected to be updated later this year to include a requirement for 100% of all new vehicle sales to be electric in 2035. That same program will likely require sales requirements of approximately 25% in 2026 with the requirements increasing each year until the 100% ZEV requirement in 2035.

However, the Clean Car Standard does not encourage consumer demand or support Maryland's car dealerships during the transition. More work needs to be done to accomplish these goals, and it is on this point that HB 894 can help advance the acceptance of EVs. The higher upfront cost of EVs continues to be a barrier to adoption, even as technology and battery costs are dropping. Until EVs reach cost parity with gas-powered vehicles and become widely accepted in the marketplace, targeted incentives are needed to help increase uptake and expand access to the life-cycle financial benefits of owning an EV.

Suggested Amendments

While we are supportive of policies that establish financial incentives to encourage electric vehicle purchases, the following concerns with HB 894 will limit its potential impact.

- **Funding** – While $12 million is a good start, Maryland should know from experience that funding is depleted quickly. Maryland's previous excise tax incentive for ZEV's struggled with funding issues for years and money was depleted before the start of the next fiscal year. Given that sales requirements will jump dramatically the state should consider increased funding to jumpstart the market.
  MSRP Cap - A large percentage of EVs are leased, an increasingly preferred method for consumers to access new technology. Many of those vehicles would become ensnarled in an MSRP cap, while the true cost to the purchaser through the term of the contract (e.g., total of all payments) would roughly be equivalent to 50% of the MSRP. Further, this arbitrary cap would eliminate many of the expected new EVs in the coming years, including pickups and other more capable vehicles, to the extent they exceed the MSRP cap. To meet the state's longer-term climate and electrification goals, *all* EVs, regardless of MSRP, must succeed. Discouraging the purchase of EVs, based on MSRP and particularly at this early stage of market adoption, is not consistent with these goals. We prefer the elimination of the MSRP cap, but also recommend not reducing it any further. We also suggested the following amendment to replace the current MSRP definition: *"'Base model manufacturer's suggested retail price' means the manufacturer's base price for the lowest price trim level of the model and shall not include charges for optional equipment, taxes, title, or registration fees."*

We believe that Maryland can be an electrification leader – and to do so, it must make real and necessary investments in both EV incentives and EV infrastructure. Auto Innovators and our members are committed to working with Maryland to achieve the shared goals of reducing GHG emissions and increasing ZEV sales and believe we should do so in a smart and effective manner that provides the right signals to the consumer to choose to buy ZEVs.

---

[2] https://www.autosinnovate.org/resources/electric-vehicle-sales-dashboard

Thank you in advance for your consideration of our views. For more information, please contact our local representative, Bill Kress, at (410) 375-8548.

Sincerely,

Josh Fisher
Director, State Affairs
Alliance for Automotive Innovation

Erdman_HB_894__2022.pdf
Uploaded by: Robert Erdman
Position: FWA

Testimony for the House Environment and Transportation Committee HB 894

HB 894 Transportation Electrification and Modernization (TEAM) Act - Position: Favorable With Amendment

Feburary 23, 2022

The Honorable Kumar Barve, Chair
Room 251, House Office Building
Annapolis, MD 21401

Honorable Chair Barve and Members of the House Environment and Transportation Committee:

My name is Robert Erdman. I am writing to you **in support** of House Bill 894 Transportation Electrification and Modernization (TEAM) with an amendment.

I'm the treasurer of the Electric Vehicle Association of greater Washington DC (EVADC). Recently our members passed a milestone by driving almost 6 million cumulative electric miles.

Each gas vehicle replaced by an Electric Vehicle in Maryland provides Economic and Health benefits to **all** the citizens of Maryland. In addition, driving an Electric Vehicle provides an Energy Security benefits to the country, and finally, each gas car replaced by an electric vehicle provides Environmental benefits to the citizens of the world – helping Maryland do its part to slow climate change.

The benefits that accrue just to Maryland are worth more than the proposed MD EV incentive.

For details, see the attached single page summary, or better yet go to https://evadc.org/EVinfo and look at the 12-page whitepaper called "The Far-reaching Benefits of Electric Vehicles". Short summary attached below.

