SB687_MaryPIRG_Students_Favorable .pdf
Uploaded by: Akshaya Balaji
Position: FAV

Testimony SB687
Zero-Emission Truck Act of 2022
Environment & Transportation
February 25th, 2022
Akshaya Balaji, MaryPIRG Students President
FAVORABLE

MaryPIRG Students: Students have the power to shape the future we will inherit. We work with professional staff at colleges and universities to make sure our peers have the skills, opportunities and training they need to create a better, more sustainable future for all of us. Our chapters provide the training, professional support and resources students need to tackle climate change, protect public health, revitalize our democracy, feed the hungry and more. Students have been at the forefront of social change throughout history, from civil rights, to voting rights to protecting the environment. For over 40 years we've helped students to get organized, mobilized and energized so they can continue to be on the cutting edge of positive change.

MaryPIRG Student Climate Action Coalition: Dealing with the challenges of today requires problem-solvers who bring different perspectives and are willing to take risks. MaryPIRG Student Climate Action Coalition emerged out of a pursuit to inspire and support the community, and a desire for actions to speak louder than words. This campaign began in 2020, driven by progressive ideas, bold actions, and a strong foundation of support. MaryPIRG Student Climate Action Coalition is a statewide student coalition dedicated to fighting climate change.

My name is Akshaya Balaji, I'm a sophomore at University of Maryland College Park, and I'm the President of MaryPIRG Students. I am writing on behalf of our organization to request a favorable report for the Advanced Clean Truck Rule.

Diesel fuels are a risk to all of our health. Throughout the state, Marylanders are suffering from the damaging effects of living with unhealthy air quality. In October, Maryland PIRG Foundation and Environment Maryland Research and Policy Center released "Trouble in the Air," which outlined elevated air pollution days throughout the state. Diesel particulate matter contributes to numerous health impacts including increased hospital admissions, particularly for heart disease, but also for respiratory illnesses, and even premature death. As a Marylander I want my family, friends, and community to breathe without suffering the adverse effects of unhealthy air quality.

Diesel trucks, like all fossil fuel vehicles, are also a source of global warming pollution. As I'm writing this, it is currently 60 degrees out in late february. However, a changing climate is far more sinister than a nice day in winter. Floods, extreme weather, sea level rise, and the decline of numerous species are not too far off if we continue to ignore the climate crisis. We can and

should be using every tool available to ensure we are creating the world we want to live in. The Advanced Clean Truck Rule is an important step in the right direction.

By passing this bill, Maryland would join a growing number of states adopting the Advanced Clean Truck Rule, including California, Massachusetts, New York, New Jersey, Washington, and Oregon. This legislation would also help Maryland follow through on its commitment for 30% of all medium and heavy duty vehicles sales to be electric by 2030 and could create high quality, environmentally friendly jobs in the process.

As students, we are fighting for our future - we want to live in a cleaner, greener, world where we protect our environment and our own health. That is why we urge you to pass the Advanced Clean Truck Rule. We are excited for Maryland to take this important step towards creating the world we want to be part of.

We respectfully request a favorable report.

Testimony SB 687 Zero Emission Truck Act of 2022 U

Uploaded by: Ashley Egan

Position: FAV

Testimony in Support
SB 687: Department of the Environment –
Zero–Emission Medium and Heavy Duty Vehicles – Regulations
(Zero–Emission Truck Act of 2022)

To: Chairman Pinsky and the members of the Education, Health and Environmental Affairs Committee
From: Phil Webster, PhD, Lead Advocate on Climate Change
Unitarian Universalist Legislative Ministry of Maryland.
Date: February 24, 2022

The Unitarian Universalist Legislative Ministry of Maryland (UULM-MD) strongly supports SB 687: Department of the Environment – Zero–Emission Medium and Heavy Duty Vehicles – Regulations (Zero–Emission Truck Act of 2022) and urges a FAVORABLE report by the committee.

The UULM-MD is a faith-based advocacy organization based on the Principles of Unitarian Universalism. Two Principles are particularly relevant. The Second Principle, Justice, equity and compassion in human relations and the Seventh Principle, Respect for the interdependent web of all existence of which we are a part.

Unitarian Universalists believe in justice and equity in human relations. Residential neighborhoods located near major roads and highways face disproportionate burdens from traffic and transportation pollution. These neighborhoods are far more often communities of color due to decades of residential segregation, and bear a burden of unsafe pedestrian conditions, higher rates of asthma and other health conditions, and unremitting noise pollution. In addition to accelerating the electrification of trucks through the Advanced Clean Truck Rule, more actions are needed to address the impact of truck traffic in communities.

Unitarian Universalists also believe that we should all have respect for the interdependent web of all existence of which we are a part. Trucks account for 10% of vehicles on the road but contribute 30% of carbon emissions and 57% of particulate matter (PM2.5) emitted by the entire transportation sector in the United States. 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 many lung diseases like chronic obstructive pulmonary disease and lung cancer.

To help meet its long-term climate, air quality, and public health goals, Maryland must pass legislation to adopt the Zero-Emission Truck Act of 2022. The Act is a critical tool in the effort to combat toxic air pollution that makes us sick and contributes to climate change.

How can there be justice and equity if one part of society is reaping all the benefits, while another is paying all the costs?

We support SB 687 and recommend a FAVORABLE report in committee.

Phil Webster, PhD
Lead Advocate, Climate Change UULM-MD

SB 687_byarlagadda_fav.pdf
Uploaded by: Brinda Yarlagadda
Position: FAV

May 23, 2022

Testimony on SB 687–
Zero-Emission Truck Act of 2022
Education, Health, and Environmental Affairs Committee

Position: Favorable

We, the undersigned 39 Maryland-based scientists, researchers, health professionals, economists, engineers, and planners respectfully submit this testimony in strong support of SB 687, the Zero-Emission Truck Act of 2022, and encourage a favorable report from the Committee.

Not only are medium- and heavy-duty trucks and school buses a climate issue for Maryland, but they are also a major public health problem. Diesel pollution is responsible for dangerous levels of nitrogen oxide and fine particulate matter that increases the risk of severe respiratory illnesses and other health problems. Studies continue to link long-term exposure to fine particulate matter with an increased risk of death from the COVID-19 pandemic.

The good news is that zero-emission trucks are already becoming readily available in a wide variety of models and sizes. Battery-electric trucks do not release tailpipe emissions, and when charged on the Maryland electric grid they have 49-67 percent lower lifecycle global warming emissions compared to diesel trucks.

A recent analysis from the International Council on Clean Transportation shows if Maryland adopts the Zero-Emission Truck Act of 2022, the state could see more than 178,000 zero-emission trucks on the road by 2050. This policy would also bring over $1.6 billion in public health benefits to our state in that same timeframe, from avoiding over 230 hospital admissions and emergency room visits, 270 premature deaths, and 116,200 cases of minor illnesses.

The Zero-Emission Truck Act of 2022 is a key step in the right direction. By supporting this legislation, you will demonstrate your commitment to cleaner air and a healthier future. Now is the time for Maryland to continue its climate and clean air leadership.

We encourage a FAVORABLE report for this important legislation.

Thank you,

Michele Alexander
Epidemiology
Rockville, MD

Peter Alexander
Biotechnology and Biochemical Engineering
Woodbine, MD

Laura Allen
Nursing; Public Health
Westminster, MD

Beverly Antonio
Research; Public Health
Centreville, MD

Sima Bakalian
Pediatrics; Medicine
Rockville, MD

Kristina Borror
Molecular Biology; Research Regulation
Silver Spring, MD

Signatures continue the next two pages

Richard Bourgin
Functional Analysis; Mathematics
Savage, MD

William Bridgman
Astronomy; Data Visualization; Physical Science
Silver Spring, MD

Laurette Cucuzza
Adolescent Sexual Reproductive Health & Rights; Public Health
Rockville, MD

Barry Daly
Radiology; Medicine
Hunt Valley, MD

Robert Erdman
Telecommunications; EVs; Engineering
Potomac, MD

Albert Garcia-Romeu
Psychology; Social Sciences
Baltimore, MD

Michael Gnatt
Internal Medicine; Medicine
Rockville, MD

John Haresch
Family Medicine; Medicine
Potomac, MD

Gary Hedges
Education; Ecology
Frederick, MD

Erika Hoffeld
Anatomic Pathology; Medicine
Silver Spring, MD

Alice Imlay
Invasive Species Control; Biology
Bryans Road, MD

Marc Imlay
Invasive Species Control; Biology
Bryans Road, MD

Barry Klinger
Climate; Physical Oceanography
Potomac, MD

Raymond LeVesque
Spacecraft Contamination Control; Engineering
Columbia, MD

Ted Llana
Immunology; Biology
Lexington Park, MD

Edward Maibach
Climate Change; Public Health
Potomac, MD

Suhas Malghan
Electric Vehicles; Engineering
Baltimore, MD

Elizabeth Maloney
Epidemiology; Public Health
Rockville, MD

Allison McDaniel
Genetics; Life Science
Germantown, MD

Elizabeth Moore
Computational Fluid Dynamics; Engineering
Gaithersburg, MD

William Reamy
Air Pollution; Engineering
Towson, MD

Elizabeth A. Riley
Mental Health; Medicine
Silver Spring, MD

William Rutter
Mechanical Engineering
Mechanicsville, MD

John Sadler
Nephrology; Medicine
Reisterstown, MD

Gerald Share
High Energy; Physical Science
Silver Spring, MD

Linda Silversmith
Biochemistry
Rockville, MD

Gregory Taylor
Infectious Disease; Medicine
Baltimore, MD

Sara Via
Agroecology; Biodiversity; Soils
Ellicott City, MD

Casey Weiner
Biomedical Engineering
Baltimore, MD

Michael Weinrich
Neurology; Rehabilitation; Biophysics; Medicine
Baltimore, MD

Katherine White
Neonatology; Medicine
Derwood, MD

Brinda Yarlagadda
Energy-Climate-Human Systems Modeling;
Engineering
Silver Spring, MD

SB0687_ZE_Trucks_MLC_FAV.pdf
Uploaded by: Cecilia Plante
Position: FAV

MARYLAND LEGISLATIVE COALITION

TESTIMONY FOR SB0687
Department of the Environment – Zero–Emission Medium and Heavy Duty Vehicles – Regulations (Zero–Emission Truck Act of 2022)

Bill Sponsor: Senator Young
Committee: Education, Health, and Environmental Affairs
Organization Submitting: Maryland Legislative Coalition
Person Submitting: Cecilia Plante, co-chair
Position: FAVORABLE

I am submitting this testimony in favor of SB0687 on behalf of the Maryland Legislative Coalition. The Maryland Legislative Coalition is an association of individuals and grassroots groups with members in every district in the state with well over 30,000 members.

This important legislation would require that the Maryland Department of Environment adopt the Advanced Clean Truck rule by December 1, 2022. This rule requires that vehicle manufacturers sell an increasing annual percentage of electrified medium and heavy-duty vehicles including pickup, delivery, and semi-trucks as well as school buses between Model Year 2026 (for states that adopt in 2022) and 2035. These vehicles represent 10% of vehicles on the road but disproportionately contribute to 30% of carbon emissions, 45% of toxic nitrogen oxide emissions, and 57% of health harming particulate matter emitted by the entire transportation sector in the US.

We have to electrify vehicles as soon as possible, and that will not happen without some requirements for it to happen. Manufacturers are disinclined to re-tool their factories and sell electrified vehicles when they are able to sell gas-combustion vehicles.

Under Section 177 of the Clean Air Act, states other than California are not allowed to set their own emissions standards. However, states can choose to follow and adopt vehicle standards that California has enacted. Maryland first adopted California's clean car standards for personal vehicle electrification through legislative action in 2007. Maryland has the opportunity to enact similar standards again and clean up large dirty diesel vehicles that continue to harm our health and exacerbate climate change.

This legislation would help Maryland follow through on its commitment for 30% of all medium and heavy-duty vehicles sales to be electric by 2030 and could create high quality green jobs in the process. Maryland would also be included in the growing number of states adopting the Advanced Clean Truck Rule, including California, Massachusetts, New York, New Jersey, Washington, and Oregon.

We support this bill and recommend a **FAVORABLE** report in committee.

SB 687_Christine Berg_FAV.pdf
Uploaded by: Christine Berg
Position: FAV

SB 687: Zero-Emission Truck Act of 2022
Date: February 24, 2022
Committee: Senate Education, Health and Environmental Affairs
Position: FAVORABLE

Christine D. Berg, M.D.
Oncologist

As a concerned oncologist, internationally recognized in cancer screening, I respectfully submit the following public comments in **FAVOR** of HB 829 the Zero-Emission Truck Act of 2022. This is a robust bill that will significantly lower emissions from medium- and heavy-duty trucks in Maryland. I would like to particularly acknowledge D3 Senator Young who is the Senate Sponsor.

Importantly, zero-emission trucks will not have CO2 emissions which are the leading greenhouse gas contributing to the devastating health effects being experienced from climate change. Of concern to all of us, our friends and loved ones is the effect of worsening climate change on the risks of developing cancer, adverse effects on survival from cancer, and increases in the risk of cancer patients suffering from other diseases such as infections. As an oncologist it is my goal to raise awareness of these issues and help to mitigate them. Two peer-reviewed manuscripts I have co-authored document these worsening impacts[1,2]. All of the climate bills before the House in this session will help to lower this devastating toll.

Additionally, the fine particulate matter, primarily PM 2.5, which is included in diesel exhaust, is responsible for nearly 1 in 6 lung cancer cases worldwide[3]. While lung cancer survival is improving with improved treatment and early detection, for which my research was instrumental for implementation, it still remains poor[4]. These types of pollutants are also linked to numerous other respiratory and cardiovascular diseases such as asthma, emphysema, and heart attacks. When inhaled, PM2.5 impacts the entire length of the respiratory tract, from tracheobronchial tree to the air sacs (alveoli) in the lungs. Polyaromatic hydrocarbons bind to PM2.5 and cause oxidative damage and low-grade, chronic inflammation, resulting in DNA adducts and gene mutations, among other molecular changes[5]. This also worsens viral respiratory infections by various mechanisms[6], including impairment of the immune response, damage of the cilia in the respiratory tract, and intracellular oxidative stress. Another recent study published in Nature Aging showed that short-term exposure to polluted air, even at levels generally considered "acceptable," can impair mental ability in the elderly[7].

Nitrous oxide is another harmful pollutant from our transportation system that has dramatic health consequences. When combined with volatile organic compounds (VOCs), the reaction creates ozone in the presence of sunlight and heat. Exposure of healthy individuals to relatively low ozone concentrations can cause harmful respiratory conditions and cardiopulmonary impacts, including lung irritation, breathing difficulties, reduced lung capacity, aggravated asthma, COPD, and increased mortality from cardiopulmonary and lung disease[8]. Millions of Americans suffer from the harmful effects of ground-level ozone pollution —be they children too

sick to go to school, high school football players not allowed to practice outdoors in the summer, 65-year-olds with lung disease unable to take a walk in the park, or farmers at risk when they harvest their fields[9]. Ozone pollution will also worsen as climate change worsens.

In one year, in the Northeast and mid-Atlantic alone, tailpipe-related pollution caused an estimated 7,100 premature deaths[10]. According to a new study that analyzed 2016 data, many of these deaths were from the pollution that crosses state lines. The authors said that this new, detailed modeling of the damages from specific pollutants and classes of vehicles could help policymakers target regional efforts and replicable efforts (such as the ACT rule) to curb interstate transportation pollution[11]. An additional study by the Clean Air Task Force focusing on Maryland, see Figure attached, documents adverse health effects localized to Maryland from diesel exhaust here in the state[12].

Based on my discussions with transportation and climate change experts, including at the Union of Concerned Scientists, I am confident this Act is a reasonable policy solution to meet our mutual goal of improving the health of Maryland residents while also curbing climate change which has additional negative health consequences. By joining with other states in our region, Massachusetts, New Jersey, and New York, this will serve as a model for all states to reduce a significant source of particulate and greenhouse gas emissions.

In summary, I urge a **FAVORABLE** vote on **SB687** Zero-Emission Truck Act of 2022,

Sincerely,

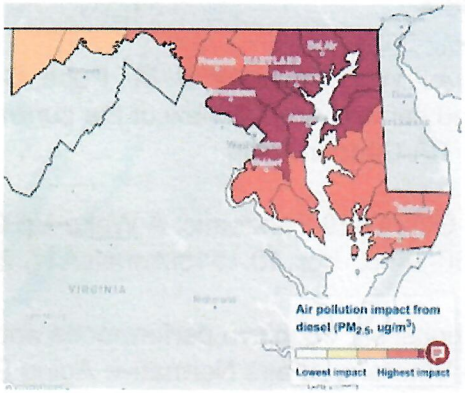
Christine D. Berg, M.D.

Christine D. Berg, MD
8003 Greentree Road, Bethesda, MD 20817
drchrisberg@outlook.com
301-908-0398 (cell)

Note: The ideas expressed in these written comments are solely my own and do not express the views or opinions of my employers.

