

MRN24SB532.pdf

Uploaded by: Chaz Miller

Position: FAV



February 22, 2024

To: Maryland Senate Education, Energy, and the Environment Committee

Re: SB532 Commission to Advance Lithium-Ion Battery Safety In Maryland

The Maryland Recycling Network promotes sustainable reduction, reuse and recycling (the 3 "R's"), to ensure that the use of virgin materials is minimized, materials otherwise destined for disposal are reused or recycled and strong demand exists for buying products made with recycled material content. We achieve these goals through education programs, advocacy activities to affect public policy, technical assistance efforts, and the development of markets to purchase recycled materials and manufacture products with recycled content.

Our members are county and municipal government recycling managers, private sector recyclers, non-profit recyclers and citizens who support recycling. We have direct experience operating recycling and composting programs at the county and municipal government level. We know the ins and outs of recycling in Maryland. Our experience informs our comments.

The Maryland Recycling Network supports SB532, Commission to Advance Lithium-Ion Battery Safety in Maryland.

Lithium-ion batteries are found in a variety of electronic products including hearing aids, cell phones, e-bikes, scooters, laptops, tablets and vaping devices. When punctured, a chemical reaction can cause a fire or explosion. Chemical reactions during the fire make them burn longer and hotter. They are difficult to stop.

Unfortunately, people put these batteries in their recycling bins and the garbage. A recent National Solid Waste & Recycling Association (NWRA) [report](#) estimates more than 5,000 fires a year at recycling and waste facilities and in collection trucks. While many recycling processing facility fires can be quickly contained, several facilities have been damaged so badly they had to be closed and rebuilt. The loss to the facility owner can be more than \$50 million dollars. In addition, local recycling programs relying on those facilities are forced to scramble to find new processing facilities for their recyclables.

A survey of our members turned up reports of fires on tipping floors at recycling processing facilities, fires in trash collection trucks, and fires at waste transfer stations and landfills. Fortunately, none of these events caused serious damage. However, a 2022 fire at a recycling processing facility in York, Pennsylvania, which is used by some Maryland communities, caused it to shut down.

The proposed task force gives Maryland a chance to investigate this issue. The task force can make recommendations to ensure that these batteries, so essential to so many products, can continue to be useful without causing continued fire problems.

The waste and recycling industry has released a [guide](#) to best management practices regarding lithium-ion batteries. But the best guide is keeping them out of the recycling stream and the trash. After all, the

Maryland Recycling Network
c/o Mariner Management • PO Box 1640 • Columbia, MD 21044
Phone: (443) 741-8740 • www.MarylandRecyclingNetwork.org

most effective education and enforcement efforts to improve our recycling programs come to naught if the collection truck or processing facility burns down.

The Maryland Recycling Network stands ready to serve as a sounding board and resource for legislators and others interested in pursuing our mission. Please do not hesitate to contact me via email phoustle@marylandrecyclingnetwork.org, phone 301-725-2508 or mail - MRN, PO Box 1640, Columbia MD 21044 if you have any questions or would like additional information regarding the above.

We look forward to working with you to improve Maryland's recycling programs and thank you for your consideration and support.

Sincerely,



Peter M. Houste
Executive Director
Maryland Recycling Network

SB0532-EEE_MACo_SUP.pdf

Uploaded by: Dominic Butchko

Position: FAV



Senate Bill 532

Commission to Advance Lithium-Ion Battery Safety in Maryland

MACo Position: **SUPPORT**

To: Education, Energy, & Environment
Committee

Date: February 22, 2024

From: Dominic J. Butchko

The Maryland Association of Counties (MACo) **SUPPORTS** SB 532. This bill represents the work product of a broad coalition of stakeholders in firefighting and renewable energy. As the push toward electrification continues, lithium ion (LI) batteries will grow in importance both at the consumer end as well as at utility scale. **Unlike other types of batteries, any sized LI battery failure can produce fires several scales of magnitude more destructive than fires from other battery types or from fossil fuels.** While it is clear that LI batteries will be a significant element of future infrastructure, Maryland must do more to establish safety guidelines today in order to protect lives tomorrow.