Amendment: Increase rebate funding from $12M to $20M

The purpose of the incentive is to persuade citizens to buy clean vehicles. If the money runs out before the end of the fiscal year, then the potential buyers will not be as ready to buy. In the past, the amount funded often ran out halfway through the year. At the current run rate, $12M won't be enough for the more than 12,000 additional EVs expected this year.

We don't want this to happen again! https://electrek.co/2019/07/08/maryland-ev-tax-credit-funding/

Sincerely,

Robert Erdman
Potomac, MD 20854

Electric Vehicle Incentives are an Investment in Maryland

Economic Benefits

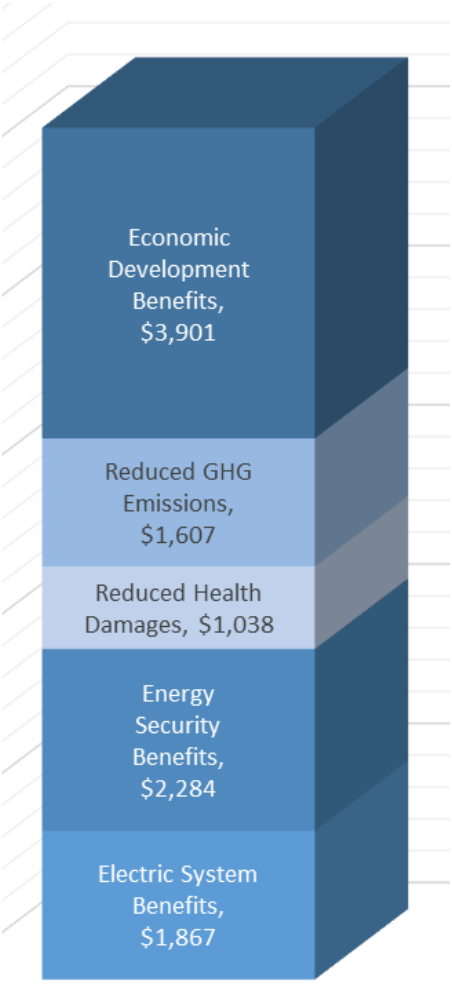
- Every day, Maryland drivers spend over $18 million on motor vehicle fuels. That's over ***$6.6 billion*** a year![1]
- Since Maryland has no crude oil industry, at least 80% of the cost of every gallon of gas immediately leaves the state economy.[2] That's over $14.5 million that leaves the state every day.[3]
- Driving an EV in MD will save a driver ~$3,901 in fuel costs.[4] This money can be used for eating out, groceries, home improvements, and entertainment. This creates local jobs and support Maryland's economy.

Environmental Benefits

- Transportation is the leading cause of greenhouse gas emissions in the United States *and* in Maryland.[5]
- Climate change damages from vehicle emissions include reduced agricultural yields, health impacts in cities due to heat, and flooding and erosion in coastal areas.[6]
- Using the Social Cost of Carbon, each EV on the road in MD prevents ~$1607 in damages from carbon in the atmosphere.[7]

Health Benefits

- Transportation accounts for more than half of all the air pollution in the United States. The primary mobile source of air pollution is the automobile.[8]
- Exposure to on-road pollution leads to heart attacks, strokes, and asthma attacks resulting in ER visits, hospitalization, and premature death.[9]
- Every EV on the road prevents health damages of over ~$1038.[10]



$10,697 Cumulative Benefits
(over 8 years of operation)

Energy Security Benefits

- Dependence on imported fossil fuels for transportation results in risk and costs associated with fuel security and national security.
- A 2018 study by Securing America's Energy Future (SAFE) measured money spent by the U.S. military to protect global oil supplies and calculated this value over the number of barrels of imported oil. They calculated a value of between 28¢ to over 70¢ per gallon.[11]
- We calculated that every EV on the road will save ~$2284 in energy security and national security costs.[12]

Electric System Benefits

- EV batteries can store electricity which can be used to create a more resilient and efficient electric system.
- Increasing grid efficiency puts downward pressure on electric rates, which can save *all* customers money on electric bills.
- Studies show that each EV can provide about ~$1867 in benefits to the electric grid.[13]

These Benefits Add Up

Each EV in Maryland will contribute over $10,000 in benefits to people living in Maryland. Turning some of these benefits into EV incentives saves Maryland money and helps it meet important policy goals. Funding point-of-sale rebates for EVs will help Maryland improve public health, meet climate change goals, grow the economy, and promote energy security.