FIGURE

Health Effects of Diesel | Maryland



Annual Projected Impacts in 2023: Health		
Deaths	186	# of deaths
Heart Attacks	73	# of heart attacks
Acute Bronchitis	115	# of cases
Upper Respiratory Symptoms	2,088	# of cases
Lower Respiratory Symptoms	1,462	# of cases
Emergency Room Visits, Asthma	48	# of visits
Asthma Exacerbation	2,149	# of cases
Lifetime Cancer Risk Per Million	246	# of cases per million people

Clean Air Task Force https://www.catf.us/work

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10. https://www.edf.org/sites/default/files/documents/TransportationWhitePaper.pdf
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12. *Clean Air Task Force https://www.catf.us/work*

SB 687_Tina Slater_Fav.pdf
Uploaded by: Christine Slater
Position: FAV

February 24, 2022

Testimony on SB 687
Zero-Emission Truck Act of 2022
Education, Health, and Environmental Affairs

Position: Favorable

Tina Slater of Silver Spring MD supports SB 687.

This proposed legislation would require that the Maryland Department of Environment adopt the Advanced Clean Truck rule by December 1, 2022. This rule requires that vehicle manufacturers sell an increasing annual percentage of medium and heavy duty vehicles including pickup, delivery, and semi trucks as well as school buses between Model Year 2026 (for states that adopt in 2022) and 2035. These vehicles represent 10% of vehicles on the road but disproportionately contribute to 30% of carbon emissions, 45% of toxic nitrogen oxide emissions, and 57% of health harming particulate matter emitted by the entire transportation sector in the US.

While automakers have detailed plans to electrify large portions of their fleets over this coming decade, now several truck manufacturers are joining the party! Ford plans to develop an all-electric version of its popular Transit cargo van. Volvo Trucks has a zero-emission semi truck, the VNR Electric, with a 150-mile range, speeds up to 65 mph on the highway, and get this --- an 80% charge for the vehicle takes 70 minutes (that's enough time for lunch and a mini-nap!).

This bill phases-in the requirements for electric medium and heavy-duty trucks, starting four years from now. By that time, there will certainly be many electric vehicles to choose from. These newer larger vehicles will come with better batteries, advanced technologies, and provide extended range at a lower cost.

Under Section 177 of the Clean Air Act, states other than California are not allowed to set their own emissions standards. However, states can choose to follow and adopt vehicle standards that California has enacted. Maryland first adopted California's clean car standards for personal vehicle electrification through legislative action in 2007. Maryland has the opportunity to enact similar standards again and clean up large dirty diesel vehicles that continue to harm our health and exacerbate climate change.

This legislation would help Maryland follow through on its commitment for 30% of all medium and heavy duty vehicles sales to be electric by 2030 and could create high quality green jobs in the process. Maryland would also be included in the growing number of states adopting California's standards, including Massachusetts, New York, New Jersey, Washington, and Oregon.

I encourage a FAVORABLE report for this important legislation.

Business Support for Advanced Clean Trucks Rule in

Uploaded by: Dave Robba

Position: FAV

To: Chair Paul G. Pinsky
Miller Senate Office Building, 2 West Wing
11 Bladen St.
Annapolis, MD 21401

RE: Business, Investor, and Employer Support for SB 687

Dear Chair Pinsky, Vice Chair Kagan, and Members of the Senate Education, Health, and Environmental Affairs Committee. My name is Dave Robba and I oversee state policy work in the mid-Atlantic at Ceres – A nonprofit organization that advances leadership among investors, companies, and capital market influencers to drive solutions and take action on the world's most pressing sustainability issues. **I am writing today in support of Maryland's adoption of the Advanced Clean Truck (ACT) rule.**

Ceres organizes the Business for Innovative Climate and Energy Policy Network – a coalition of over 80 major businesses - all committed to driving sustainability throughout the economy. We also coordinate the Ceres Investor Network, which includes 175 members with collectively nearly $30 trillion in assets under management.

Ceres also runs the Corporate Electric Vehicle Alliance, a collaboration of 30 companies including Amazon, DHL, JLL, IKEA, Siemens and others looking to completely decarbonize and electrify their fleets. The members of this alliance collectively own, lease or operate nearly 1.3 million on-road vehicles in the United States.

The companies and investors we engage with through these networks see climate change as a significant risk, and reducing GHGs as an economic opportunity. This is why more than 70 major businesses, institutions, healthcare systems, employers, and investors with nearly $43 billion in assets under management - including many with operations or business interests in Maryland[1] - recently signed a letter calling on states across the nation to adopt the ACT Rule. **Like these companies, we strongly support Maryland's adoption of the ACT Rule and see it as an essential component of a comprehensive plan to reduce transportation emissions in the state.**

The proposed legislation (SB 687) would require that the Maryland Department of Environment adopt the ACT rule by December 1, 2022. This rule requires that vehicle manufacturers sell an increasing annual percentage of medium and heavy duty vehicles including pickup, delivery, and semi-trucks as well as school buses between Model Year 2026 (for states that adopt in 2022) and 2035. These vehicles represent 10% of vehicles on the road but disproportionately contribute to 30% of carbon emissions, 45% of toxic nitrogen oxide emissions, and 57% of health harming particulate matter emitted by the entire transportation sector in the US. With particulate matter emissions from the transportation sector disproportionately impacting low-

[1] See Letter in Appendix A. Signatory names in bold have operations or business interests in Maryland

income communities and communities of color, adoption of the ACT rule will also help to address existing inequities in who bears the brunt of vehicle pollution.

Because transportation is also a major cost center for companies, adopting the ACT rule presents a unique opportunity to create savings for fleet owners while decarbonizing the most polluting portion of the transportation sector and improving public health. In addition to helping clean up Maryland's air, increasing access to cost-effective zero-emission commercial transportation options helps businesses stay competitive in a market where their customers, investors, patients, students, and employees increasingly expect them to lead on sustainability. Maryland's adoption of the ACT rule will drive local innovation and investment in clean technology development and manufacturing – creating new jobs, driving long-term cost savings in company value chains, mitigating climate risk, improving public health, and reducing health care costs.

To make these ambitious corporate clean transportation goals possible, however, businesses need strong policies to coordinate industry leaders and stakeholders, increase access to zero emission vehicles, unlock cost savings and benefits, and drive market transformation at a pace and scale the private sector cannot achieve on its own. Our Corporate Electric Vehicle Alliance is growing and companies are investing in electrification because transitioning to EVs can generate cost savings over the life of a vehicle. A recent survey and analysis of 13 members of this network revealed plans to procure approximately 333,000 electric vehicles over the next five years, as appropriate models become available. **The demand is there and the Advanced Clean Trucks rule will ensure there is supply.**

This rule will accelerate the cost-effective deployment of electric medium- and heavy-duty vehicles, allow our members to meet financial and climate goals, and significantly reduce air pollution-related health impacts and costs across the state. We applaud Maryland for taking this step and look forward to working with you to continue the ambition in reducing transportation emissions.

Ceres encourages a favorable report for this important legislation and thank you for your time and leadership.

Sincerely,

Dave Robba

Senior Associate – State Policy

Ceres


Adrian Dominican Sisters
Seek Truth • Make Peace • Reverence Life


AMPLY
FLEET CHARGING SIMPLIFIED


ARAPAHOE BASIN
COLORADO


ARJUNA CAPITAL
ENLIGHTENED ENGAGEMENT IN THE CAPITAL MARKETS


AVOCADO
GREEN
BRANDS


BEN & JERRY'S


BOSTON COMMON
ASSET MANAGEMENT


CALIFORNIA
HEALTH CARE
CLIMATE ALLIANCE


CommonSpirit


Congregation of
St. Joseph


THE CHARITY OF JESUS CRUCIFIED URGES US


DAUGHTERS
of CHARITY
PROVINCE of ST. LOUISE


Domini


DSM


ebay


ECOS


Etsy


FIGURE 8


GREEN
CENTURY


HEMP ACE
INTERNATIONAL


ICCR
INTERFAITH
CENTER ON
CORPORATE
RESPONSIBILITY


IKEA


INDEPENDENCE SOLAR


LEGACY
VACATION RESORTS
CERTIFIED B CORP


Lime


MERCY
INVESTMENT
SERVICES, INC


Miller/Howard
INVESTMENTS, INC


nationalgrid


Nestlé
Good Food, Good Life


NEXT-TO-NATURE
MARKET
LIFE, WITH YOUR PET


NIKOLA™


Northwest Coalition for
Responsible Investment


OREGON
BUSINESS
FOR CLIMATE


Praxis Mutual Funds
A fund family of Everence


PROTERRA


CAPUCHIN
FRANCISCAN
PROVINCE OF
ST. JOSEPH
The Midwest Capuchins


RIVERMOOR ENERGY


Saunders Hotel Group


Seventh Generation Interfaith
Coalition for Responsible Investment


SIERRA NEVADA


Racine Dominicans
Committed to Truth • Compelled to Justice


The Sisters
of St. Francis
of Philadelphia


Stonyfield
ORGANIC


studio g architects


Ten Directions
Design
206-323-6677


TRILLIUM
ASSET MANAGEMENT


TripZero


umc
100 YEARS


Unilever


United Church Funds


VERT
ASSET MANAGEMENT


WORTHEN

Appendix A

November 15, 2021

Re: 70+ Businesses Support State Adoption of the Advanced Clean Trucks (ACT) Rule

Dear Governors considering adopting the Advanced Clean Trucks Rule:

As major businesses, institutions, healthcare systems, employers, and investors with nearly $43 billion in assets under management, we write to express our strong support for adoption of the Advanced Clean Truck (ACT) rule across states. The ACT rule will help bring down costs for zero-emission medium- and heavy-duty vehicles by requiring manufacturers to increase model availability to meet the needs of fleet operators and driving investment in clean transportation research and development. This will enable cost-effective electrification of commercial vehicles at the pace and scale needed to meet climate and air quality goals, while delivering public health and economic benefits for communities and businesses alike.

We have made significant commitments to reduce our greenhouse gas (GHG) emissions to protect the health and economic well-being of the communities in which we live and operate. Transportation is now the largest source of GHG emissions across the nation, a substantial component of our carbon footprint, and a major operating expense. Moreover, transportation is a major source of harmful air pollutants that disproportionately impact low-income communities. Improving air quality is not only the right thing to do for public health and for these communities, it also makes economic sense. Fewer instances of respiratory illness, missed days of work and hospitalizations will increase personal disposable income and help reduce the financial pressure on our healthcare system. These impacts cross state lines, just like the commercial vehicles in our fleets and value chains.

Increased access to cost-effective zero-emission commercial vehicles across states will allow us to remain competitive in a market where our customers, investors, patients, and employees increasingly expect us to lead on sustainability. A growing number of clean vehicles offer significant cost savings through lower fuel and maintenance costs, and reduce the risk associated with the volatility of fossil fuel prices and supply. However, commercial vehicle electrification still faces significant challenges due to higher upfront costs, weight, charging time, battery range, and the availability of charging infrastructure. Market-enabling policies like the ACT will rapidly unlock the long-term savings, climate, and clean air benefits of medium- and heavy-duty vehicle (MHDV) electrification, while spurring the much-needed widespread deployment of charging stations. The more states that adopt ACT, the greater the market-forcing benefits of the rule, thereby lowering costs and creating a more stable and self-sustaining market.

Electrification of commercial transportation will support a cleaner, more energy-efficient economy through local innovation and investment in clean technology manufacturing—creating new jobs, cutting costs for our value chains, mitigating climate risk, improving public health, and reducing health care costs. Bold action by state leaders is urgently needed. We strongly support adoption of the ACT rule across states to accelerate MHDV electrification, allowing both manufacturers and fleet operators to capture savings from economies of scale and provide more cost-effective emissions reductions for all.

Sincerely,
Adrian Dominican Sisters, Portfolio Advisory Board
AMPLY Power
Appropriate Technology Group
Arapahoe Basin Ski Area
Arjuna-Capital
Aspen Skiing Company
Avocado Green Mattress
Ben and Jerry's
Boston Common Asset Management
Boston Trust Walden Company
California Health Care Climate Alliance
Clif Bar
CommonSpirit Health
Congregation of St. Joseph
Danfoss
Daughters of Charity, Province of St. Louise
Domini Impact Investment
DSM North America
eBay
ECOS Corporation
The Episcopal Church (Domestic & Foreign Missionary Society)
Etsy
Everence and the Praxis Mutual Funds
Figure 8 Investment Strategies
Friends Fiduciary
Green Century Capital Management
Grove Collaborative
GreenPower Motor Company
Hemp Ace International
IKEA Retail U.S.
Impax Asset Management
Independence Solar
Interfaith Center on Corporate Responsibility
Legacy Vacation Resorts
Lime
Macroclimate
Mercy Investment Services, Inc.
Miller/Howard Investments
Mountain Gear
National Grid
Natural Investments, LLC.
Nestlé
New Belgium Brewing Company
Next to Nature
Nikola Corporation
Northwest Coalition for Responsible Investment
Numi Tea
Oregon Business For Climate
Proterra
Province of St. Joseph of the Capuchin Order
Revision Energy
Rivermoor Energy
Saunders Hotel Group
Siemens
Sierra Nevada Brewing Co.
Sigma Consultants, Inc.
Sisters of St. Dominic of Caldwell
Sisters of St. Dominic of Racine
Sisters of St. Francis of Philadelphia
Stonyfield Organic
Studio G Architects
Sustainable Advisors Alliance, LLC
Ten Directions Design
The Green Engineer, Inc.
Trillium Asset Management
TripZero
UMC, Inc.
Unilever
United Church Funds
United Natural Foods Inc.
Vert Asset Management
Worthen Industries
WR Consulting, Inc.
Zero Emission Transportation Association (ZETA)

***The following signatories do not have logos available: Appropriate Technology Group, The Episcopal Church (Domestic & Foreign Missionary Society), Grove Collaborative, Macroclimate, Natural*

Investments, LLC., Province St. Joseph of the Capuchin Order, Sigma Consultants, and WR Consulting, Inc.

For more information or to connect with the signatories, please contact Jennifer Helfrich, Senior Manager for State Policy at Ceres (helfrich@ceres.org).

Ceres is a nonprofit organization working with influential capital market leaders to transform the economy in order to build a just and sustainable future for people and the planet. Learn more about Ceres and the Business for Innovative Climate and Energy Policy (BICEP) Network at www.ceres.org.

SB0687-Zero Emission Trucks - EHEA-CJW-FAV.pdf
Uploaded by: Diana Younts
Position: FAV

Committee: Education, Health & Environmental Affairs
Testimony on: SB687 - Dept. of Environment-Zero-Emission Medium and Heavy Duty Vehicles-Regulation (Zero Emission Truck Act of 2022)
Organization: MLC Climate Justice Wing
Submitting: Diana Younts, Co-Chair
Position: Favorable
Hearing Date: February 24, 2022

Dear Mr. Chairman and Committee Members:

Thank you for allowing our testimony today. The MLC Climate Justice Wing, a statewide coalition of over 50 grassroots and professional organizations, urges you to vote favorably on SB687.

The Advanced Clean Truck Rule requires that vehicle manufacturers sell an increasing annual percentage of medium and heavy duty vehicles including pickup, delivery, and semi trucks as well as school buses between Model Year 2026 (for states that adopt in 2022) and 2035. These vehicles represent 10% of vehicles on the road but disproportionately contribute to 30% of carbon emissions, 45% of toxic nitrogen oxide emissions, and 57% of health harming particulate matter emitted by the entire transportation sector in the U.S.

The transportation sector is Maryland's number one generator of climate-damaging greenhouse gas emissions. Our state's Greenhouse Gas Inventory indicates that gasoline and diesel powered vehicles account for 89% of this pollution.

Tailpipe emissions from these vehicles also are hazardous to human health and contribute to cancers, heart disease, asthma, emphysema and other respiratory diseases. More than 80% of Marylanders live in counties that do not meet federal clean air standards for ozone, due in significant part to tailpipe emissions. Many black and brown communities in Maryland are particularly hard hit with health issues caused by tailpipe pollution due to the cumulative impact created by their proximity to major highways and roadways; and industry polluters such as the Wheelabrator incinerator, land fills, fossil fuel power plants, sub stations, and open coal transfer stations.

In 2013, Maryland joined seven other states in signing a memorandum of understanding committing to have 300,000 zero-emission vehicles (including plug-ins) on the road by 2025,

and 600,000 EVs on the road by 2030. The state also has a goal it set for itself to reduce state greenhouse gas emissions 50% by 2030 (compared to the 2006 level). In separate legislation that goal is planned to change to 60% by 2030 and 100% by 2045.

This bill would significantly increase the likelihood the state will be able to meet its greenhouse emission reduction goals and would improve the lives of everyone who live near major roads and highways.

We support this bill and recommend a **FAVORABLE** report in committee.