SB 532 establishes the Commission to Advance Lithium Battery Safety in Maryland, and charges the body with making legislative, regulatory, programmatic, or other recommendations related to LI battery safety. The scope of this mission is broad and includes:

- Best practices and guidelines:
 - To prevent, detect, and suppress lithium-ion battery fires in consumer, transportation, and utility applications;
 - To prevent, detect, and suppress lithium-ion fires at recycling facilities; and
 - For reusing and recycling lithium-ion batteries;
- The viability of extended producer responsibility for lithium-ion batteries;
- Training, education, and other information to better inform the public regarding lithium-ion battery safety; and
- Any other global issues the Commission may consider useful for enhancing the safety and reuse of batteries in the state.

Additionally, MACo has been working with stakeholders on a set of amendments which should be considered friendly. These amendments include:

- Slightly expanding the Commission to include the Maryland Fire Rescue Institute and the Power Plant Research Program, in addition to the Public Service Commission.
- Slightly expanding the scope of the Commission to include best standards and decommissioning for LI batteries.

This is a life-or-death issue, and it will only grow in importance. MACo stands ready to work with the Committee and stakeholders to answer questions and to advance this issue. For the reasons mentioned above, MACo urges the Committee to give SB 532 a **FAVORABLE** report.

SB 532 FAV FCG OCE JF LS24.pdf

Uploaded by: Jessica Fitzwater

Position: FAV



FREDERICK COUNTY GOVERNMENT
OFFICE OF THE COUNTY EXECUTIVE

Jessica Fitzwater
County Executive

SB 532 – Commission to Advance Lithium-Ion Battery Safety in Maryland

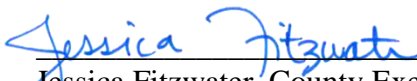
DATE: February 22, 2024
COMMITTEE: Senate Education, Energy, and the Environment Committee
POSITION: Favorable
FROM: The Office of Frederick County Executive Jessica Fitzwater

As the County Executive of Frederick County, I urge the committee to give SB 532 – Commission to Advance lithium-Ion Battery Safety in Maryland a favorable report.

This bill aims to establish a commission to study lithium-ion battery safety in Maryland. As the use of lithium-ion batteries increases, it has become obvious that further safety measures are necessary to prevent fires at all stages of the battery’s life cycle. The proposed commission will aim to study how to improve safety and make recommendations on best practices and guidelines as well as the viability of producer responsibility for these products. This is crucial to ensuring that these vital batteries are able to serve their purpose without causing harm to those who use, handle, or dispose of them.

SB 532 is important to the health and safety of Marylanders. The structure of this commission is equally as important as the commission itself. This is because we must ensure that those who understand the topic and are most impacted by the actions of the commission have a seat at the table. Specifically, it is crucial that we get solid waste voices to the table as they are responsible for handling these products after their useful life. These voices will assist in making practical and effective recommendations due to their subject matter expertise. This commission will also serve as the first step to a take back program of these batteries, which once again stresses the importance of having the voices of those who engage in this practice heard. SB 532 has great potential to set important safety standards to protect all Marylanders.

Thank you for your consideration of SB 532. I urge you to advance this bill with a favorable report.



Jessica Fitzwater, County Executive
Frederick County, MD

2024-SB532-PHI- FAV.pdf

Uploaded by: Katie Lanzarotto

Position: FAV



February 22, 2024

112 West Street
Annapolis, MD 21401

Support – Senate Bill 532: Commission to Advance Lithium-Ion Battery Safety in Maryland

Potomac Electric Power Company (Pepco) and Delmarva Power & Light Company (Delmarva Power) support **Senate Bill 532: Commission to Advance Lithium-Ion Battery Safety in Maryland**. Senate Bill 532 establishes a Commission to advance lithium-ion battery safety in Maryland. The new Commission is required to study and make legislative, regulatory, programmatic, or other recommendations related to best practices and guidelines for lithium-ion batteries.

Pepco and Delmarva Power are constantly evaluating new technologies and services to build a smarter, reliable energy grid to withstand the impacts of climate change and ensure our customers have reliable service. Energy storage systems provide benefits to the electric grid and utility customers by enabling the transition to a clean grid with distributed renewable resources. Additionally, energy storage systems create system efficiencies that can reduce costs and save money for utilities and customers, bolster grid reliability and resilience, improve system capabilities to withstand shocks and stressors and promote economic development and job creation in Maryland communities.