EVADC www.evadc.org

Read the full report "*The Far-reaching Benefits of Electric Vehicles*" at: https://evadc.org/EVInfo

[1] Based on motor fuel gallons sold FY 2020: https://www.marylandtaxes.gov/reports/static-files/revenue/motorfuel/gallonssold/gallonsoldFY2019-2020.pdf multiplied by gas price in MD for 11/23/20 https://gasprices.aaa.com/?state=MD

[2] https://www.eia.gov/petroleum/gasdiesel/

[3] Based on motor fuel gallons sold FY 2020: https://www.marylandtaxes.gov/reports/static-files/revenue/motorfuel/gallonssold/gallonsoldFY2019-2020.pdf multiplied by gas price in MD for 11/23/20 https://gasprices.aaa.com/?state=MD. Daily cost multiplied by 80%.

[4] Based on driving 12,000 miles a year with 30 mpg fuel efficiency and paying $2.23 per gallon of gas compared with a comparable EV driving the same mileage with 27kWh/100mile efficiency and electricity costs of 12.48 cents/kWh from https://www.eia.gov/electricity/monthly/epm_table_grapher.php?t=epmt_5_6_a. Over 8 years of driving vehicle.

[5] https://mde.maryland.gov/programs/Air/ClimateChange/Pages/GreenhouseGasInventory.aspx

[6] https://climate.nasa.gov/effects/#:~:text=Increased%20heat%2C%20drought%20and%20insect,coastal%20areas%20are%20additional%20concerns.

[7] Calculated by using the inflation-adjusted Social Cost of Carbon ($53.34 per metric ton) multiplied by the tons of carbon equivalent emitted from driving a conventional gasoline vehicle vs. the carbon equivalent emitted from electricity generation of driving an EV in MD: https://afdc.energy.gov/vehicles/electric_emissions.html.

[8] https://www.nps.gov/subjects/air/sources.htm#:~:text=Mobile%2C%20stationary%2C%20area%2C%20and,to%20the%20Environmental%20Protection%20Agency.

[9] https://gispub.epa.gov/air/trendsreport/2018/#effects

[10] Based on values in National Academies Hidden Costs of Energy cost per ton and multiplied by emissions from average vehicle emissions rates and eGRID emissions factors for electricity generation in MD.

[11] Securing America's Energy Future. 2018. The Military Cost of Defending the Global Oil Supply. http://secureenergy.org/wp-content/uploads/2020/03/Military-Cost-of-Defending-the-Global-Oil-Supply.-Sep.-18.-2018.pdf

[12] Based on cost per barrel of oil energy security from https://19january2017snapshot.epa.gov/sites/production/files/2015-08/documents/ornl-tm-2007-028.pdf multiplied by imported barrels of oil added to mileage values for military costs of defending global oils supply: . http://secureenergy.org/wp-content/uploads/2020/03/Military-Cost-of-Defending-the-Global-Oil-Supply.-Sep.-18.-2018.pdf.

[13] Based on an average value of ratepayer benefits from the following studies:
https://rmi.org/wp-content/uploads/2017/10/RMI-From-Gas-To-Grid.pdf
http://www.b-e-f.org/wp-content/uploads/2020/06/BEF_EV-cost-benefit-study_2020.pdf
Benefit-Cost Analysis of Electric Vehicle Deployment in New York State Final Report | Report Number 19-07 | February 2019

HB894 Wilson FWA.pdf
Uploaded by: Scott Wilson
Position: FWA

Testimony to the House Environment and Transportation Committee
HB 894 Transportation Electrification and Modernization (TEAM) Act

Position: Favorable with Amendment

22 Feb 2022

The Honorable Kumar Barve, Chair
Room 251, House Office Building
Annapolis, MD 21401

Honorable Chair Barve and Members of the House Environment and Transportation Committee:

My name is Scott Wilson and I currently drive an all-electric 2017 Chevy Bolt EV and 2013 Nissan Leaf. I'm Vice President of the Electric Vehicle Association of Greater Washington DC (EVADC) and I serve on the Maryland Zero Emission Electric Vehicle Infrastructure Council (ZEEVIC), but the following comments are my own. I support passage of HB 894.