MLC Climate Justice Wing:

Assateague Coastal Trust
Bethesda Green
Maryland Legislative Coalition
MD Campaign for Environmental Human Rights
Chesapeake Climate Action Network
WISE
Frack Free Frostburg
Mountain Maryland Movement
Howard County Indivisible
Howard County Sierra Club
Columbia Association Climate change and sustainability advisory committee
HoCo Climate Action
CHEER
Climate XChange - Maryland
Mid-Atlantic Field Representative/ National Parks Conservation Association
350 Montgomery County
Glen Echo Heights Mobilization
The Climate Mobilization Montgomery County
Montgomery County Faith Alliance for Climate Solutions
Montgomery Countryside Alliance
Takoma Park Mobilization Environment Committee
Audubon Naturalist Society
Cedar Lane Unitarian Universalist Church Environmental Justice Ministry
Coalition For Smarter Growth
DoTheMostGood Montgomery County
MCPS Clean Energy Campaign
MoCo DCC
Potomac Conservancy
Casa de Maryland
Nuclear Information & Resource Service
Clean Air Prince Georges
Laurel Resist
Greenbelt Climate Action Network
Unitarian Universalist Legislative Ministry of Maryland
Concerned Citizens Against Industrial Cafos
Wicomico NAACP
Chesapeake Physicians for Social Responsibility
Chispa MD
Climate Law & Policy Project
Maryland Poor Peoples Campaign
Labor for Sustainability
The Nature Conservancy
Clean Air Prince Georges
350 Baltimore
Maryland Environmental Health Network
Climate Stewards of Greater Annapolis
Talbot Rising
Adat Shalom Climate Action
Chesapeake Earth Holders
Climate Parents of Prince Georges

Echotopia
Maryland NAACP State Conference,
Environmental Justice Committee

SB687 CATF Schmidt-Perkins FAV.pdf
Uploaded by: Dru Schmidt-Perkins
Position: FAV

Clean Air Task Force
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catf.us

February 23, 2022

SB 687 Department of the Environment – Zero-Emission Medium and Heavy Duty Vehicles – Regulations (Zero-Emission Truck Act of 2022)

Position: Support

Clean Air Task Force (CATF), a global nonprofit organization working to safeguard against the worst impacts of climate change by catalyzing the rapid development and deployment of low-carbon energy and other climate-protecting technologies, is pleased to provide these comments in support of Maryland House of Delegates Bill SB 687, titled "Zero-Emission Truck Act of 2022."

Heavy trucking produces around 2.3 billion metric tons[1] per year of CO_2, of which about 450 million metric tons[2] per year are emitted in the U.S. This is 24%[3] of the emissions from the U.S. transportation sector. In Maryland, transportation is responsible for 30.4 million metric tons[4] of GHG emissions annually. Trucking makes up a substantial portion of these emissions in Maryland and throughout the United States.

Diesel pollution from trucks also causes significant negative health impacts. According to CATF's Deaths by Dirty Diesel tool, in 2023 diesel vehicle emissions (both on- and off-road) are projected to contribute to 186 deaths and approximately $2 billion in monetized health impacts in the state of Maryland.[5]

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[1] Calculated by CATF based on fuel consumption data of 31 quads, assuming 74 kg of CO_2 per MMBtu of fuel. *See* U.S. Energy Info. Admin, *International Energy Outlook 2019*, https://www.eia.gov/outlooks/aeo/data/browser/#/?id=51-IEO2019&region=0-0&cases=Reference&start=2010&end=2050&f=A&linechart=~Reference-d080819.14-51-IEO2019&map=&ctype=linechart&sourcekey=0.

[2] *See* Env't Prot. Agency, *Fast Facts on Transportation Greenhouse Gas Emissions*, https://www.epa.gov/greenvehicles/fast-facts-transportation-greenhouse-gas-emissions; *see also* Env't Prot. Agency, Greenhouse Gas Inventory Data Explorer, https://cfpub.epa.gov/ghgdata/inventoryexplorer/#allsectors/allsectors/allgas/econsect/current.

[3] *See* Env't Prot. Agency, *Fast Facts on Transportation Greenhouse Gas Emissions*, https://www.epa.gov/greenvehicles/fast-facts-transportation-greenhouse-gas-emissions.

[4] *See* U.S. Energy Information Administration State CO_2 emissions https://www.eia.gov/environment/emissions/state/ Table 4, Maryland.

[5] *See* CATF, *Deaths by Dirty Diesel*, https://www.catf.us/deathsbydiesel/.

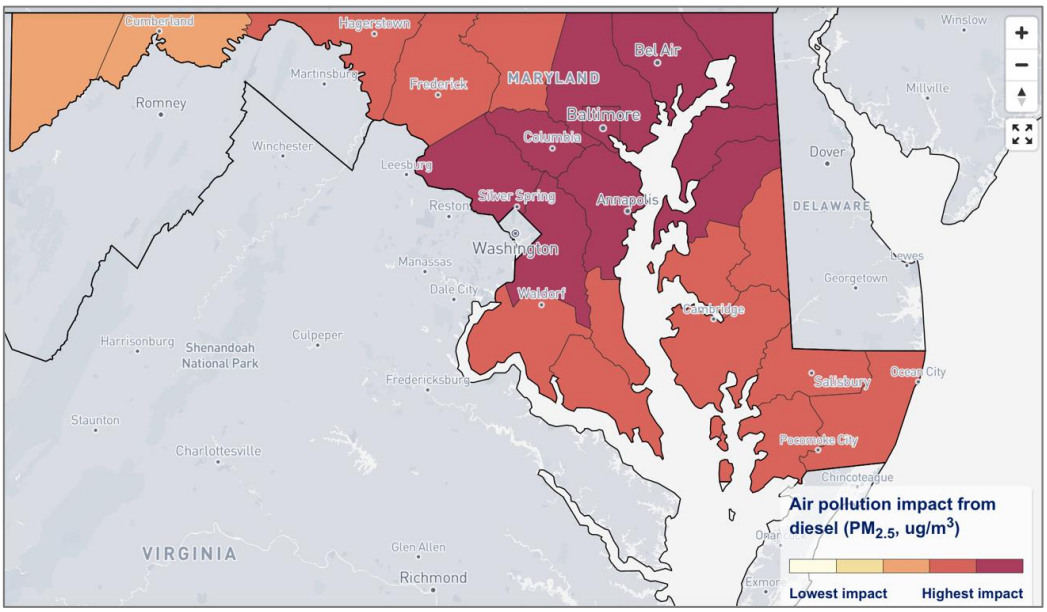

Figure 1: Maryland's air pollution impacts from diesel (CATF's Deaths by Dirty Diesel tool).

Emissions-free electric drivetrains are likely to be a powerful decarbonization tool for the heavy trucking sector. Electric drivetrains can be powered by onboard battery energy storage, similar to the battery systems used in electric cars, or by catenary wires and other continuous electricity delivery systems that are the subject of research and may play a role in very high-throughput corridors. Hydrogen fuel cells can also power electric drivetrains, and the fundamentals of onboard fuel and battery energy storage suggest that hydrogen or other zero-carbon fuels will play a substantial role in long-haul heavy trucking. By adopting California's Advanced Clean Trucks (ACT) regulation, Maryland will promote the continued development of electrification and hydrogen technologies while pursuing a concrete strategy to abate emissions from the heavy-duty truck sector.

California's Advanced Clean Trucks regulation[6] aims to accelerate the transition of Class 2b to Class 8 medium and heavy-duty diesel trucks to zero emission vehicles (ZEVs). The regulation has two components: a manufacturer sales requirement as well as a large fleet and large employer reporting requirement. By 2035, manufacturers who certify Class 2b to Class 8 chassis or complete vehicles will need 55% of Class 2b – 3 trucks, 75% of Class 4 – 8 straight trucks, and 40% of truck tractor sales to be ZEVs. Large employers are required to report information about shipments and shuttle services and large fleet owners with 50 trucks or more are required to report on their existing fleet operations.

A key attribute of the regulation is that it defines ZEV as an on-road vehicle with a drivetrain that produces zero exhaust emission of any criteria pollutant (or precursor pollutant) or greenhouse gas under any possible operational modes or conditions. This definition allows hydrogen fuel cell vehicle technology to play a role in decarbonizing heavy trucking—something that CATF sees as critical, especially for the difficult-to-electrify long haul routes.

The utility of hydrogen-powered electric drivetrains in long-haul applications is evident from recent estimates from the National Renewable Energy Laboratory (NREL) on the weight, range, and refueling time for heavy trucks with plug-in battery electric vehicle (BEV) and hydrogen fuel cell electric vehicle (FCEV) drivetrains. These drivetrains are similar in many ways, but the FCEV drivetrain has a much smaller battery and includes several compressed gaseous hydrogen storage tanks and fuel cells that the BEV does not have.

[6] See California Air Resources Board Advanced Clean Trucks Regulation, Final Regulation Order https://ww3.arb.ca.gov/regact/2019/act2019/fro2.pdf.

By supporting the use of FCEV drivetrains, the bill creates flexibility that will likely result in environmental and economic benefits. According to recent NREL research, the advantages of the hydrogen fuel cell drivetrain led to reduced costs for truck owners on certain routes. That reduced cost, in addition to the operational flexibility of hydrogen drivetrains, suggests that availability of hydrogen fuel cell electric trucks and fueling infrastructure would be a significant decarbonization promoter. Major manufacturers see this opportunity and are developing commercial products to pursue it.[7]

While not the majority of truck activity, long-haul (e.g., sleeper) routes, defined by NREL as greater than 500 miles, make up approximately 49%[8] of fuel consumption in the U.S. heavy trucking sector. Given Maryland's proximity to key commercial hubs along the East Coast and in the Midwest, long-haul routes are expected to make up a good portion of truck activity in Maryland. By allowing for FCEVs in addition to BEVs, including a reporting requirement, and maintaining sensible timeframes for requiring manufacturers to enter the market, the Advanced Clean Trucks regulation sensibly tackles the climate impacts from the trucking sector. Adopting this regulation will reduce the climate impact of medium and heavy-duty trucking, benefiting Maryland into the future.

We urge the Committee to issue a favorable report on SB 687.

Please reach out to Angela Seligman (email: aseligman@catf.us, cell: 314.922.5293) with any questions.

CATF is a global nonprofit organization working to safeguard against the worst impacts of climate change by catalyzing the rapid development and deployment of low-carbon energy and other climate-protecting technologies. With 25 years of internationally recognized expertise on climate policy and a fierce commitment to exploring all potential solutions, CATF is a pragmatic, non-ideological advocacy group with the bold ideas needed to address climate change. CATF has offices in Boston, Washington D.C., and Brussels, with staff working virtually around the world.

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[7] *See* Air Products and Cummins to Accelerate Development and Deployment of Hydrogen Fuel Cell Trucks, July 2021, available at https://www.cummins.com/news/releases/2021/07/26/air-products-and-cummins-accelerate-development-and-deployment-hydrogen. *See also* https://www.greencarcongress.com/2021/06/20210614-pola.html and https://www.cnbc.com/2021/11/12/too-risky-to-not-use-battery-and-hydrogen-tech-daimler-truck-ceo.html.

[8] *See* Dep't of Transp., *Freight Facts and Figures 2017*, Table 2-3, Figure 2-1, Table 6-8, Table 6-9 (Oct. 13, 2017), https://www.bts.dot.gov/sites/bts.dot.gov/files/docs/FFF_2017.pdf.

Senate testimony_LNS_Zero Emission Truck Act_SB 68
Uploaded by: Elizabeth Bunn
Position: FAV

LABOR NETWORK FOR SUSTAINABILITY

A PROJECT OF VOICES FOR A SUSTAINABLE FUTURE, INC.

Labor Network for Sustainability seeks to build a powerful labor-climate movement to secure an ecologically sustainable and economically just future where everyone can make a living on a living planet.

February 23,2022

Testimony on SB 687
Zero-Emission Truck Act of 2022
Education, Health, and Environmental Affairs

Position: Favorable

On behalf of the Labor Network for Sustainability, we write in support of SB 687–the Zero Emission Truck Act of 2022.

This proposed legislation would require that the Maryland Department of Environment adopt the Advanced Clean Truck rule by December 1, 2022. This rule requires that vehicle manufacturers sell an increasing percentage of zero emissions medium and heavy duty vehicles annually between Model Year 2026 (for states that adopt in 2022) and 2035. These vehicles, which include pickup, delivery, and semi trucks and school buses, represent 10% of vehicles on the road but disproportionately contribute to 30% of carbon emissions, 45% of toxic nitrogen oxide emissions, and 57% of health harming particulate matter emitted by the entire transportation sector in the US.

LNS is committed to creating a sustainable economy that is also economically just. This bill helps Maryland transition to a carbon-free transportation system that we need and deserve. It should be accompanied by measures that address potential harm to workers and communities the bill might cause so that the transition is just. We should also work to adopt policies to provide incentives to companies manufacturing zero emissions vehicles to locate in Maryland and to encourage high quality job standards.

Under Section 177 of the Clean Air Act, states other than California are not allowed to set their own emissions standards. However, states can choose to follow and adopt vehicle standards that California has enacted. Maryland first adopted California's clean car standards for personal vehicle electrification through legislative action in 2007. Maryland has the opportunity to continue its climate leadership role by enacting similar standards for medium and heavy duty vehicles and begin to to mitigate the harm caused by large diesel vehicles. This is a public health imperative.

Additionally, this legislation would help Maryland meet its commitment for 30% of all medium and heavy duty vehicles sales to be electric by 2030 and could create high quality green jobs in the process. Maryland would also be included in the growing number of states adopting the Advanced Clean Truck Rule, including California, Massachusetts, New York, New Jersey, Washington, and Oregon.

We encourage a FAVORABLE report for this important legislation.

Elizabeth Bunn
Maryland State Director
Ebunn@labor4sustainability.org

SB687_MDPIRG_ENVMD_FAV.pdf
Uploaded by: Emily Scarr
Position: FAV

Testimony on SB687
Zero-Emission Truck Act of 2022
Education, Health, and Environmental Affairs
February 24th, 2022
Emily Scarr, Maryland PIRG Director
FAVORABLE

Maryland PIRG is a state based, small donor funded public interest advocacy organization with grassroots members across the state. For fifty years we've stood up to powerful interests whenever they threaten our health and safety, our financial security, or our right to fully participate in our democratic society.

Environment Maryland is a citizen-based environmental advocacy organization. We work to protect clean air, clean water, and open space.

Throughout the state, Maryland children and families are suffering from the damaging effects of living with unhealthy air quality. In October, Maryland PIRG Foundation and Environment Maryland Research and Policy Center released "Trouble in the Air," which outlined elevated air pollution days throughout the state. The Baltimore area experienced 43 elevated air pollution days in 2020, and many metropolitan areas throughout Maryland faced similar levels of air pollution. Elevated air pollution increases the risk of premature death, asthma attacks, cancer and other adverse health impacts.

In the American Lung Association's 2021 State of the State Report, six Maryland counties received an "F" for air quality. [See chart on final page]

Clearly, the Advanced Clean Truck rule (ACT) won't clean up all of our vehicles or even electrify all our trucks. But it will start to put us towards a path of mandating an increasingly higher number of electric trucks sold in the state starting in 2025, and ramping up for more than a decade.

Diesel fumes from medium and heavy duty trucks on the road is a true health hazard.

As a significant fraction of PM2. 5, **diesel PM** contributes to numerous **health impacts** that have been attributed to **particulate matter** exposure, including increased hospital admissions, particularly for heart disease, but also for respiratory illnesses, and even premature death.

Diesel trucks, like all fossil fuel vehicles, are also a source of global warming pollution.

The Advanced Clean Truck rule would apply to everything as small as delivery trucks to as big as 18-wheelers. It sets a sales requirement that increases each year, starting in 2025, so that a certain percentage of all trucks sold each year must be electric and ratcheting up through 2035.

This rule requires that vehicle manufacturers sell an increasing annual percentage of medium and heavy duty vehicles including pickup, delivery, and semi trucks as well as school buses

between Model Year 2026 (for states that adopt in 2022) and 2035. **These vehicles represent 10% of vehicles on the road but disproportionately contribute to 30% of carbon emissions, 45% of toxic nitrogen oxide emissions, and 57% of health harming particulate matter emitted by the entire transportation sector in the US.**

The most common opposition to this bill by the vehicle industry is that the cost exceeds the benefits. This is false from multiple perspectives.

First, zero-emission trucks provide savings to fleets: many trucks are already cost competitive on a total cost of ownership basis; larger vehicles are expected to achieve parity by 2025, and heavy-duty long-haul vehicles are expected to achieve parity by 2030, even without incentives (ZEV owners are anticipated to save $30,000 over the lifetime and especially after model year 2035).[1] This is largely due to fuel cost savings from charging with less expensive fuel and anticipated lower maintenance costs.

The upfront price of vehicles is also expected to continue to decline significantly as battery prices decline; adopting the ACT will only further that trend by increasing supply and improving economies of scale in a way that continues to depress prices. That being said, it is important to remember in the nearer term that looking only at these upfront expenses results in a myopic point of view - one that tells only a small part of the story and doesn't take into account public health impacts and related healthcare costs.

By passing this bill, Maryland would join a growing number of states adopting the Advanced Clean Truck Rule, including California, Massachusetts, New York, New Jersey, Washington, and Oregon. This legislation would also help Maryland follow through on its commitment for 30% of all medium and heavy duty vehicles sales to be electric by 2030 and could create high quality, environmentally friendly jobs in the process.

We respectfully request a favorable report.

[1] North American Council for Freight Efficiency, *Electric Trucks: Where They Make Sense* (May 2019) at 13-14, https://nacfe.org/emerging-technology/electric-trucks/; ICF, Comparison of Medium- and Heavy-Duty Technologies in California – Executive Summary (Dec. 2019) at 4, https://www.caletc.com/assets/files/ICF-Truck-Report_Final_December-2019.pdf.

SB 687 Support_CMTA.pdf
Uploaded by: Eric Norton
Position: FAV

Transportation Alliance

February 24, 2022

Testimony on SB 687 –
Department of the Environment – Zero-Emission Medium and Heavy-Duty Vehicles – Regulations (Zero-Emission Truck Act of 2022)
Education, Health & Environmental Affairs

Position: Favorable

The Central Maryland Transportation Alliance supports SB 687.