The creation of the Commission to Advance Lithium-Ion Battery Safety in Maryland will help assist in bringing stakeholders together to continue work to ensure that the increased usage of batteries in the clean energy transition occurs in a safe and well thought out manner, using best practices and incorporating lessons learned. Pepco and Delmarva Power appreciate the inclusion of a member of a public utility on the Commission to further enhance our learnings as we continue to envision battery storage as a technology to bring benefits to our customers.

For the reasons stated, Pepco and Delmarva Power respectfully request a favorable report on Senate Bill 532.

Contact:

Anne Klase
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Katie Lanzarotto
Manager, State Affairs
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SWANA Testimony

Uploaded by: Kristyn Oldendorf

Position: FAV



Kristyn Oldendorf, Director of Public Policy
Solid Waste Association of North America (SWANA)
8484 Georgia Ave, Suite 230, Silver Spring, MD 20910

February 23, 2024

To: Maryland Senate Education, Energy, and the Environment Committee
Re: SB0532 Commission to Advance Lithium–Ion Battery Safety in Maryland

The Solid Waste Association of North America (SWANA) appreciates the opportunity to support Senate Bill 0532. SWANA is an organization of 10,000 public and private sector professionals committed to advancing from solid waste management to resource management through a shared emphasis on education, advocacy, and research. Our members include the individuals collecting and transferring materials for recycling and disposal, running recycling facilities, managing landfills, providing residential recycling services and outreach, and overseeing solid waste departments, among many other job functions throughout the industry. For more than 50 years, SWANA has been the leading association in the solid waste management field.

This bill calls for a Commission to study and make recommendations regarding: best practices on preventing, detecting, and suppressing fires caused by lithium–ion batteries, reusing and recycling lithium–ion batteries; the viability of extended producer responsibility for lithium–ion batteries; education for the public on lithium–ion battery safety; and any other global issues the Commission may consider useful for enhancing the safety and reuse of batteries in Maryland. Lithium–ion batteries are embedded in common household electronic devices such as cell phones, laptops, tablets, wireless headphones, electronic toys, hearing aids, vaping devices, appliances, power tools, and more. They are also used in electric vehicles, e-bikes, and electric scooters. The use of lithium–ion batteries is continuously growing.

It is vital that proper systems are in place to properly manage the end of life of these batteries. Due to the potential of lithium-ion batteries to catch fire or explode if not handled properly, the EPA considers most lithium-ion batteries to be hazardous wastes when disposed (<https://www.epa.gov/hw/lithium-ion-battery-recycling#waste>).

The proper management of lithium-ion batteries is of increasing concern in the waste and recycling industry. They are posing significant fire hazards at collection sites, within collection vehicles, at transfer stations, and at recycling processing facilities. SWANA's first strategic goal is to make the industry safer, and our [strategic plan](#) specifically includes the need to address lithium-ion batteries, as they are a growing safety risk for workers in the industry.

When residents mistakenly dispose of electronics or loose batteries in their regular household trash or recycling, it creates a safety risk for the individuals managing that material. When the batteries are dropped or scraped on hard surfaces, or crushed by heavy equipment, they can



quickly create fires as they are surrounded by flammable waste and recycling materials. Collection vehicles are at risk when the compaction equipment breaks a battery, causing a fire or explosion. This is a danger not only for the crew in and around the truck, but also any drivers or pedestrians in the vicinity.

In addition to worker safety, the facilities are at risk of suffering serious damage that may put them out of operation. Fires have caused numerous material recovery facilities (MRFs) and other recycling and waste processing sites to go out of commission for months at a time, impacting the regions they serve. Insurance rates at MRFs have been increasing due to the risk of fires, an additional cost for MRFs that are vital for the state's recycling goals.

It is also important to identify options to increase recycling rates of lithium-ion batteries which contain valuable materials that should be recovered decreasing the need to source raw materials. SWANA's members work to promote recycling and manage recycling centers and contracts.

SWANA worked with the Institute of Scrap Recycling Industries (ISRI) and the National Waste and Recycling Association (NWRA) in 2022 to issue [a joint letter](#) to EPA Administrator Regan on the best practices for safe recycling and labeling of lithium batteries. The letter was in response to the EPA's [Request for Information](#) on the Development of Best Practices for Collection of Batteries to be Recycled and Voluntary Battery Labeling Guidelines. SWANA continues to work on operational and advocacy solutions for avoiding fires caused by lithium-ion batteries, including [a guide](#) for lithium battery management at material recovery facilities.

The proposed commission will provide the opportunity to investigate and recommend solutions appropriate for Maryland.