The TEAM Act would re-establish an incentive in Maryland for plug-in electric (PEV) and plug-in hybrid electric vehicles (PHEV) which is both reasonable, being capped at an MSRP of $55,000, and effective, being set at $2500 for a PHEV and $1500 for a PHEV. This incentive would be in addition to the federal 30D EV tax credit. It would be a rebate, which I believe buyers will find more understandable than the prior excise tax credit. "Cash on the hood" has a well-documented positive effect on car sales.

If $55,000 sounds too generous, remember that the average price Americans paid for a new car recently passed $47,000. As shown in the attached EV Information sheet distributed by EVADC, there are many EV models, with a range of prices and capabilities, which would qualify for this incentive.

The proposed funding amount of $12m would lead to a minimum of 4,800 additional plug-in vehicles in Maryland, which would mean 4,800 more Maryland families taking advantage of the EV Opportunity by cutting their per mile running costs by 3x, reducing their vulnerability to gas price gyrations and enabling a pathway for zero-carbon driving. Maryland itself would benefit in reduced carbon emission, reduced health impacts, and increased economic development.

My suggested amendment would be that, should the $12m funding run out, to then reduce the excise tax on the covered vehicles by the amount of the incentive for a period of time linked to the number of PEV and PHEV registrations. This would avoid building an unfunded backlog of ZEV buyers, which has happened in previous iterations of our ZEV incentive programs, and it would link the incentive to the achievement of the state's ZEV goals. Once our ZEV goals are achieved, we can reset the excise tax to its current level, and collect more net revenue, since sales will then be higher.

I urge a favorable report on this bill with the suggested amendment.

Thank you for your time,

Scott Wilson
Silver Spring, MD

The Electric Vehicle Association of Greater Washington DC

evadc.org

2021

Electric Vehicle Information Sheet

All Electric	Base Price (USD)[1]	Net Price (USD)[2]	Range (mi)[3]	Batt. (kWh)	Power (kW)[4]	0-60 (sec)	QC (kW)[5]	MPG equiv[3]	Fuel / Mo.[6]
Chevy Bolt	$31,000	$31,000	259	66	150	6.5	50	118	$46
Harley LiveWire	$21,999	$19,799	95*	15.5	78	3.0	20^	95*	——
Hyundai Ioniq Elec.	$33,245	$25,745	170	38.3	100	9.5	75	133	$42
Hyundai Ioniq 5 β	$45,000^	$37,500^	258-290^	77	168-239	5.2-7.4	220	——	——
Hyundai Kona Elec.	$34,000	$26,500	258	64	150	6.4	75^	120	$46
Kia EV6 β+	$45,000^	$37,500^	239-300^	58-77	125-430	3.5-5.2	220	——	——
Kia Niro EV	$39,090	$31,590	239	64	150	7.8	77	112	$50
MINI Electric	$29,900	$22,400	114	32.6	135	6.9	50	110	$50
Nissan Ariya β+	$40,000^	$32,500^	225-300^	66-91	160-250	5.0^	130	——	——
Nissan LEAF +	$27,400	$19,900	149s-226	40-62	110-160	6.4-7.4	50-100	104-111	$50
VW ID.4	$39,995	$32,495	250	82	150	7.4	125	97	$58
Zero SR/S +	$19,995	$17,495	109*	14.4	82	3.3	N/A	——	——
Average U.S. Gasoline Car Price		$40,000							
Audi e-tron	$65,900	$58,400	222	95	300	5.5	150	78	$71
BMW i3	$44,450	$36,950	153	42.2	125	7.2	50	113	$50
Ford F-150 Lightning β+	$39,974	$32,474	230-300*	115-150^	318-420	4.5^	150	——	——
Ford Mustang Mach-E +	$42,895	$35,395	211-305	68-88	198-360	3.5-6.1	150	90-101	$54-63
GMC Hummer EV β+	$79,995	$79,995	250-350*	150-200^	745*	3.0-3.5	350	——	——
Jaguar I-Pace	$69,900	$62,400	222	90	294	4.5	50	76	$71
Polestar 2	$45,900	$38,400	249-265	78	300-500	4.5-7.0	150	89-92	$58-63
Porsche Taycan +	$82,700	$75,200	201-227	79-93	300-560	2.6-5.1	270	69-79	$67-79
Rivian R1S +	$70,000	$62,500	316	135	562^	3.0	200^	69	$79
Rivian R1T +	$67,500	$60,000	314	135	562^	3.0	200^	70	$79
Tesla Cybertruck β+^	$39,900	$39,900	250-500	100-200	330-600	2.9-6.5	250	——	——
Tesla Model 3 +	$39,990	$39,990	262-353	54-75	211-335	3.1-5.3	170-250	134-141	$38-42
Tesla Model Y	$53,990	$53,990	303-326	75	211-335	3.5-4.8	250	——	——
Tesla Model S +	$89,990	$89,990	396-405	100	500-760	2.0-3.1	250	110	$50
Tesla Model X	$99,990	$99,990	340-360	100	500-760	2.5-3.8	250	105	$50
Tesla Roadster β	$200,000	$200,000	620	200	——	1.9	350^	——	——
Volvo XC40 Recharge	$53,990	$46,490	208	78*	300	4.7	150	79	$70