This proposed legislation would require that the Maryland Department of Environment adopt the Advanced Clean Truck rule by December 1, 2022. This rule requires that vehicle manufacturers sell an increasing annual percentage of medium and heavy-duty vehicles including pickup, delivery, and semi-trucks as well as school buses between Model Year 2026 (for states that adopt in 2022) and 2035. These vehicles represent 10% of vehicles on the road but disproportionately contribute to 30% of carbon emissions, 45% of nitrogen oxide (NOx) emissions, and 57% of health harming particulate matter emitted by the entire transportation sector in the US.

As a precursor to forming ground-level ozone, NOx emissions are especially impactful in the Baltimore metropolitan region because it is a non-attainment area under the Environmental Protection Agency's (EPA) standard for 8-hour ozone levels. Being a non-attainment area means that ozone levels exceed those set by the EPA through its National Ambient Air Quality Standards. High concentrations of ground-level ozone are a major environmental and health concern. Breathing ozone can scar lung tissue, reduce lung function, and trigger chest pain, coughing, and congestion, as well as worsen asthma, bronchitis, and emphysema.

This legislation would help Maryland follow through on its commitment for 30% of all medium and heavy-duty vehicles sales to be electric by 2030 and could create high quality green jobs in the process. Maryland would also be included in the growing number of states adopting the Advanced Clean Truck Rule, including California, Massachusetts, New York, New Jersey, Washington, and Oregon.

We encourage a favorable report on SB 687.

SB687_JFerguson_fav.pdf
Uploaded by: Jonathan Ferguson
Position: FAV

Jonathan Ferguson
342 New Mark Esplanade
Rockville, MD 20850

February 24, 2022

Testimony on SB 687
Zero-Emission Truck Act of 2022
Education, Health, and Environmental Affairs

Position: Favorable

I am submitting this testimony in support of SB 687.

This proposed legislation would require that the Maryland Department of Environment adopt the Advanced Clean Truck rule by December 1, 2022. This rule requires that vehicle manufacturers sell an increasing annual percentage of medium and heavy duty vehicles including pickup, delivery, and semi trucks as well as school buses between Model Year 2026 (for states that adopt in 2022) and 2035. These vehicles represent 10% of vehicles on the road but disproportionately contribute to 30% of carbon emissions, 45% of toxic nitrogen oxide emissions, and 57% of health harming particulate matter emitted by the entire transportation sector in the US.

I have lived in Rockville, MD for the past six years. I love my neighborhood but one of the major challenges with it is its proximity to major roads like interstate 270 and Rockville Pike. Every day, thousands of diesel trucks pass near our neighborhood, releasing toxic pollutants into our air. That's bad for me but it's even worse for my young children, who are 21 months and seven years old. Having these thousands of trucks pass by every day increases their risk of developing asthma and other illnesses due to normal childhood activities like playing on neighborhood playgrounds or soccer with friends. Additionally, with the increase in online shopping, more and more diesel trucks are entering my neighborhood to make deliveries, making it even harder to escape their pollutants.

Under Section 177 of the Clean Air Act, states other than California are not allowed to set their own emissions standards. However, states can choose to follow and adopt vehicle standards that California has enacted. Maryland first adopted California's clean car standards for personal vehicle electrification through legislative action in 2007. Maryland has the opportunity to enact similar standards again and clean up large dirty diesel vehicles that continue to harm our health and exacerbate climate change.

This legislation would help Maryland follow through on its commitment for 30% of all medium and heavy duty vehicles sales to be electric by 2030 and could create high quality green jobs in the process. Maryland would also be included in the growing number of states adopting the Advanced Clean Truck Rule, including California, Massachusetts, New York, New Jersey, Washington, and Oregon.

I encourage a FAVORABLE report for this important legislation.

SB687_MDSierraClub_fav - 24Feb2022.pdf
Uploaded by: Josh Tulkin
Position: FAV

P.O. Box 278
Riverdale, MD 20738

Committee: **Education, Health and Environmental Affairs**
Testimony on: **SB 687 – "Department of the Environment – Zero-Emission Medium and Heavy Duty Vehicles – Regulations (Zero-Emission Truck Act of 2022)"**
Position: **Favorable**
Hearing Date: **February 24, 2022**

The Maryland Chapter of the Sierra Club strongly supports SB 687 and considers it to be one of our high priority bills this session. SB 687 would require the Maryland Department of the Environment to adopt the Advanced Clean Truck (ACT) Rule by the end of this year. The rule would require all manufacturers that sell medium and heavy-duty trucks and school buses in the state to sell an increasing annual percentage of zero-emission trucks and school buses beginning in Model Year 2026 and concluding in 2035. The rule would increase the percentage of new zero-emission trucks and school buses required to be sold each year at a pace that would be gradual and technologically feasible.

Transportation is the largest source of climate-damaging greenhouse gas (CO2) emissions and a leading source of toxic air pollution that is hazardous to human health. Trucks account for 10% of the vehicles on the road but contribute 30% of greenhouse gas emissions and 57% of tiny particulate matter (PM2.5) pollution emitted by the entire transportation sector in the U.S., along with high levels of nitrogen oxide (NOx) and other pollutants. These toxic pollutants are linked to cancers, heart disease, asthma, other respiratory diseases, and premature death. Residential neighborhoods located near major roads, highways, and warehouses, which often are communities of color due to decades of discriminatory housing, face a disproportionate burden from transportation pollution, and the health of their residents has suffered more than the general populations because of this.

Electric trucks produce no tailpipe emissions and are increasingly available. There are over 100 models from more than 30 manufacturers that are currently on the market or will be before 2024.

Section 177 of the Clean Air Act allows California to set its own vehicle emission standards that are more strict than federal standards, but no other state is allowed to set its own emission standards. However, states can choose to follow and adopt California's more strict vehicle emission standards, as Maryland and a number of other states have done. In 2020, California set the first-in-the-nation zero-emission standards for medium and heavy-duty trucks sold in their state through adoption of the ACT Rule. Since then, New York, New Jersey, Massachusetts, Oregon, and Washington have adopted the same ACT rule, and a number of other states are considering doing so, too.

Companies across the nation are increasingly demanding electric trucks and vans to help them meet their climate and pollution goals, and to save on the costs of fuel and maintenance. More than 70 major corporations that have large truck fleets, including IKEA and Nestle, signed a letter urging state governors to accelerate the growth of electric trucks by adopting the ACT Rule.

By requiring the electrification of school buses and large pickup trucks, drayage, delivery, and semi-trailer trucks sold in Maryland, the ACT Rule would be a crucial step in the effort to combat climate change and reduce the toxic air pollution that makes us sick. Passage of SB 687 would be good for our health and the environment. We urge a favorable report on this bill.

Brian Ditzler
Transportation Chair
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Josh Tulkin
Chapter Director
Josh.Tulkin@MDSierra.org

Written Testimony for Maryland House - Environment
Uploaded by: Larissa Koehler
Position: FAV

February 25, 2022

Testimony on HB 829
Zero-Emission Truck Act of 2022
Environment & Transportation Committee

Position: Favorable

Environmental Defense Fund submits this testimony to express strong support for House Bill 829, which would require the Department of Environment to adopt the Advanced Clean Trucks regulation (ACT). The ACT would require manufacturers to sell an increasing number of zero-emission trucks and buses through 2035; by passing this bill, Maryland would be furthering its environmental leadership while reducing pollution where it is most needed and improving its economy.

Addressing Transportation Pollution is of Critical Importance

On-road transportation is the single biggest source of greenhouse gas emissions that warm the climate – at 36 percent of the total inventory.[1] As such, transitioning to vehicles that have zero tailpipe emissions will be a critical part of meeting the state's goal of reducing greenhouse gases 40% by 2030 and honoring the commitments that Governor Hogan made by signing the Medium- and Heavy-Duty Memorandum of Understanding. As well, diesel heavy-duty vehicles are a primary contributor to NOx emissions in the Mid-Atlantic and Northeast regions, despite making up a significantly smaller proportion of vehicles than passenger cars.[2] The health harm of these medium- and heavy-duty vehicles is significant, causing asthma and other respiratory illnesses, and exacerbating existing heart and lung conditions. What's more, overreliance on diesel trucks and buses is bad for the economy: a transition to 100% sales of trucks and buses by 2040 would save the United States $485 *billion* dollars in health and environmental benefits – money that is left on the table if Maryland fails to take concrete action such as the one presented by SB 687.

Moreover, the impacts of air pollution are not evenly felt. Taking action on the ACT will result in significant benefits for Marylanders – which suffer the second worst air pollution from transportation after New York State. Of course, the pollution that causes climate change and harms health is not evenly felt – Baltimore City and Prince George's County, home to more than 25% of the state's population, face exposure from fine particulate matter that is 37 and 23 percent higher, respectively, than the state average. In Baltimore City, average exposure is almost 2 times the nation's average and not too far below Los Angeles County. And, the most polluted census tracts – those near freight corridors, ports, and depots, have a higher

[1] *MDOT Greenhouse Gas Reduction Act (GGRA) Plan,* https://www.mdot.maryland.gov/tso/pages/Index.aspx?PageId=88#:~:text=The%20current%20statewide%20emissions%20inventory,rail)%20represents%20another%204%20percent.
[2] Maryland Department of the Environment, *Medium and Heavy Duty Trucks: An Emerging Area to Achieve Significant Emission Reductions* (Mar. 15, 2021), https://mde.maryland.gov/programs/workwithmde/Documents/AQCAC/2021MeetingMaterials/AQCAC%20CARB%20FINAL.pdf.

concentration of low-income and residents of color – almost 15 percent of people living in the highest burden areas are Latino, compared with a state Latino population of just 9 percent.[3]

Adoption of the ACT is economically beneficial and technologically feasible

Adoption of the ACT provides powerful benefits for the economy. Aside from deep benefits that can be seen by avoided costs attributable to missed workdays and hospital visits, adoption of the ACT can attract investment and create good-paying jobs. An illustration of this is seen in a study conducted by MJ Bradley and Associates in New Jersey – which finds that adoption of California standards (both the ACT and the low NOx rule) will contribute to hundreds of jobs and will have much higher jobs than those that they are replacing.

The total cost of ownership of zero-emission trucks and buses is increasingly favorable. Although the upfront cost of zero-emission trucks and buses still exceeds that of their diesel counterparts and requires mitigation, cost parity over the total cost of ownership will be quickly achieved. A recent study by EDF found that by 2027, electric vehicle costs will be less than their internal combustion engine counterparts for most vehicle types, due to maintenance and energy costs – more than enough to overcome any added costs from charging infrastructure. As component costs continue to decline, the business case for zero-emissions vehicles will only strengthen in the coming decades.[4]

Zero-emission vehicle options abound. Major market players like Volvo, Freightliner, and Navistar have made commitments to producing zero-emission vehicles – in addition to smaller players and start-ups like Lion, Nikola, Rivian, and Arrival. Currently, there are only three segments for which EVs will present operational challenges – though even in most of those cases, public charging can alleviate range constraints.[5] And, continual improvements in battery technology in the coming years will continue to close any operational gaps. Importantly, the structure of the ACT provides manufacturers flexibility as technology evolves – ramping up slowly over time and allowing trading between manufacturers and between vehicle classes. In short, there is no economic or technological reason to fail to take action.

Adoption of the ACT will create market certainty

Fleets have also made commitments to transition to zero-emission vehicles – in short, the market is there, if manufacturers meet it.[6] Many fleets have made it clear that they intend to make a transition to zero-emission vehicles. For example, IKEA has committed to transitioning all last mile deliveries be zero-emissions by 2035, Amazon has committed to purchasing 100,000 Rivian vans, and the Joint Electric Truck Scaling Initiative will be testing out Class 8 vehicles manufactured on Daimler and Volvo, utilizing them on freight corridors in Los Angeles and Long Beach. However, of course the vehicles necessary to fulfill those goals need to be available – passage of the ACT will provide market certainty that empower fleets to continue to make ambitious shifts, in addition to building economies of scale that bring down the upfront

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[3] Maria Cecilia Pinto de Moura, *Inequitable Exposure to Air Pollution from Vehicles in Maryland,* Union of Concerned Scientists (Nov. 15, 2019), https://blog.ucsusa.org/cecilia-moura/air-pollution-from-vehicles-maryland/.

[4] Roush Industries and Environmental Defense Fund, *Technical Review of: Medium- and Heavy-Duty Electrification Costs for MY 2027-2030 – Final Report* at 22 (Feb. 2, 2022), http://blogs.edf.org/climate411/files/2022/02/EDF-MDHD-Electrification-v1.6_20220209.pdf.

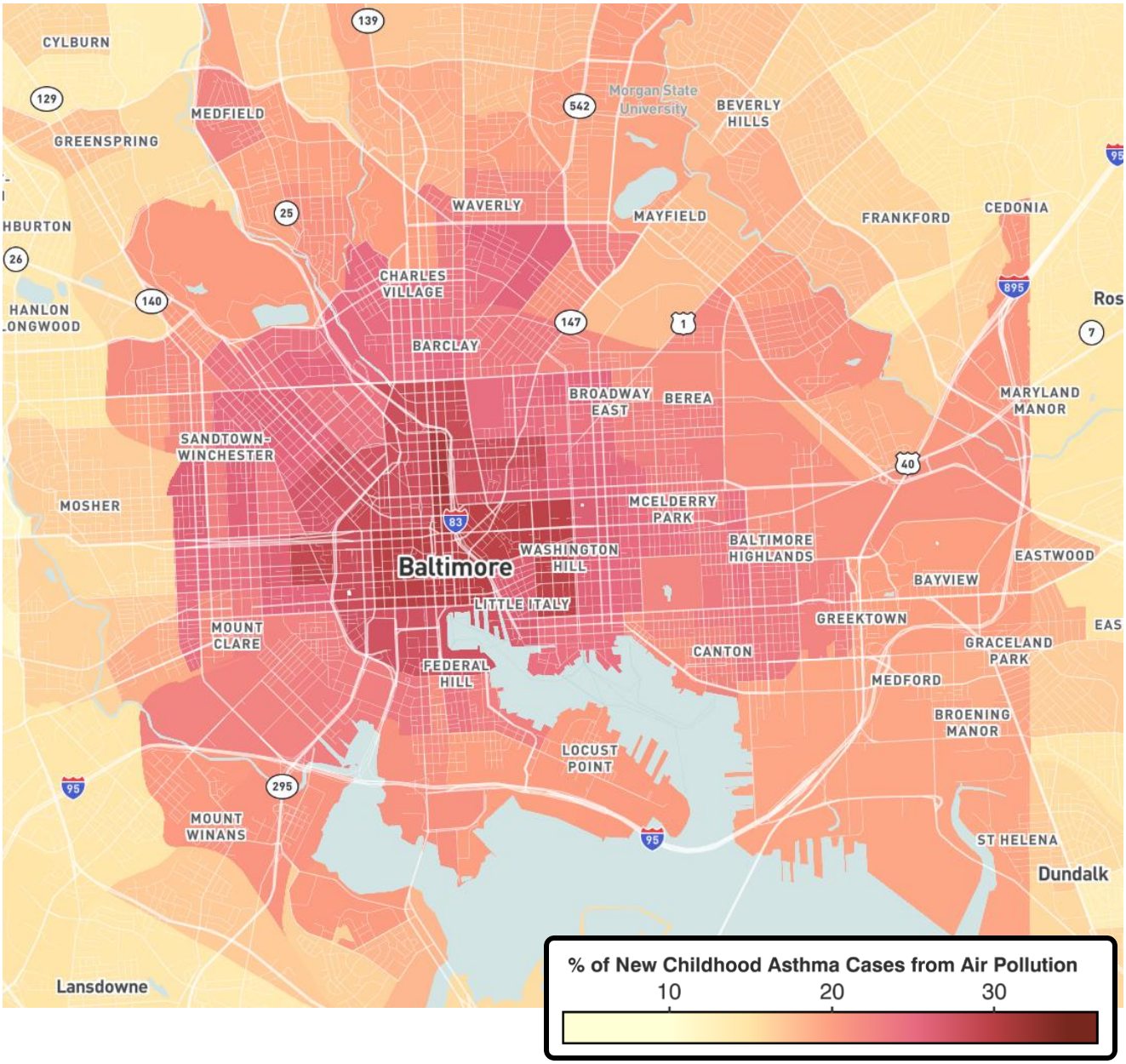
[5] MJ Bradley and Associates, *Medium- and Heavy-Duty Vehicles – Market Structure, Environmental Impact, and EV Readiness* at 20 (Jul. 2021), https://www.mjbradley.com/sites/default/files/EDFMHDVEVFeasibilityReport22jul21.pdf.

[6] *Id.* at 16.

cost of vehicles. This will make vehicles accessible to more and more businesses, broadening the benefits of zero-emission trucks and buses.

For the aforementioned reasons, EDF encourages a **favorable** report for House Bill 829.

Appendix A: Childhood Asthma in Baltimore



- In Baltimore, nitrogen dioxide pollution contributes to **more than 1,300 new childhood asthma cases** every year.
- In some areas of the city, as many as **1 in 4 new childhood asthma cases are attributable to pollution** – across Baltimore, approximately 15% of cases, on average, are attributable to pollution.

Map and estimates based on methodology described in:

SC Anenberg, A Mohegh, DL Goldberg, GH Kerr, M Brauer, K Burkart, P Hystad, A Larkin, S Wozniak, L Lamsal. Long-term trends in urban NO2 concentrations and associated paediatric asthma incidence: Estimates from global datasets. The Lancet Planetary Health Volume 6, Issue 1, 2022, Pages e49-e58. https://doi.org/10.1016/S2542-5196(21)00255-2.