SWANA supports passage of Senate Bill 0532. If you have any questions about these comments, or about SWANA, please contact Kristyn Oldendorf, SWANA's Director of Public Policy, at koldendorf@swana.org or 240-494-2237.

Thank you for the opportunity to support this bill and for your consideration.

Sincerely,

Kristyn Oldendorf

Director of Public Policy

Solid Waste Association of North America (SWANA)

Letter for SB532.pdf

Uploaded by: Mike McKay

Position: FAV

MIKE MCKAY
Legislative District 1
Garrett, Allegany, and Washington Counties



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Judicial Proceedings Committee
Executive Nominations Committee

THE SENATE OF MARYLAND
ANNAPOLIS, MARYLAND 21401

January 30, 2024

RE: Fire/EMS Coalition Support for Senate Bill 532

Dear Chairman Feldman, Vice Chair Kagan, and Members of the Education, Energy, and the Environment Committee,

The Fire/EMS Coalition would like to express their support for Senate Bill 532: **Commission to Advance Lithium-Ion Battery Safety in Maryland**. The bill will establish the commission to advance lithium-ion safety in Maryland by requiring the commission to study the issue and make appropriate legislative, regulatory, programmatic, and other recommendations on/or before Dec. 1st, 2025. The commission will report its findings and recommendations to the Governor and the General Assembly.

The Fire/EMS Coalition supports Senate Bill 532 as it will be beneficial to public safety in Maryland as this bill would ensure that the state is properly informed of safety risk in regards to ion lithium batteries. Lithium batteries present a safety hazard in terms of battery fires due to their tendency to overheat. The Coalition supports this bill for the safety of the general public of Maryland.

Sincerely,

A handwritten signature in black ink, appearing to read "Mike McKay".

Senator Mike McKay
Representing the Appalachia Region of Maryland
Serving Garrett, Allegany, and Washington Counties

Voting Organizations:

Maryland Fire Chief's Association (MFCA)

Maryland State Firemen's Association (MSFA)

State Fire Marshal (OSFM)

Maryland Fire Rescue Institute (MFRI)

Maryland Institute for Emergency Medical Services System (MIEMMS)

**Metro Fire Chief's Association
Professional Firefighters of Maryland**

Our Mission Statement

The Maryland Fire/EMS Coalition unites Republicans and Democrats in support of fire/emergency services legislation that benefit all first responders. Becoming a member does not require taking positions on legislation; rather Coalition members are asked to offer support in a way that best benefits fire/emergency services in their respective Legislative Districts.

SB0532_FAV_NWRA_Comm. Adv. Lithium-Ion Batter Safe

Uploaded by: Pam Kasemeyer

Position: FAV

Maryland-Delaware Solid Waste Association
a chapter of the



TO: The Honorable Brian J. Feldman, Chair
Members, Senate Education, Energy, and the Environment Committee
The Honorable Jason C. Gallion

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

DATE: February 22, 2024

RE: **SUPPORT** – Senate Bill 532 – *Commission to Advance Lithium-Ion Battery Safety in Maryland*

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 **support** Senate Bill 532.

Lithium-ion batteries are prevalent in a variety of devices and products in modern life, including in hearing aids, cell phones, e-bikes, scooters, laptops, tablets, and vaping devices. These devices pose a risk of fires or explosions when punctured. Chemical reactions occurring during the fires make them burn longer, hotter, and are difficult to extinguish.

Many of the devices powered by lithium-ion batteries listed above end up in the waste stream as people dispose of them. Our Association recently issued a [report](#) that estimates more than 5,000 fires a year at recycling and waste facilities and in collection trucks. While many recycling processing facility fires can be quickly contained, several facilities have been damaged so badly they had to be closed and rebuilt. The loss to the facility owner can be more than \$50 million dollars. In addition, local recycling programs relying on those facilities are forced to scramble to find new processing facilities for their recyclables.

The NWRA supports the concept of bringing all impacted stakeholders together to examine this issue and to make recommendations on how to deal with this increasingly challenging issue. Additionally, the NWRA thanks the bill sponsors for including us on the task force.