Cybertruck


F-150


Hummer


R1T


R1S


Model S
Model X


XC40


i3


VW


MINI


Kona


Ioniq 5


Ioniq


Bolt


Harley

Typically costs **4 ¢ / mile**. (3 mi / kWh, 12 ¢ / kWh)

Home Charging

Charge using an **ordinary 120V outlet**.
Dedicated circuit recommended.

Install a home 240V charging station for faster charging at home. $400-$1000 + installation

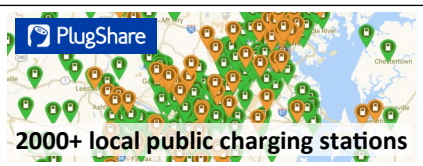

240V Home Charging Station

Public Charging

Cost varies, free - 49 ¢ / kWh

SemaConnect chargepoint blink eVgo electrify america


240V Public Charging Station




480V DC Fast Charger

Level 1: 120V AC (regular outlet)
Reclaim 5 miles per hour charging

Level 2: 240V AC (J1772 / dryer plug)
Reclaim 15-60 miles per hour charging

Fast Charge: 480V DC
Reclaim 50-200 miles in 30 minutes

EVA/DC meets the 3rd Wednesday of every month. See evadc.org/meeting.

EVA/DC is providing the following for informational purposes only. We do not endorse or recommend any specific vehicle manufacturer or distributor. Information subject to change.

1. Base price before tax incentives, destination.
2. Net price after federal tax credit. State credits may still apply. Consult tax advisor.
3. EPA combined city/highway, except as noted
4. Total motor power. 1 kW = 1.34 hp
5. DC Quick / Fast Charge max rate
6. EPA, 15000 miles/year, 12¢ / kWh

* Source: Vehicle Manufacturer
^ Estimate
\+ Multiple battery options available
β Future availability announced