SB687_LarryBannerman_FAV.pdf
Uploaded by: Larry Bannerman
Position: FAV

February 24, 2022

Testimony on SB 687
Zero-Emission Truck Act of 2022

Education, Health, and Environmental Affairs/ Environment and Transportation

Position: Favorable

Larry Bannerman, lifelong resident of Turner Station, Md 21222

This proposed legislation would require that the Maryland Department of Environment adopt the Advanced Clean Truck rule by December 1, 2022. This rule requires that vehicle manufacturers sell an increasing annual percentage of medium and heavy duty vehicles including pickup, delivery, and semi trucks as well as school buses between Model Year 2026 (for states that adopt in 2022) and 2035. These vehicles represent 10% of vehicles on the road but disproportionately contribute to 30% of carbon emissions, 45% of toxic nitrogen oxide emissions, and 57% of health harming particulate matter emitted by the entire transportation sector in the US.

The Turner Station Conservation Teams and our community have fought alongside port agencies as well as environmental agencies in an effort to reduce truck traffic and emissions. At one point in 2018, there was a mile long backlog of idling trucks on Broening Highway. Through technological advances and innovation, that backlog no longer exists. That was a huge success! The Port of Baltimore (MPA), Ecologix, and local port agencies, have invited our community to each iteration of Dray Truck replacements. We wholeheartedly support these efforts to reduce emissions.

Under Section 177 of the Clean Air Act, states other than California are not allowed to set their own emissions standards. However, states can choose to follow and adopt vehicle standards that California has enacted. Maryland first adopted California's clean car standards for personal vehicle electrification through legislative action in 2007. Maryland has the opportunity to enact similar standards again and clean up large dirty diesel vehicles that continue to harm our health and exacerbate climate change.

This legislation would help Maryland follow through on its commitment for 30% of all medium and heavy duty vehicles sales to be electric by 2030 and could create high quality green jobs in the process. Maryland would also be included in the growing number of states adopting the Advanced Clean Truck Rule, including California, Massachusetts, New York, New Jersey, Washington, and Oregon.

We encourage a FAVORABLE report for this important legislation.

sb687, ZEV, state 2022.pdf
Uploaded by: Lee Hudson
Position: FAV

Delaware-Maryland Synod
Evangelical Lutheran Church in America
God's work. Our hands.

Testimony Prepared for the
Education, Health, and Environmental Affairs Committee
on
Senate Bill 687
February 24, 2022
Position: **Favorable**

Mr. Chairman and members of the Committee, thank you for this opportunity to support a cleaner energy future via State purchasing. I am Lee Hudson, assistant to the bishop for public policy in the Delaware-Maryland Synod, Evangelical Lutheran Church in America. We are a faith community with three synods in every part of our State.

My community advocates for reductions of current and future greenhouse gas emissions through public policies that influence energy demand and consumption.

Lower emissions are feasible now with available technology. What is needed is expansion of demand for the product to achieve scale. Commercial demand for zero emission vehicles is presently strong, suggesting the public is making a supportive decision. Assisting market evolution toward zero emissions will hasten the investment needed for the desired—and we add, necessary—result. The State of Maryland, as one actor, can do its part by recruiting its purchasing power to increase ZEVs in its market.

Senate Bill 687 would adopt relevant standards in California's ACT policy to increase ZEVs in the State's vehicle fleets. We support this policy instrument and its goal and ask your favorable report.

Lee Hudson

5699 Meridale Rd. Baltimore, MD 21228 410-230-2860 800-869-5492 fax 410-230-2871

Zero Emission Truck bill.pdf
Uploaded by: nanci Wilkinson
Position: FAV

Committee: Education, Health, and Environmental Affairs / Environment & Transportation
Legislation: SB 0687/ HB 0829 Zero-Emission Truck Act of 2022
Organization: Environmental Justice Ministry Cedar Lane Unitarian Universalist Church
Position: Favorable
Hearings: February 24/25,2022

Dear Committee Chair and Committee Members,
Cedar Lane's Environmental Justice Ministry supports this proposed legislation that would require that the Maryland Department of Environment adopt the Advanced Clean Truck rule by December 1, 2022. This rule requires that vehicle manufacturers sell an increasing annual percentage of medium and heavy duty vehicles including pickup, delivery, and semi trucks as well as school buses between Model Year 2026 (for states that adopt in 2022) and 2035. These vehicles represent 10% of vehicles on the road but disproportionately contribute to 30% of carbon emissions, 45% of toxic nitrogen oxide emissions, and 57% of health harming particulate matter emitted by the entire transportation sector in the US.

As a faith community we hold justice and equity as a principle that guides the inherent worth and dignity of every person who is entitled to a safe, healthy and clean environment. The state of Maryland ranks 10th in the number of people with asthma, a respiratory disease that has among its causes dirty air.

Under Section 177 of the Clean Air Act, states other than California are not allowed to set their own emissions standards. However, states can choose to follow and adopt vehicle standards that California has enacted. Maryland first adopted California's clean car standards for personal vehicle electrification through legislative action in 2007. Maryland has the opportunity to enact similar standards again and clean up large dirty diesel vehicles that continue to harm our health and exacerbate climate change.

This legislation would help Maryland follow through on its commitment for 30% of all medium and heavy duty vehicles sales to be electric by 2030 and could create high quality green jobs in the process. Maryland would also be included in the growing number of states adopting the Advanced Clean Truck Rule, including California, Massachusetts, New York, New Jersey, Washington, and Oregon.

We encourage a FAVORABLE report for this important legislation HB 0829 and SB 0687.

Thank you.

Nanci Wilkinson
Environmental Justice Ministry
Cedar Lane Unitarian Universalist Church

SB687_Khanna_FAV.pdf
Uploaded by: Nishanth Khanna
Position: FAV

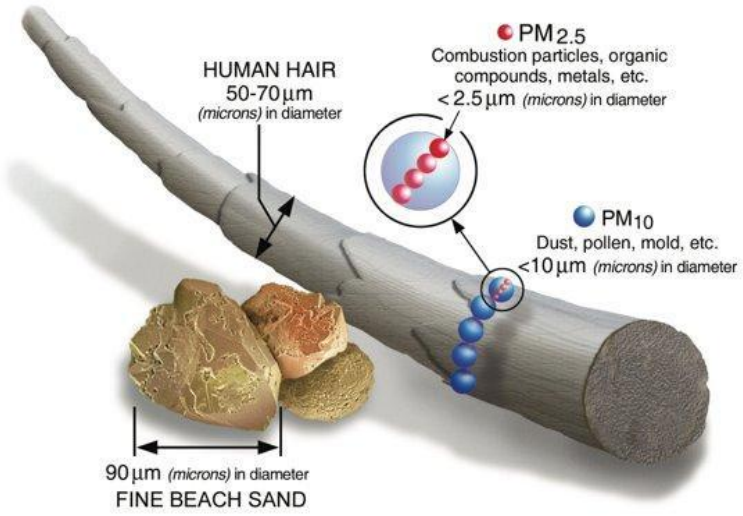
Committee: Education Health & Environmental Affairs
Testimony on: SB 687– Zero-Emission Truck Act of 2022
Position: Support
Hearing Date: February 25, 2022

Chesapeake Physicians for Social Responsibility (CPSR) is a statewide evidence-based organization of more than 900 physicians and other health professionals and supporters that addresses existential public health threats: nuclear weapons, the climate crisis, and the issues of pollution and toxic effects on health, as seen through the intersectional lens of environmental, social, and racial justice. As an organization founded by physicians, we understand that prevention is far superior to treatment in reducing costs, death, illness, injury and suffering.

As a physician concerned with the well-being of my patients, and on behalf of fellow physicians in CPSR from a variety of specialties treating Marylanders, I submit this testimony **in strong support** of SB687, which will benefit the health and well-being of thousands of Marylanders by mitigating the most severe impacts of climate change by reducing greenhouse gas emissions and by reducing the concentration of harmful pollutants in the air we breathe.

The medium and heavy duty vehicles included as part of this bill represent roughly 10% of vehicles on the road but contribute to 30% of carbon emissions and 45% of toxic nitrogen oxide emissions. Furthermore, trucks and other heavy duty vehicles are far more likely to run on diesel fuel, which is the most damaging of all vehicle emissions to our respiratory system. This is in part due to a much greater concentration of "ultrafine" particles ($PM_{2.5}$), which achieve deeper penetration into our respiratory airways, ultimately entering our circulation with greater efficiency than other forms of gasoline emissions, including unleaded gasoline (Figure 1)[1]. In fact, while they make up a small minority of vehicles on the road, they account for the majority (57%) of particulate matter emitted by the entire transportation sector.

Figure 1: Size Comparison for PM Particles



The small size of diesel fuel pollutant particles allows deeper penetration of our airways

Consequently, emissions from internal combustion vehicles have been shown to both cause and exacerbate a variety of respiratory diseases, including asthma[2] and COPD[3], and have also been shown to increase mortality related to COVID-19[4]. Diesel emissions are also a known human carcinogen[5].

In addition to the direct health impacts of poor air quality on Marylanders, we are also concerned by the far reaching health impacts of climate change that impact Marylanders in a myriad of ways, including a surge in diseases caused by ticks (e.g. Lyme disease) and mosquitos because of the increased geographic range and duration of warm weather caused by greenhouse gas emissions, to which the transportation sector of our economy is the largest contributor[6].

As physicians who care about the well-being of communities we serve, and to ensure we act as responsible stewards of the planet for future generations, we implore you to meet the urgency of the moment and take this important step to protect the health and well-being of Marylanders.

We **strongly urge favorable action** by the Committee on SB687.

Respectfully submitted,

Nishanth Khanna, M.D.
Board Member and Transit Policy Lead
Chesapeake Physicians for Social Responsibility
Nishanthkhanna@gmail.com

1 “Particulate Matter (PM) Basics | US EPA.” https://www.epa.gov/pm-pollution/particulate-matter-pm-basics#effects. Accessed February 2022.

2 Achakulwisut, Pattanun, et al. "Global, national, and urban burdens of pediatric asthma incidence attributable to ambient NO2 pollution: estimates from global datasets." The Lancet Planetary Health 3.4 (2019): e166-e178.

3 Hart, Jaime E et al. “Occupational diesel exhaust exposure as a risk factor for chronic obstructive pulmonary disease.” Current opinion in pulmonary medicine vol. 18,2 (2012): 151-4. doi:10.1097/MCP.0b013e32834f0eaa

4 Chen, Kai, et al. "Air pollution reduction and mortality benefit during the COVID-19 outbreak in China." The Lancet Planetary Health 4.6 (2020): e210-e212.

5 Silverman, Debra T. “Diesel exhaust causes lung cancer: now what?.” Occupational and environmental medicine vol. 74,4 (2017): 233-234. doi:10.1136/oemed-2016-104197

6 McMichael, Anthony J., and Elisabet Lindgren. "Climate change: present and future risks to health, and necessary responses." Journal of internal medicine 270.5 (2011): 401-413.

SB-687_IndivisibleHoCoMD_FAV_PeterAlexander.pdf
Uploaded by: Peter Alexander
Position: FAV

SB-687 Department of the Environment – Zero–Emission Medium and Heavy Duty Vehicles – Regulations (Zero–Emission Truck Act of 2022)
Testimony before
Senate Education, Health, and Environmental Affairs Committee
February 24, 2022
Position: Favorable

Mister Chair, Madam Vice Chair, and members of the Committee, my name is Peter Alexander and I represent the 750+ members of Indivisible Howard County. I am writing in support of SB-687, The Zero–Emission Truck Act of 2022. We are grateful for the leadership of Senators Young, Lam, and Washington for sponsoring this bill.

Transportation is Maryland's number one generator of greenhouse gas emissions which are causing global climate change. Trucks account for 10% of vehicles on the road but contribute 30% of carbon emissions and 57% of particulate matter (PM2.5) emitted by the entire transportation sector in the United States. Tailpipe emissions contribute to ozone and particulate (PM2.5) pollution resulting in failure to meet federal clean air standards for more than 80% of Maryland residents.

Fossil fuel-powered trucks are significant sources of pollutants other than greenhouse gases. Diesel exhaust contains more than 40 toxic air contaminants that in some cases can lead to decreased lung function and can cause and/or worsen diseases such as asthma and cancer.

The Clean Trucks Act of 2022 would require the Maryland Department of Environment to adopt the Advanced Clean Truck Rule by the end of 2022. This rule requires all manufacturers that sell trucks in the state to sell an increasing annual percentage of zero-emission trucks beginning in Model Year 2026 that varies by truck size. The rule increases sales targets at a pace that is gradual and technologically feasible.

If Maryland adopts the Advanced Clean Truck Rule, the state would avoid 7.2 million metric tons of cumulative carbon pollution between 2020 and 2050, the equivalent of emissions created from nearly 8 billion pounds of coal being burned. Over 70 major companies have signed a letter urging governors across the country to accelerate the growth of clean trucks by adopting the Advanced Clean Truck Rule.

Massachusetts, New York, New Jersey, Oregon and Washington joined California in 2021 by adopting the Advanced Clean Truck Rule, and more than a dozen other states have signed a joint memorandum of understanding committing to truck and bus electrification by 2050.

We respectfully urge a favorable committee report.

Peter Alexander, PhD
Woodbine, MD

SB687 - FAVORABLE_ Zero-Emission Truck Act of 2022

Uploaded by: Ramon Palencia-Calvo

Position: FAV

MARYLAND LEAGUE OF CONSERVATION VOTERS

February 24, 2022

SUPPORT: SB687: Zero-Emission Truck Act of 2022

Mr. Chairman and Members of the Committee:

Maryland LCV strongly supports SB687: Zero-Emission Truck Act of 2022, and we thank Senator Young for his leadership on this issue.

Maryland LCV works at the intersection of strong climate policy and environmental justice. This bill supports both of those interests.

In order to confront the growing threat of climate change, Maryland must continue to take bold steps to address the pollution coming from the transportation sector, which is the single largest contributor to our carbon emissions. Moving our state vehicles away from fossil fuel-reliant technologies and moving to zero-emission electric vehicles (which can be charged with clean, renewable energy) is critical to this effort. Trucks account for 10% of vehicles on the road, but contribute 30% of carbon emissions and 57% of particulate matter (PM2.5) emitted in the United States. People who are heavily exposed to PM2.5 and other toxic truck emissions like nitrogen oxides are at greater risk for developing asthma and many lung diseases like chronic obstructive pulmonary disease and lung cancer. Low income communities and communities of color disproportionately suffer the impacts of this diesel pollution.

Maryland LCV is especially invested in the inclusion of electric school buses in this legislation.

Every day over 650,000 children in Maryland ride to school on one of the State's approximately 7,200 diesel school buses. Every year, school buses in Maryland travel more that 128 million miles. Studies have shown that diesel pollutants concentrate inside a bus cabin, increasing children's exposure. A child riding inside of a diesel school bus may be exposed to as much as 15 times the level of toxic diesel exhaust as someone riding in a car. Diesel emissions are filled with carcinogens, particulate matter and soot that increases lifetime risk of cancer, incidents of asthma and heart disease. These effects are particularly dangerous for children because their lungs, heart, and other organs are still developing.

Children riding in zero-emission buses experience reduced exposure to air pollution, less pulmonary inflammation, more rapid lung growth over time and lower absenteeism compared to children riding in diesel buses, particularly those with asthma. In Maryland, approximately one in ten children suffer from asthma, and this rate is higher among minority groups. Asthma is a leading chronic illness among children in the United States, and it is also one of the leading causes of school absenteeism. In Maryland, 19.2 percent of parents reported that their child missed 1-2 days of school because of asthma and 9.7 percent said their child missed over seven days due to asthma.

Electric school buses are a proven technology. Here in Maryland, several school districts already have or are expecting to incorporate electric school buses to their fleets this year. Recent innovations, such as vehicle-to-grid (V2G) technology, coupled with the lower costs of operating and maintaining electric buses, have made them financially attractive for schools. One estimate puts the cost of operating electric school buses at about 19 cents per mile, compared to the 82 cents per mile cost of diesel buses.

The electrification of school buses has been a priority of Maryland LCV for many years, and is included in several important pieces of legislation this year, of which SB687 is one. This important bill works in concert with the provisions of the Climate Solutions Now Act (SB528) and the Electric School Bus Pilot Program (SB948).

Maryland LCV strongly urges a favorable report on this important bill.

CleanTruchs-SB687.pdf
Uploaded by: Richard Reis
Position: FAV

February 16, 2022

Testimony on SB 687
Zero-Emission Truck Act of 2022
Education, Health, and Environmental Affairs

Position: Favorable

Richard Reis, 103 W 39th St Apt A2, Baltimore MD 21210, supports SB 687

This proposed legislation would require that the Maryland Department of Environment adopt the Advanced Clean Truck rule by December 1, 2022. This rule requires that vehicle manufacturers sell an increasing annual percentage of medium and heavy-duty vehicles including pickup, delivery, and semi-trucks as well as school buses between Model Year 2026 (for states that adopt in 2022) and 2035. These vehicles represent 10% of vehicles on the road but disproportionately contribute to 30% of carbon emissions, 45% of toxic nitrogen oxide emissions, and 57% of health harming particulate matter emitted by the entire transportation sector in the US.

This pollution is personal as my wife and I live in Baltimore, a city burdened by high levels of pollution. There is significant truck traffic in front of our condominium. My daughter's family with her husband and their 2 young sons live very nearby and are affected by this pollution. My grandsons ride school buses emitting diesel pollution.

Under Section 177 of the Clean Air Act, states other than California are not allowed to set their own emissions standards. However, states can choose to follow and adopt vehicle standards that California has enacted. Maryland first adopted California's clean car standards for personal vehicle electrification through legislative action in 2007. Maryland has the opportunity to enact similar standards again and clean up large dirty diesel vehicles that continue to harm our health and worsen climate change.

This legislation would help Maryland follow through on its commitment for 30% of all medium and heavy-duty vehicles sales to be electric by 2030 and could create high quality green jobs in the process. Maryland would also be included in the growing number of states adopting California's standards, including Massachusetts, New York, New Jersey, Washington, and Oregon.

I encourage a FAVORABLE report for this important legislation.

SB 687Support_ Transit Choices FINAL.pdf
Uploaded by: Robin Budish
Position: FAV

516 N. Charles Street, Suite 312 - Baltimore, Maryland 21201

February 23, 2022

Testimony on SB 687 –

Zero-Emission Truck Act of 2022

Education, Health, and Environmental Affairs

Position: Favorable

Transit Choices supports SB 687.

This proposed legislation would require that the Maryland Department of Environment adopt the Advanced Clean Truck rule by December 1, 2022. This rule requires that vehicle manufacturers sell an increasing annual percentage of medium and heavy duty vehicles including pickup, delivery, and semi trucks as well as school buses between Model Year 2026 (for states that adopt in 2022) and 2035. These vehicles represent 10% of vehicles on the road but disproportionately contribute to 30% of carbon emissions, 45% of toxic nitrogen oxide emissions, and 57% of health harming particulate matter emitted by the entire transportation sector in the US.

The Advanced Clean Trucks rule presents an opportunity for state governments to accelerate medium- and heavy-duty electric vehicle adoption and reduce climate and air pollution in their state. Larger commercial vehicles tend to have an outsized impact on air quality compared with light-duty vehicles because trucks, vans, and buses often are powered by diesel fuel and emit more carbon pollution. The harmful effects of that pollution and the poor air quality it causes are disparately experienced by low-income neighborhoods and communities of color, which tend to be disproportionately located in industrial areas or along highways with large concentrations of trucks and vans transporting freight. We must meet the challenges of air pollution and climate change head on and take steps to help reduce harmful fossil-fuel emissions from this significant part of the transportation sector.

Under Section 177 of the Clean Air Act, states other than California are not allowed to set their own emissions standards. However, states can choose to follow and adopt vehicle standards that California has enacted. Maryland first adopted California's clean car standards for personal vehicle electrification through legislative action in 2007. Maryland has the opportunity to enact

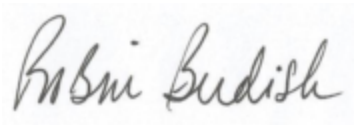
similar standards again and clean up large dirty diesel vehicles that continue to harm our health and exacerbate climate change.

This legislation would help Maryland follow through on its commitment for 30% of all medium and heavy duty vehicles sales to be electric by 2030 and could create high quality green jobs in the process. Maryland would also be included in the growing number of states adopting California's standards, including Massachusetts, New York, New Jersey, Washington, and Oregon.

We encourage a FAVORABLE report for this important legislation.

Thank you.

Sincerely,



Robin Budish
Director

Phone: 410.340.4878
Email: robin@transitchoices.org

Earthjustice Support Letter SB 687.pdf
Uploaded by: Susan Miller
Position: FAV

EARTHJUSTICE

February 23, 2022
Chair Paul G. Pinsky
Members of the Education, Health, and Environmental Affairs Committee

Re: Earthjustice **Support** of SB 687: Department of the Environment – Zero–Emission Medium and Heavy Duty Vehicles – Regulations (Zero–Emission Truck Act of 2022)

Earthjustice[1] strongly supports the passage of SB 687. To achieve Maryland's greenhouse gas ("GHG") emissions reduction goals, Maryland must reduce and ultimately eliminate the pollution caused by the transportation sector. SB 687 is a vital step in achieving the commitment Maryland made when Governor Hogan signed the Multi-State Medium- and Heavy-Duty Zero Emission Vehicle Memorandum of Understanding ("MOU") on July 13, 2020. Almost two years have passed since Maryland announced its commitment to adopt the California Advanced Clean Truck rules. Further delay will only continue the climate and public health harms caused by Maryland's reliance on gas and diesel vehicles.

BACKGROUND

On July 13, 2020, Maryland took another significant step forward in its effort to address the climate crisis and the health impacts of air pollution as it joined fourteen other states and the District of Columbia in signing a MOU to work collaboratively to advance and accelerate the market for electric medium- and heavy-duty vehicles, including large pickup trucks and vans, delivery trucks, box trucks, school and transit buses, and long-haul delivery trucks (big-rigs). The goal is to ensure that 100 percent of all new medium- and heavy-duty vehicle sales be zero emission vehicles by 2050 with an interim target of 30 percent zero emission vehicle sales by 2030. States signing the MOU are: California, Connecticut, Colorado, Hawaii, Maine, Maryland, Massachusetts, New Jersey, New York, North Carolina, Oregon, Pennsylvania, Rhode Island, Vermont, and Washington.

New Jersey adopted the Advanced Clean Truck Rule on December 20, 2021, becoming the first state on the East Coast to do so. New York adopted the rule on December 30, 2021. The New Jersey and New York mandates require manufacturers of medium- and heavy-duty vehicles to participate in a program intended to increase the percentage of zero-emission vehicles sold in New York and New Jersey, beginning with Model Year 2025. With the rule's adoption, both states have taken a significant step in reducing air pollution and protecting public health.

ADOPTION OF THE ADVANCED CLEAN TRUCK REGULATIONS BY DECEMBER IS VITAL

The federal Clean Air Act requires two years of lead time before a state can enforce a California motor vehicle emission standard.[2] If the Maryland Department of the Environment ("MDE") fails to

[1] Earthjustice is a non-profit public interest environmental law organization that represents other non-profits free of charge. Earthjustice uses the power of law and the strength of partnerships to advance clean energy, combat climate change, protect people's health and preserve magnificent places and wildlife.
[2] 42 U.S.C. § 7507(2).

finalize the rules before December 31, 2022, Maryland will lose a compliance year and the rule's implementation will be delayed.

As noted above, New Jersey and New York adopted the Advanced Clean Truck Rule before the end of 2021. Because both states met Clean Air Act-related deadlines to issue the rules before the end of that year, these states can begin to enforce the rules, reduce air pollution, and protect public health earlier than they could have otherwise.

Maryland signed the MOU almost two years ago and cannot afford to lose another year of implementation. The MOU establishes a 30% sales goal by 2030. Each year of delay makes it much harder and much less likely that Maryland will achieve the initial goal set forth in the MOU.

ADOPTION OF THE CLEAN TRUCK RULE IS NECESSARY TO ACHIEVING MARYLAND'S CLIMATE OBJECTIVES

Maryland adopted very challenging, aggressive mandates to reduce Greenhouse Gas emissions to protect public health and to meet state climate change targets. The Greenhouse Gas Emissions Reduction Act of 2016 ("GGRA") calls for a reduction of emissions of 40% by 2030 (from 2006 levels). The Maryland Department of the Environment's ("MDE") 2030 GGRA Plan calls for the State to pursue a more ambitious goal of 50% reduction in emissions by 2030.

Meeting these goals requires a bold transformation in all sectors including transportation.

Maryland needs zero-emission technology in the transportation sector. Mobile sources and the fossil fuels that power them are the largest contributors to nitrogen oxides (NOx) (which is the greatest contributor to ozone), greenhouse gas emissions, fine particulate matter (PM2.5), and toxic diesel particulate matter.

Transportation is now the largest source of GHG emissions in Maryland, and where reductions are needed most in the future. Transitioning to Medium - and Heavy -Duty ZEVs will be a key component of achieving additional reductions. In the Northeast corridor, 42% of all GHG emissions come from transportation. Similarly, 54% of all NOx emissions in the Northeast corridor also come from transportation.

Adoption of the Advanced Clean Truck Rule will go a long way toward slashing these harmful emissions. The transportation sector is the nation's largest source of greenhouse gas emissions and also contributes to unhealthy levels of smog. Accelerating the electrification of trucks and buses is an essential step to achieve the deep emission reductions needed to avoid the worst consequences of climate change and protect the health of millions of Marylanders.

Truck and bus electrification also promises to deliver wide-spread health benefits, particularly in communities with heavy truck traffic that are burdened with higher levels of air pollution. Medium- and heavy-duty trucks are a major source of harmful smog-forming pollution, particulate matter, and air toxics. These emissions disproportionately impact low-income communities and communities of color often located near major trucking corridors, ports, and distribution hubs. The MOU comes at an important transition point for the industry as investment in zero emission vehicle technology for the medium- and heavy-duty sector continues to ramp up. Today, at least 70 electric truck and bus models are on the market, and manufacturers are expected to make many more new models commercially available over the next decade.

By adopting these rules, Maryland will reduce emissions of greenhouse gases, carbon dioxide, nitrogen oxides, fine particulate matter, and other pollutants. The rule also has significant public health impacts—reducing cases of acute bronchitis, exacerbated asthma, and other respiratory conditions.

Maryland has experienced firsthand the severe cost in people and capital from some combination of climate-induced tornados, hurricanes, flooding, or elevated temperatures that worsen air quality and stifle economic activity. Tackling climate change means removing diesel and gasoline from transportation.

EV CHARGING IS BENEFICIAL TO ELECTRIC UTILITIES AND RATEPAYERS

There's a misconception that widespread charging of EVs will necessarily stress the electric grid, resulting in costly upgrades that drive up electric rates. However, analysis of the two utility service territories with the most EVs of any in the U.S., Pacific Gas & Electric (PG&E) and Southern California Edison (SCE), conducted by Synapse Energy Economics ("Synapse") found the opposite has been observed in the real world.

EVs are pushing electric rates down, largely because they tend to charge overnight when people are sleeping and there is plenty of spare capacity on the grid. In particular, EV customers on time-of-use (TOU) rates, only do 9-14 percent of their charging during on-peak hours when total demand for electricity is at its greatest. And even EV owners that remain on default rates that do not encourage off-peak charging consume less electricity during on-peak hours than typical households.

EVs are not straining the grid to this point, Thus, there is little to no increased utility costs associated with accommodating EV charging, but significant new revenues that is returned to all customers in the form of lower rates and bills.

Synapse evaluated the revenues and costs associated with EVs from 2012 through 2019 in the PG&E and SCE service territories. They compared the new revenue the utilities collected from EV drivers to the cost of the energy required to charge those vehicles, plus the costs of any associated upgrades to the distribution and transmission grid and the costs of utility EV programs that are deploying charging stations for all types of EVs.

In total, EV drivers contributed an estimated $806 million more than the associated costs. And this finding is not merely a result of the fact most EV drivers in PG&E and SCE territory remain on default rates and pay high upper-tier prices as a result. Even if 3 in 4 were on time-of-use rates designed for EVs, those drivers would still have provided approximately $621 million in net-revenues.

AVAILABILITY OF EV MODELS

The MOU comes at an important transition point for the industry as investment in zero emission vehicle technology for the medium- and heavy-duty sector continues to ramp up. The zero-emission truck and bus market is growing rapidly, with over a hundred models commercially available today. Dozens of manufacturers, including established original equipment manufacturers and startups new to the heavy-duty market, have announced plans to release commercially available zero-emission vehicles.

These models also have a lower total lifetime cost than gas or diesel power vehicles. The UC Berkeley School of Public Policy, 2035 transportation report[3] focused on the feasibility, economic savings, and climate and health benefits of 100% ZE light-duty sales by 2030, and 100% ZE medium-and-heavy duty sales by 2035. The Appendix includes detailed cost breakdowns for 6 different vehicle classes (from Class 1 LDV to Class 7-8 HDT) and finds every truck class evaluated has (or will have prior to 2025) a lower lifetime cost per mile driven than its combustion equivalent.

In sum, adoption of the Advanced Clean Truck Rule will result in climate and public health benefits, net savings to fleets operating zero-emission trucks, and benefits to commercial and residential electricity customers due to lower electricity rates made possible by additional electricity sales for electric vehicle charging.

Finally, Earthjustice thanks Senators Young, Lam, and Washington for their leadership on this important issue.

Earthjustice strongly urges a favorable report for SB 687.

Thank you in advance for your support. Should you have any questions, please contact me at smiller@earthjustice.org.

Respectfully submitted,

Susan Stevens Miller
Senior Attorney, Clean Energy Program
Earthjustice
smiller@earthjustice.org

[3] http://www.2035report.com/transportation/wp-content/uploads/2020/05/GridLab_2035-Transportation-Appendix.pdf?hsCtaTracking=c4d392a4-96ff-474c-86c3-bfa335c67aa2%7Ce2107ae8-40d7-44ff-8b5b-72016d87fe98

SB687_SenYoung_FWA.PDF
Uploaded by: Ronald Young
Position: FWA

Ronald N. Young
Legislative District 3
Frederick County

Budget and Taxation Committee

Chair, Executive Nominations Committee

Senate Chair, Joint Subcommittee on Program Open Space/Agricultural Land Preservation

Joint Committee on Administrative, Executive, and Legislative Review

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The Senate of Maryland
ANNAPOLIS, MARYLAND 21401

February 24, 2022

SUPPORT SB687

Zero Emissions Truck Act 2022

Dear Chair Pinsky, Vice Chair Kagan, and distinguished members of the Senate Education, Health, and Environmental Affairs Committee,

SB687 requires the transitioning of diesel school buses and trucks to clean, zero-emission electric buses and trucks starting in 2026.

Trucks account for 10% of vehicles on the road but contribute 30% of carbon emissions and 57% of fine particulate matter (PM2.5) emitted by the entire United States transportation sector.[6]

Fine Particulate Matter, PM2.5, is composed of particles with diameters measuring 2.5 micrometers or less. This tiny amount is smaller than the diameter of fine human hair and thus can penetrate deeply into the lungs.[5] The U.S. Environmental Protection Agency has found that short- and long-term exposure to PM2.5 can cause harmful health impacts such as heart attacks, strokes, worsened asthma, and early death.[2,7]

The science is clear: no level of particulate matter is safe to breathe, says the American Lung Association. Although $PM_{2.5}$ is not the only air pollutant that adversely affects health, it is estimated to be responsible for approximately 95 percent of the global public health impacts from air pollution.[5,8]

In 2020, Governor Hogan joined 14 other states and the mayor of Washington, D.C., and entered into a Memorandum of Understanding (MOU) aimed at increasing the number of electric medium- and heavy-duty vehicles on the road by pursuing a goal of all sales of these vehicles being zero-emission models by 2050. [1] **SB687** builds on the 2020 Memorandum and Maryland's commitment to Air Quality, environmental justice, public health, and Climate Change by requiring the transitioning of diesel school buses and trucks to clean, zero-emission electric buses and trucks starting in 2026.

I offer a sponsor amendment that makes technical corrections to the minimum and maximum weight of the trucks for consistency with the Advanced Clean Trucks (ACT) rule.

I ask that you vote favorably on **SB687** to ensure Maryland's kids and communities .

Respectfully,

Ronald N. Young

Resources

1. Maryland Department of the Environment. July 14, 2020. Maryland.gov. "Hogan administration joins multi-state clean truck initiative" (Feb. 1, 2022) https://news.maryland.gov/mde/2020/07/14/hogan-administration-joins-multi-state-clean-truck-initiative/
2. Clean Air Task Force. January 20, 2022. "New CATF tool maps the staggering U.S. health and economic damages caused by diesel emissions". (Feb 15, 2021). https://www.catf.us/2022/01/new-catf-tool-maps-staggering-health-economic-damages-caused-diesel-emissions/
3. The International Council on Clean Energy. January 21, 2022. "The Benefits of Adopting California Medium- and Heavy- Duty Vehicle Regulations." (Feb 17, 2022) https://theicct.org/benefits-ca-multi-state-reg-data/
4. 2022. "70+ Businesses Call for the Advanced Clean Trucks Rule". (Feb. 15, 2021) https://www.ceres.org/ACT
5. Pinto de Moura, Maria Cecília. Nov. 15, 2019. "Inequitable Exposure to Air Pollution from Vehicles in Maryland". Union of Concerned Scientists - The Equation. (Feb 15, 2022) https://blog.ucsusa.org/cecilia-moura/air-pollution-from-vehicles-maryland/
6. Fleming, K.L., Brown, A.L., Fulton, L. *et al.* Electrification of Medium- and Heavy-Duty Ground Transportation: Status Report. *Curr Sustainable Renewable Energy Rep* 8, 180–188 (2021). (Feb 17, 2022) https://doi.org/10.1007/s40518-021-00187-3 https://link.springer.com/article/10.1007/s40518-021-00187-3
7. Environmental Protection Agency. 2019. "Integrated Science Assessment (ISA) for Particulate Matter." www.epa.gov. (Feb 17, 2021) https://www.epa.gov/isa/integrated-science-assessment-isa-particulate-matter
8. Landrigen, Phillip, et. al. October 19, 2017. "Commission on Pollution and Health." Vol. 39, Issue 10119. Pgs 462-512. February 3, 2018. (Feb 17, 2022) https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(17)32345-0/fulltext

AMENDMENT REQUEST FORM

Date Submitted 2.23.2022

REQUESTER INFORMATION

Name	Phone	E-mail
Ronald Young	x3575	Ronald.Young@senate.state.md.us

REQUEST INFORMATION

Bill No. SB687 Bill Title Zero-Emission Truck Act 2022

Amendment Sponsor Ronald Young

Hearing Date 02/24/2022 Date Needed 02/24/2022

Name(s) and contact information of individual(s) the drafter is authorized to contact

Ronald Young, Lara Westdorp

To Be Offered In Committee

Description and Comments

On page 2, in line 2, strike " 10,000 " and substitute " 8,501 " ;
and in line 3, strike " 26,000 " and substitute " 14,000 " .