The Electric Vehicle Association of Greater Washington DC

evadc.org

2021

Electric Vehicle Information Sheet

Plug-in Hybrid Electric	Base Price (USD)[1]	Net Price (USD)[2]	Range (mi)[3]	Batt. (kWh)	0-60 (sec)	MPG equiv[3]	Fuel / Mo.[6]
Chrysler Pacifica hyb.	$44,920	$37,420	32+gas	16	7.4	82	$83
Ford Escape Plug-In	$33,075	$25,575	37+gas	14.4	9.0^	102	$67
Honda Clarity PHEV	$33,400	$25,900	48+gas	17	7.7	110	$58
Hyundai Ioniq PHEV	$26,700	$22,157	29+gas	8.9	8.9	119	$54
Hyundai Santa Fe PHEV	$40,535	$33,948	31+gas	13.8*	——	70*	——
Hyundai Tucson PHEV	$35,000^	$28,500^	33+gas	13.8*	8.9	70*	$54
Kia Niro PHEV	$29,590	$25,047	26+gas	8.9	9.0	105	$58
MINI Cooper S E Countr.	$41,500	$36,500	17+gas	10	6.7	73	$108
Mitsubishi Outlander	$36,695	$30,108	24+gas	13.8	9.2	74	$100
Subaru Crosstek Hyb.	$35,345	$30,845	17+gas	8.8	8.3	90	$79
Toyota Prius Prime	$28,220	$23,720	25+gas	8.8	10.5	133	$50
Toyota RAV4 Prime	$38,350	$30,850	42+gas	18.1	5.7	94	$71
Average U.S. Gasoline Car Price		$40,000					
Audi A7 Plug-In	$74,900	$68,188	24+gas	14.1	5.7	68	$113
Audi A8 Plug-In	$95,900	$89,188	18+gas	14.1	4.9	53	$150
Audi Q5 Plug-In	$51,900	$45,188	19+gas	14.1	5.0	50	$129
Bentley Bentayga	$187,600	$180,100	18+gas	17.3	5.2	46	$183
BMW 330e	$44,550	$38,714	22+gas	12	5.6	——	——
BMW 530e	$57,200	$51,364	21+gas	12	5.9	69	$113
BMW 745e xDrive	$95,900	$90,064	16+gas	12	4.9	56	$150
BMW i3 Range Extender	$48,300	$40,800	123+gas	42.2	8.0	100	$58
BMW X3 xDrive30e	$49,600	$43,764	17+gas	12	5.9	——	——
BMW X5 xDrive45e	$65,400	$57,900	30+gas	21.6	5.3	56	$138
Ferrari SF90 Stradale	$625,000	$621,500	9+gas	7.9	2.5	51	$217
Jeep Wrangler 4xe	$51,025	$43,525	21+gas	17	6.0	——	——
Karma GS-6 / Revero β	$83,900	$76,400	61+gas	28	4.5	70	$96
Land Rover Sport P400e	$83,000	$76,705	19+gas	13	6.3	42	$175
Lincoln Aviator	$69,070	$62,536	21+gas	13.6	——	——	——
Lincoln Corsair β	$50,390	$43,547	28+gas	14.4	——	78	$88
Mercedes GLC350e	$51,900	$45,438	22+gas	13.5	5.6	56	$138
Polestar 1	$155,000	$147,500	52+gas	34	4.2	58	$117
Porsche Cayenne	$83,300	$75,800	16+gas	17.9	4.7	47	$154
Porsche Panamera	$103,800	$97,130	15+gas	14.1	4.4	51	$154
Volvo S60 Recharge	$47,650	$42,231	22+gas	11.6	4.3	69	$104
Volvo S90 Recharge	$60,050	$54,631	21+gas	11.6	4.8	60	$113
Volvo V60 Recharge	$67,550	$62,131	22+gas	11.6	4.3	69	$104
Volvo XC60 Recharge	$53,500	$48,081	19+gas	11.6	4.9	57	$125
Volvo XC90 Recharge	$63,450	$58,031	18+gas	11.6	5.9	55	$125

PHEV—Plug-in Hybrid Electric Vehicle (Electric & Gas) - All these hybrids have a plug.

Incentives

Federal Tax Credits
Vehicle: up to **$7500**
EVSE: up to **$1000**

DC:	EV Supply Equipment (EVSE) Tax Credit - 50% of cost up to **$1000** Excise tax exemption. Reduced vehicle registration fee of $36
Maryland:	EV Supply Equipment (EVSE) Tax Credit - 40% of cost, max $700 High Occupancy Vehicle (HOV) Lane Exemption through Oct. 2022
Virginia:	Reduced personal property tax in Arlington and Loudon counties Discounted electricity rates for off-peak residential EV charging

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