****PLEASE ATTACH ANY ADDITIONAL COMMENTS AND SUPPORTING DOCUMENTS TO THE EMAIL WITH THIS FORM****

EMAIL THIS FORM TO: amendment.office@mlis.state.md.us Updated: 9/2/2020

SB0687/603924/1

AMENDMENTS PREPARED BY THE DEPT. OF LEGISLATIVE SERVICES

11 FEB 22
15:16:03

BY: Senator Young
(To be offered in the Education, Health, and Environmental Affairs Committee)

AMENDMENTS TO SENATE BILL 687
(First Reading File Bill)

AMENDMENT NO. 1

On page 1, in line 21, strike "**26,001**" and substitute "**14,001**".

AMENDMENT NO. 2

On page 2, in line 2, strike "**10,000**" and substitute "**8,001**"; and in line 3, strike "**26,000**" and substitute "**14,000**".

SB 0687_aadams_unfav.pdf
Uploaded by: Alexander Adams
Position: UNF

SB 0687
Alex Adams (info@pzevf.org)
Partners for a Zero Emission Vehicle Future
Unfavorable

Hearing on the Proposed Maryland Zero-Emission Truck Act of 2022 (SB 0687 and HB 0829) and the Proposed Incorporation by Reference of California's Advanced Clean Truck Rule

February 24-25, 2022

Written Testimony

Introduction

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 ZEVs. We support Maryland's interest in accelerating the adoption of zero-emission trucks to address the State's air quality and climate change goals, but we believe that the adoption by reference of California's Advanced Clean Truck regulation will not support their realization.

As you are no doubt aware, the EPA has announced plans to develop a "Clean Trucks Plan" which will reduce greenhouse gas (GHG) and criteria pollutant emissions through a series of rulemakings over the next three years. While the details of plan components still need to be defined, we would strongly urge the Maryland General Assembly to align its programs with those inherently more effective nationwide regulations. That nationwide federal program will advance the goals we all share to implement next tier emission-standards for conventionally fueled trucks, while also accelerating the deployment of ZEV trucks. To do that effectively, however, we need a nationwide strategy and significant federal and state infrastructure funding, all as part of a larger effort to address climate change. State-specific mandates, such as the ACT Rule, while directionally correct, are not well-suited to the scope of these issues, and may work to hinder, not accelerate, the deployment of ZEV trucks.

The manufacturers, purchasers and users of ZEV trucks all support the Assembly's goals for clean air and a strong program to reduce greenhouse gas emissions. Moreover, we all acknowledge that ZEV trucks are and should be the future of the medium- and heavy-duty commercial vehicle market.

But in light of these national developments, and for the additional reasons detailed below, we respectfully request the Maryland General Assembly delay the proposed adoption of California's Advanced Clean Truck (ACT) Rule and oppose HB829 (or SB687), until it can more fully analyze the state's heavy-duty fleet and assess what complementary policies and programs would best address the obstacles to medium- and heavy-duty ZEV adoption in the state.

Cost Impact to Maryland's Fleets and Businesses

SB 0687
Alex Adams (info@pzevf.org)
Partners for a Zero Emission Vehicle Future
Unfavorable

The cost impacts specific to fleets and businesses located in the state have not been thoroughly assessed. According to the Maryland Motor Truck Association, there are over 20,000, primarily small and locally owned, trucking companies in the state and over 115,180 jobs in the trucking sector. Maryland is a very different state than California and the nuances of the state's trucking sector must be considered. The state cannot assume that what may work in California will work in Maryland. The Assembly and the Department of the Environment must study the real impacts to the trucking industry prior to moving forward with such a regulation.

Additionally, compared to conventionally fueled trucks, ZEV trucks currently have purchase prices that are 2-to-3 times higher than their diesel equivalents. California, even before the implementation of the ACT Rule, is dedicating over $10 billion from budgets over the last two years for support of electric vehicle related initiatives. In addition, California's HVIP program has been in existence for more than 10 years, funding more than 7,000 advanced technology vehicles, and the state intends to dedicate hundreds of millions of dollars more in the coming years.

Maryland has no such funding available for medium- or heavy-duty trucks. And while it is true that the state will receive additional funding under federal actions such as the IIJA and potentially the Build Back Better plan, these funds will still be insufficient and will not be deployed in time to provide meaningful support for fleets to purchase required ZEV sales in early years of the ACT.

Insufficient Infrastructure and Investment for ZEV Charging and Refueling.

Maryland will also need to make significant investments to install and maintain the necessary heavy-duty ZEV-charging and refueling infrastructure that is virtually nonexistent today.

Maryland's Department of the Environment programs provide some financial and technical support through programs such as the Alternative Fuel Infrastructure Program (AFIP), but it is inadequate to support fleets in the state who are expected to install their own fueling system in support of the ACT's requirements. While Maryland is investing and has a long-term plan for light-duty vehicle charging infrastructure, that envisioned build-out is vastly different from the necessary heavy-duty vehicle charging infrastructure in terms of power needs, as well as station structure, equipment and needed square footage.

Maryland need only look to other states for examples of the substantial time, education, investment and coordination among affected stakeholders to achieve its goal of a zero-emission vehicle future. A recently released audit of New York Power Authority's Charge NY and EVolve NY programs found that despite more than $250 million of planned investment the program failed to place charging ports in nearly half of all counties over the course of six years and did not complete any of the planned projects for Phase 1 of the EVolve NY Program by its deadline. In the report, NYPA officials cited supply chain challenges, permitting and utility interconnection timelines as factors impacting the rollout.

Maryland utilities will also need to make significant investments to support the electric grid's resiliency and ensure power is available to meet the increased demand throughout the regions where ZEV trucks will be in operation. California utilities have established and made available well-funded charging infrastructure incentive programs in anticipation of the California ACT Rule. This is all in addition to significant investment and effort needed to ensure the electric grid will have the power available to meet the increased demand throughout the regions where ZEV trucks will be in operation.

Premature ACT Adoption Undermines Maryland's Environmental Goals

Instead of accelerating fleet adoption of ZEVs, the premature adoption of California's ACT Rule in Maryland could hinder the emerging market for zero-emission commercial vehicles by asking fleets to incur charging and uptime challenges exceeding their risk tolerance. Though well-intentioned, this regulation could undermine the air quality and climate change benefits it purports to advance if fleets experience negative consequences, making the transition to ZEVs even longer than it might otherwise be.

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. It is also important to note that technologies are being tested in California and not in cold weather states. A state like Maryland reaches much lower temperatures that impact the operating capabilities of an electric truck. Extreme cold, such as negative temperatures that Maryland can experience, has significant impact on electric vehicles. Similar efficiency losses, or more, can be expected from much larger electric trucks. With these significant concerns, it is likely users will merely keep their older trucks on the road, which would undermine the emission reduction efforts of the state.

Imposing ZEV truck sales mandates while the state has insufficiently prepared to incentivize ZEV truck purchases and support ZEV truck use will signal that Maryland is not taking the necessary time to implement a viable ZEV truck strategy. Without a coordinated strategy, trucking fleets will be less likely to purchase ZEV trucks for the foreseeable future. That result is the exact opposite of our shared objective to accelerate the deployment of ZEV trucks.

A Better Path Forward

We believe that there is a better path forward to advance our common objectives:

- *Advocate for a National Approach*: Maryland, along with the other MOU states, should advocate for next-tier EPA regulations for heavy- and medium-duty trucks and should work to avoid the disparate state-by-state patchwork of ZEV-truck requirements that would disproportionately benefit the businesses in some states at

the expense of businesses in other states.

- *Invest in Incentives and Infrastructure*: Before adopting ZEV truck sales mandates, such as the ACT Rule, Maryland must prioritize the development of a viable and sustainable program to facilitate the purchase of ZEV trucks and infrastructure. Robust incentives must be established to offset all of the ZEV truck life-cycle costs that exceed current commercial vehicle costs, including: the higher purchase prices; the relative operational inefficiencies (*i.e.* it takes more ZEV trucks to perform the work of conventionally fueled trucks); the lower residual values; and the required investments in new maintenance facilities, training and parts inventories.

These concerns, along with the inherent benefits of coordinating around a nationwide Clean Trucks Plan, warrant a delay in the Assembly's adoption of the proposed ACT Rule and opposition to HB829 (or SB687) to allow for the implementation of a better roadmap toward a successful ZEV truck future.

We stand ready to partner with Maryland toward that goal.

Respectfully Submitted,

Partners for a Zero Emission Vehicle Future

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

Opposition of SB 687 - Department of the Environme
Uploaded by: Colby Ferguson
Position: UNF

Maryland Farm Bureau, Inc.

3358 Davidsonville Road • Davidsonville, MD 21035 • (410) 922-3426

February 24, 2022

To: Senate Education, Health & Environmental Affairs Committee

From: Maryland Farm Bureau, Inc.

Re: **Opposition of SB 687 - Department of the Environment – Zero–Emission Medium and Heavy Duty Vehicles – Regulations (Zero–Emission Truck Act of 2022)**

On behalf of our member families, I submit this written testimony opposing SB 687. This bill requires the Department of the Environment to adopt regulations on or before December 1, 2022, establishing requirements for the sale of new zero-emission medium and heavy-duty vehicles in the State. Heavy-duty vehicles are those that are rated over 26,000 pounds and medium are those rated at 10,001 to 26,000 pounds.

The challenge with this ambitious initiative is that the medium and heavy-duty truck market is nowhere near the light duty vehicle market. Currently, most options are in a concept phase. This bill pushes a market that is not ready yet. We don't see this bill effecting farm equipment but would affect road trucks used to haul commodities to and from the farm.

MARYLAND FARM BUREAU RESPECTFULLY OPPOSES SB 687

Colby Ferguson
Director of Government Relations
For more information contact Colby Ferguson at (240) 578-0396

SB687 - MD Motor Truck Association - Oppose.pdf
Uploaded by: Louis Campion
Position: UNF

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: **SB687: Department of the Environment – Zero–Emission Medium and Heavy Duty Vehicles – Regulations (Zero–Emission Truck Act of 2022)**

COMMITTEE: **Senate Education, Health & Environmental Affairs Committee**

POSITION: **Oppose**

Maryland Motor Truck Association recognizes the continued need to lower greenhouse gas emissions from the transportation sector. **The trucking industry is fuel neutral**; however, we must have access to a readily available and affordable fuel supply that meets our operational needs so that we can deliver the food, clothing, medical supplies and other products that citizen's need. Electric trucks do not currently meet those criteria and are unlikely to do so in accordance with the timetable mandated in SB687.

The passage of SB687 will require that the state of Maryland mirror California's Advanced Clean Trucks rule. This mandates an increasing percentage of medium and heavy duty trucks sold in the state to be zero-emission vehicles beginning in 2024. Under the Clean Air Act, states are prohibited from setting their own emissions standards, with the exception of California. States must follow federal standards; however, if California deviates from the federal standards, other states may choose to adopt **identical standards**. Because there is no current federal standard governing zero emission trucks, Maryland would have no choice but to adopt California's standard. This means that Maryland would be automatically opted into future California standards, even if they do not represent the best interests of our state's citizens.

As noted above, electric vehicles are not yet a feasible alternative for most of the trucking industry – particularly in the heavy duty sector. Here are a few of the issues that have yet to be solved.

- Model availability – there are six major heavy duty truck manufacturers in the U.S. In a survey of those six, very few models are currently available for sale. Others are still being tested in pilot programs. Even among those that are offering vehicles, the lead time is in excess of one year to obtain the vehicle. While other manufacturers have garnered headlines about their electric trucks, actual production has yet to occur and is frequently delayed. For example, Tesla's electric semi-truck was announced in 2017, with a release date of 2019; however, none of these vehicles have yet been produced.
- Battery range and charge time – current battery ranges among the heavy duty manufacturers are projected between 150 to 250 miles. This is sufficient for local medium delivery trucks but falls well below the needs of most heavy duty regional or long-haul operations. Charge time is roughly two hours. A traditional diesel-powered tractor trailer can travel 2,000 miles on a single fill up and takes less than 15 minutes to fill up.
- Electric grid capacity – there are tremendous differences in power needed to charge a truck versus a car. This challenge cannot be overstated. Recently one trucking company with approximately 150 trucks in Joliet, IL attempted to outfit its terminal for electric vehicles. The company's application was denied by the city because the power required was greater than the rest of the city's daily use.
- Cost – by all accounts, the cost for a new electric truck is two to three times higher than the cost of a traditionally powered vehicle. This does not include charging equipment or grid infrastructure, which can be hundreds of thousands of dollars. California has attempted to overcome this by offering massive financial incentives in the billions of dollars to assist with this conversion. A single heavy duty electric tractor is eligible for a rebate of $120,000.
- Reliability – a January 2022 report by CALSTART that was commissioned by the California Air Resources Board found that, "over 60% of the zero emission trucks that have been deployed in the United States are believed to be currently non-operational."
- Infrastructure – there are approximately 1,200 stations in Maryland for electric vehicle charging. MMTA is not aware of a single site that provides charging for trucks. The lead time for buildout of a private charging facility is 12 to 18 months.

- Additional trucks will be needed to deliver the same amount of freight – there is a 6,000 lbs. to 7,000 lbs. loss in payload with an electric truck because of the weight of the battery. This means that it will require one additional truck on the road for every six truck shipments to deliver the same amount of cargo.

Maryland is recognized primarily as a pass-through state for trucking. Most truck traffic on our roads originated in another state and is destined for a location out of Maryland. Without a federal solution, the impact of this legislation on greenhouse gas emissions reductions will be minimal as trucks traveling through Maryland will still be burning fossil fuels. Federal action to reduce GHGs from trucks is happening, but few people are aware of the tremendous activity that has occurred in recent years.

- Over the last 12 years, emissions from heavy duty diesel trucks and buses have been reduced by:
    - 99% for NOx
    - 98% for particulate matter
- It now takes 60 new trucks to equal the same emissions from one truck 30 years ago. The environmental impact was the equivalent of eliminating pollution from 13 million rigs.

Greenhouse gases have also been improved. The federal government implemented Phase 1 of its GHG reduction plan for trucks with model years 2014 – 2018. We are now in Phase 2, which runs until 2027.

- New commercial trucks being manufactured today reduce fuel consumption and GHGs by approximately 20% when compared to a truck manufactured just in 2010.
- Going forward, three additional rounds of increasingly stringent federal engine and vehicle GHG emissions standards are slated for new commercial trucks sold nationwide.
- Newly manufactured trailers will also be subject to increasingly stringent federal greenhouse gas emissions standards for the first time.
- By 2027, commercial trucks will further reduce fuel consumption and greenhouse gas emissions by an additional 25%. Improvements to trailers will provide an extra 9% reduction.

To that end, MMTA encourages a multi-faceted strategy that includes:

- A focus on infrastructure buildout backed by financial incentives for both trucks and charging stations. This is crucial to the large-scale adoption of ZEVs.
- An approach that considers all fuel options – including some continuation of fossil fuel use, such as clean diesel, natural gas, and biofuels as bridge fuels while other technologies are enhanced to meet the operational needs of the trucking industry. Both biodiesel and renewable diesel fuel are capable of significantly reducing greenhouse gas emissions without the major infrastructure investment that is required for other fuel sources.
- Bid preferences on state contracts for motor carriers that are partners in the Environmental Protection Agency's SmartWay program and have taken steps to reduce their greenhouse gas emissions voluntarily.

Maryland is not California, which has the fifth largest economy in the world. We also do not have the pollution challenges it does. For example, in 2020, California had 157 days when it exceeded the federal ozone standard. Maryland had three such days. Getting to a ZEV truck future will be best achieved through a national program that will reduce greenhouse gases, rather than Maryland putting California in charge of our state's trucking fuel and equipment policies. Yes, ZEV trucks are coming, but it does not make sense to adopt a policy that cannot be achieved in our state.

For the reasons noted above, MMTA asks for an unfavorable report on SB687.

About Maryland Motor Truck Association: Maryland Motor Truck Association is a not-for-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

SB 687_MDCC_Department of the Environment - Zero-E
Uploaded by: Maddy Voytek
Position: UNF

MARYLAND
Chamber of Commerce

LEGISLATIVE POSITION:
Unfavorable
Senate Bill 687
Department of the Environment – Zero–Emission Medium and Heavy Duty Vehicles – Regulations (Zero–Emission Truck Act of 2022)
Senate Education, Health, and Environmental Affairs
Thursday, February 24, 2022

Dear Chairman Pinsky and Members of the Committee:

Founded in 1968, the Maryland Chamber of Commerce is the leading voice for business in Maryland. We are a statewide coalition of more than 5,500 members and federated partners working to develop and promote strong public policy that ensures sustained economic recovery and growth for Maryland businesses, employees, and families.

Senate bill 687 requires the Department of Environment to adopt California's Air Resources Board Vehicle Standards by December 1 of this year. These regulations will establish requirements for the sale of new zero-emission medium and heavy-duty vehicles (ZEV) in the state. Under this, auto manufacturers will be required to produce a certain number of ZEVs each year. That number is based on the total number of cars sold in California by the manufacturer.

The Maryland Chamber of Commerce understands the goal of this legislation and many of our members are working toward emission reduction goals. However, ZEV truck adoption is a very complex process and requires cooperation across key stakeholders. ZEV trucks use completely different chargers and there are zero public charging stations as of today. The batteries are 5x more expensive and the chargers are 4x more expensive. Additionally, successful deployment of ZEV trucks requires cooperation between manufacturers of both the vehicles and chargers, energy providers, component suppliers and dealerships. Lastly, preparation for such an endeavor takes *at least* 12 months.

Truck buying is a unique process, in that you don't buy a new truck off a dealer's lot. Instead, you work with a dealer on specifications and price, and they place an order from a manufacturer and then deliver the vehicle to the purchaser. Ultimately, many companies that require these trucks will take their business out of state to jurisdictions that are able to order what they need. This further hinders Maryland's economy which is already struggling to recover from the impacts of the COVID-19 pandemic.

With these concerns in mind, the Maryland Chamber of Commerce respectfully requests an **unfavorable report** on **SB 687**.

SB0687_UNF_NWRA_Zero-Emission Truck Act of 2022.pd
Uploaded by: Pam Kasemeyer
Position: UNF

wasterecycling.org

Maryland-Delaware Solid Waste Association
a chapter of the
National Waste & Recycling Association℠
Collect. Recycle. Innovate.

TO: The Honorable Paul G. Pinsky, Chair
Members, Senate Education, Health, and Environmental Affairs Committee
The Honorable Ronald N. Young

FROM: Pamela Metz Kasemeyer
J. Steven Wise
Danna L. Kauffman

DATE: February 24, 2022

RE: **OPPOSE** – Senate Bill 687 – *Department of the Environment – Zero-Emission Medium and Heavy Duty Vehicles – Regulations (Zero-Emission Truck Act of 2022)*

The Maryland Delaware Solid Waste Association (MDSWA), a chapter of the National Waste and Recycling Association, is a trade association representing the private solid waste industry in the State of Maryland. Its membership includes hauling and collection companies, processing and recycling facilities, transfer stations, and disposal facilities. MDSWA and its members **oppose** Senate Bill 687.

While MDSWA recognizes the need to continue to address greenhouse gas emissions, the requirements for electric trucks reflected in Senate Bill 687 are not achievable under the mandates reflected in this legislation. While MDSWA members have made significant investments in transitioning to alternative fuels to address the need to lower emissions, the electrification of waste collection vehicles is still in its infancy from a technological standpoint as the mechanics of a waste collection vehicle are more complex than many other medium and heavy-duty vehicles which also have electrification challenges. It will be virtually impossible for the waste and recycling collection vehicles to comply with these requirements and therefore MDSWA requests an unfavorable report.

For more information call:
Pamela Metz Kasemeyer
J. Steven Wise
Danna L. Kauffman
410-244-7000

SB 687_MAA_UNF.pdf
Uploaded by: Rachel Clark
Position: UNF

MARYLAND ASPHALT ASSOCIATION
SINCE 1954

February 24, 2022

Senator Paul G. Pinsky, Chair
Education, Health, and Environmental Affairs Committee
2 West, Miller Senate Office Building
Annapolis, MD 21401

RE: SB 687 – UNFAVORABLE – Department of the Environment – Zero-Emission Medium and Heavy Duty Vehicles – Regulations (Zero-Emission Truck Act of 2022)

Dear Chair Pinsky and Members of the Committee:

The Maryland Asphalt Association (MAA) is comprised of 18 producer members representing more than 47 production facilities, 24 contractor members, 24 consulting engineer firms and 41 other associate members. We proactively work with regulatory agencies to represent the interests of the asphalt industry both in the writing and interpretation of state and federal regulations that may affect our members. We also advocate for adequate state and federal funding for Maryland's multimodal transportation system.

Senate Bill 687 would require the Department of the Environment to adopt regulations establishing requirements for the sale of new zero-emission medium and heavy duty vehicles by December 1, 2022. The regulations adopted may update existing regulations and incorporate the California Air Resources Board's vehicle standards.

While we appreciate the Sponsor's intent with this legislation, SB 687 has a largely negative impact on our members and the transportation industry as a whole. We unfortunately cannot support legislation that adds a significant financial burden onto our industry. The COVID-19 pandemic has already caused us to take a large financial hit with the delay of many projects. This bill toes the line of overregulation by dictating the purchase actions of companies using medium and heavy duty vehicles. These vehicles already meet the standards required by the Federal Clean Air Act, and this additional regulation is not only burdensome, but unnecessary.

We appreciate you taking the time to address this important issue, and we urge an unfavorable report on Senate Bill 687.

Thank you,

G. Marshall Klinefelter

Marshall Klinefelter
President
Maryland Asphalt Association

SB 687_MTBMA_UNF.pdf
Uploaded by: Rachel Clark
Position: UNF

MTBMA
MARYLAND TRANSPORTATION
BUILDERS AND MATERIALS ASSOCIATION

February 24, 2022

Senator Paul G. Pinsky, Chair
Education, Health, and Environmental Affairs Committee
2 West, Miller Senate Office Building
Annapolis, MD 21401

RE: SB 687 – UNFAVORABLE – Department of the Environment – Zero-Emission Medium and Heavy Duty Vehicles – Regulations (Zero-Emission Truck Act of 2022)

Dear Chair Pinsky and Members of the Committee:

The Maryland Transportation Builders and Materials Association ("MTBMA") has been and continues to serve as the voice for Maryland's construction transportation industry since 1932. Our association is comprised of 200 members. MTBMA encourages, develops, and protects the prestige of the transportation construction and materials industry in Maryland by establishing and maintaining respected relationships with federal, state, and local public officials. We proactively work with regulatory agencies and governing bodies to represent the interests of the transportation industry and advocate for adequate state and federal funding for Maryland's multimodal transportation system.

Senate Bill 687 would require the Department of the Environment to adopt regulations establishing requirements for the sale of new zero-emission medium and heavy duty vehicles by December 1, 2022. The regulations adopted may update existing regulations and incorporate the California Air Resources Board's vehicle standards.

While we appreciate the Sponsor's intent with this legislation, SB 687 has a largely negative impact on our members and the transportation industry as a whole. We unfortunately cannot support legislation that adds a significant financial burden onto our industry. The COVID-19 pandemic has already caused us to take a large financial hit with the delay of many projects. This bill toes the line of overregulation by dictating the purchase actions of companies using medium and heavy duty vehicles. These vehicles already meet the standards required by the Federal Clean Air Act, and this additional regulation is not only burdensome, but unnecessary.

We appreciate you taking the time to address this important issue, and we urge an unfavorable report on Senate Bill 687.

Thank you,

Michael Sakata
President and CEO

Maryland Transportation Builders and Materials Association

SB 0687_tfrench_unfav.pdf
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Position: UNF

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SB 0687/HB 0829
Timothy A. French (tfrench@clpchicago.com)
Truck and Engine Manufacturers Association
Unfavorable

Hearing on the Proposed Maryland Zero-Emission Truck Act of 2022 (SB 0687 and HB 0829) and the Proposed Incorporation by Reference of California's Advanced Clean Truck Rule

February 24-25, 2022

Written Testimony

My name is Tim French, testifying on behalf of the Truck and Engine Manufacturers Association. EMA represents the world's leading manufacturers of medium-duty and heavy-duty trucks and truck engines — the types of commercial vehicles that would be covered under the proposed Zero-Emission Truck Act and the resultant incorporation by reference of California's Advanced Clean Trucks (ACT) Rule. EMA actively participated in the underlying California rulemaking process, and we appreciate the opportunity to present our testimony today.

EMA and its members fully support a conversion of the commercial trucking fleet to ZEVs, and agree that 2045 is a reasonable target date for the broad deployment of ZEV trucks wherever feasible. EMA members are spending billions of dollars toward that end, and already are producing ZEVs for some applications. However, to bring about our shared vision for the future, a comprehensive and coordinated state and federal strategy is required to develop and implement the widespread deployment of ZEV trucks, not the adoption of stand-alone state-specific ZEV-truck sales mandates.

To ensure the successful deployment of ZEV trucks on an accelerated timeline, very large public investments will be required **up-front**, not after ZEV-sales mandates are put in place. More specifically, a critical first step in accelerating the deployment of ZEV trucks – **before** the

incorporation by reference of the increasing sales mandates under CARB's ACT program – is the establishment of a comprehensive program to invest in and develop the robust infrastructure necessary to recharge or refuel ZEV trucks. Maryland can and must be a leader in those broad-based **up-front** efforts which, for trucks, will involve longer planning and installation timelines, greater demands on the State's electricity grid, and significantly larger public investments than for passenger cars.

In addition, it must be acknowledged that the cost of a ZEV-truck is currently 2-3 times higher than for a conventionally-fueled truck. That is very significant, since, under the CARB ACT Rule at issue, there is no obligation whatsoever that any fleet operator buy any of the higher-priced ZEV products that EMA's members would be obligated to sell in increasing numbers if the Zero-Emission Truck Act is adopted. As a result, and as another critical first step **before** mandating an opt-in to CARB's ACT Rule, Maryland will need to provide sustained incentive funding to offset the significantly higher price differential for ZEV trucks. Otherwise, the assumed increasing purchases of ZEV trucks will simply not occur. In addition, Maryland should set an example by requiring the purchase of ZEV trucks for a portion of all of the State's purchases of new heavy-duty vehicles going forward.

Given the size and nature of the challenges to develop and provide for the comprehensive infrastructure build-out and the significant purchase incentives required for any viable ZEV-truck deployment initiative, federal leadership and action is needed. The Biden Administration is providing that leadership. Within the next month, and on top of the ZEV-funding dollars allocated under the recent Infrastructure Bill, the Biden Administration, through U.S. EPA, will be proposing new advanced emission requirements for heavy-duty and medium-duty trucks, which "low-NO_x" regulations will be finalized before the end of this year. Those low-NO_x requirements

will be followed by new lower greenhouse gas (GHG) standards, that will accelerate the growing deployment of ZEVs. Maryland should be a leader in advocating for those **nationwide** Clean Trucks programs. Without that coordinated push for federal standards, there is a significant risk that disparate state-specific ZEV-sales mandates will undermine the fully integrated strategy that is needed to accelerate the deployment of ZEV trucks, resulting in potentially significant adverse impacts on Maryland's ability to meet its emissions-reduction targets.

In light of what we will see from U.S. EPA in the coming weeks, the adoption of the Zero-Emission Truck Act should, at the very least, be deferred until such time as all stakeholders can evaluate the steps that the federal government will be taking to build toward a ZEV-based future for the commercial trucking industry. Then the Legislature, along with the other relevant state agencies and stakeholders, can supplement those federal efforts, if still necessary, in a truly coordinated manner to leverage and accelerate ZEV-truck deployments as appropriate in Maryland. Not waiting to see what the federal government will do could short-circuit those national efforts, not advance them.

Deferral also makes sense to allow the Legislature to fully assess all of the CARB regulations that Maryland would need to adopt to maintain a program "identical" to CARB's, something required under the federal Clean Air Act. More specifically, CARB will be significantly revising the ACT Rule next year to require 100% ZEV-truck sales by 2040 (or even earlier), and CARB's Advanced Clean Fleets Rule is being delayed until the end of 2022. Maryland should wait for California to finalize all of the other elements of its medium-duty and heavy-duty truck program. Without understanding all of the actual costs, benefits and consequences of incorporating all of the relevant CARB rules, the Legislature cannot properly assess the impacts of mandating that Maryland follow California's regulatory path.

In sum, the proposed Zero-Emission Truck Act would put the cart before the horse. For ZEV-truck sales mandates to work, the purchasers of heavy-duty trucks must be willing to buy those trucks. If the ZEV-truck recharging/hydrogen-refueling infrastructure is not in place in a widespread manner, and if sufficiently-large purchase incentives are not in place and available, truck purchasers will not buy the ZEV trucks that manufactures would be obligated to sell. The net result would be a fundamental imbalance in the ZEV-truck market in Maryland, and the establishment of unworkable mandates that would more likely frustrate, not foster, the emerging market for ZEV trucks. Faced with non-viable sales mandates, ZEV-truck manufacturers are more likely to be pushed out of the Maryland market than they are to be pulled into it. Again, putting the cart before the horse is not a sound basis for public policy decisions of this magnitude.

Thank you for the opportunity to submit testimony on this matter.

SB0687 (HB829) - LOI - Department of the Environme

Uploaded by: Landon Fahrig

Position: INFO

Maryland Energy Administration

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

TO: Members, Senate Education, Health, and Environmental Affairs Committee
FROM: Mary Beth Tung – Director, MEA
SUBJECT: SB 687 - Department of the Environment – Zero–Emission Medium and Heavy Duty Vehicles – Regulations (Zero–Emission Truck Act of 2022)
DATE: February 24, 2021

MEA Position: Letter of Information

It is likely that **this bill will put Maryland businesses at a disadvantage when compared to their counterparts in surrounding states**.

The bill will require the Department of the Environment to adopt regulations establishing sales requirements for the sale of zero-emission, medium- and heavy-duty (MHD) vehicles in Maryland, and permissively incorporates the California standards. Those standards require an escalating percentage of sales to be zero-emission vehicles (ZEVs). While these are laudable goals, the Maryland Energy Administration (MEA) notes that one aspect of Maryland's unique geography is its limited footprint. **A person seeking to purchase a MHD vehicle can very easily do so in a neighboring state**, as it seems unlikely that each of those states will adopt similar regulations.

MEA strongly supports the development of markets for the adoption of ZEVs including MHD vehicles, as evidenced by its existing Clean Alternative Fuels Program and its departmental bill, the TEAM Act, that is before the House Environment and Transportation Committee.

Until a time where there is greater parody between Maryland and its neighbors, it may be appropriate for the state to reject mandates and continue to pursue incentives for MHD ZEV adoption.

MEA asks the committee to consider these remarks when rendering its report.

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Position: INFO

Maryland
Department of
the Environment

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

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

February 24, 2022

The Honorable Paul G. Pinsky, Chair
Education, Health, and Environmental Affairs Committee
Miller Senate Office Building, Suite 2W
Annapolis, Maryland 21401

Re: Senate Bill 687- Zero Emission Medium and Heavy-Duty Vehicles Regulations (Zero–Emission Truck Act of 2022)

Dear Chair Pinsky and Members of the Committee:

The Maryland Department of the Environment (MDE or the Department) has reviewed SB 687- *Zero Emission Truck Act of 2022* and would like to provide some information related to this bill.

MDE agrees that the ability to expand the use of Zero Emission Vehicles (ZEVs) have an important role in helping Maryland achieve the state's air quality and climate goals. In Maryland and the northeast region, medium and heavy-duty (MHD) trucks are the second leading contributor to both nitrogen oxides (NOx) and greenhouse gas (GHG) emissions. Maryland's current Greenhouse Gas Reduction Act (GGRA), signed into law by Governor Hogan in 2016, has the goal of reducing GHG emissions by 40% from 2006 levels by 2030. Maryland has made a lot of progress over the past few decades toward clean air. Maryland is now in attainment with all criteria pollutant national ambient air quality standards, with the exception of ground level ozone. Emissions of NOx are the leading contributor to ground level ozone. To achieve the GGRA goals and attain the federal ozone standards, reductions from MHD trucks will be needed and electrification of this sector is one of the best reduction strategies. To help advance electrification of MHD trucks, Maryland joined 16 other states and Washington, D.C. in signing a MHD ZEV Memorandum of Understanding (MOU). Under this MOU, a ZEV sales goal was established that by 2030 at least 30% of all MHD trucks sold in the MOU states would be ZEVs. To achieve this goal, a multi-state MHD ZEV Action Plan is being developed to aid both public and private entities in accelerating ZEV deployment in the region. The Action Plan is expected to be completed in summer 2022.

This bill will require MDE to adopt regulations establishing requirements for the sale of new MHD ZEVs in the state by December 1, 2022. These regulations can incorporate by reference the California Air Resources Board's vehicle standards, otherwise known as the California Advanced Clean Truck Rule (ACT). If ACT is incorporated in Maryland, it would require certain manufacturers of MHD trucks to sell ZEVs as an increasing percentage of annual truck and bus sales in Maryland. ZEV sales targets would be phased-in beginning in Model Year (MY) 2025, and increase through MY35, remaining constant thereafter. Adopting the ACT rule will have challenges. MHD ZEVs currently cost significantly more than conventionally powered MHDs trucks. Adequate recharging infrastructure will also be needed to support these trucks. In addition, vehicle availability could be an early concern. As with all new technologies and markets we do expect these challenges to be overcome as the market evolves. Additionally, adopting the regulations requires an extensive stakeholder and public process prior to adoption. It typically takes MDE one to two years to go through the regulatory process and adopt regulations. Meeting the bill's deadline for adopting regulations by December of 2022 would be very difficult if not impossible.

Thank you for your consideration. As this is an important issue, the Department is open to having future discussions with the bill sponsor. We will continue to monitor SB 687 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: The Honorable Ronald N. Young
George "Tad" Aburn, Director, Air and Radiation Administration