For more information:

Andrew G. Vetter
Pamela Metz Kasemeyer
J. Steven Wise
Danna L. Kauffman
410-244-7000

Testimony in support of SB0532.pdf

Uploaded by: Richard KAP Kaplowitz

Position: FAV

SB0532_RichardKaplowitz_FAV
2/22//2024

Richard Keith Kaplowitz
Frederick, MD 21703

TESTIMONY ON SB#/0532 – FAVORABLE
Commission to Advance Lithium–Ion Battery Safety in Maryland

TO: Chair Feldman, Vice Chair Kagan, and members of the Education, Energy and the Environment Committee

FROM: Richard Keith Kaplowitz

My name is Richard K. Kaplowitz. I am a resident of District 3. I am submitting this testimony in support of SB#0532, Commission to Advance Lithium–Ion Battery Safety in Maryland

This bill is a critical step in creating protection for persons, especially our first responders, in dealing with any fires ignited by a lithium-ion battery in Maryland. The bill will create a commission that will gather data required to make recommendations for action by the Maryland General Assembly and the Governor to address lithium-ion battery safety.

In conversation with a captain in the fire department I have been informed of the extreme hazard of these batteries to our firefighters. Burning lithium-ion batteries create a toxic smoke containing sulfuric acid that can, on exposure, liquefy lung tissue when breathed. It is so dangerous that firefighters are now working to acquire and carry an antidote to it if symptoms of this damage are present in anyone, public or first responders, exposed to the toxic fumes.

In order to fix problems, we need to start with all possible data defining it and recommendations to remediate that problem. This is an urgent problem as more and more of these batteries are found in devices that permeate our society. This bill is Maryland's commitment to fix this danger to us all.

I respectfully urge this committee to return a favorable report on SB#0532.

RJR-(MTC.MASFMA) SB532.HB468 Letter (SUPPORT)(2024

Uploaded by: Robert Navolis

Position: FAV



Senator Brian Feldman, Chair
Senator Cheryl Kagan, Vice-Chair
Senate Education, Energy, and the Environment Committee
Miller Senate Office Building, 2 West
Annapolis, Maryland 21401

Re: ***Senate Bill 532/House Bill 468: Commission to Advance Lithium-Ion Battery Safety in Maryland - SUPPORT***

February 21, 2024

Dear Chairman Feldman and Members of the Senate E3 Committee:

On behalf of the Mid-Atlantic Sports Field Manager Association (MASFMA) and the Maryland Turfgrass Council (MTC), we write this letter in support of Senate Bill 532/House Bill 468: Commission to Advance Lithium-Ion Battery Safety in Maryland.

The Mid-Atlantic Sports Field Management Association (MASFMA) is a non-profit organization that is composed of sports turf field managers and workers from Maryland, Delaware, Washington D.C., and Northern Virginia. As MASFMA members, we partner together to promote education, teamwork, networking, and best practices among our peers and within the Sports Turf Management Industry. Once again, MASFMA has partnered with Maryland Turfgrass Council (MTC) this year to bring a more unified front from all aspects of our industry. MTC represents all areas of the turf industry including golf, sports turf, sod producers, landscape, lawncare and commercial vendors and suppliers.

As written, Senate Bill 532/House Bill 468, establishes an exclusive cross-section of various state stakeholders to study and recommend best practices and guidelines for lithium-ion battery safety in the State of Maryland. This commission will be tasked with developing legislative and regulatory policies relating to the reuse/recycling, training, education, and general means to enhance public safety of these batteries.

Over the last couple of years, MASFMA has created and distributed a Best Management Practices (BMP) manual. One of the focuses of the BMP manual is to highlight industry specific practices that ensure the safety of the community, and that environment remains the top priority in our line of work. It covers topics to help both managers and workers keep fields safe and playable for athletes of all ages, from children to professionals.

For both MASFMA and MTC, we recognize the growing environmental, economic, and safety concerns that continue to escalate regarding the use of these batteries throughout our daily lives and professions. As our industry transitions away from traditional fossil-fuel dependency, due to either government policy or company philosophy, we have the inherent duty and responsibility to ensure that we are advancing these changes in a manner that is protecting both our environment as well as the general public.

This session, MASFMA and MTC testified that Annapolis is nearing a tipping point of outpacing current (and experimental) technologies to meet new environmental goals for the State. For instance, in our profession, the batteries from the electric equipment are both costly to make and there is no real disposal system in place for all the batteries outside of putting them in the landfill which can lead to them cracking and leaking and further contaminating the ground water.

While it is laudable for Maryland to advance more sustainable energy methods, we cannot afford to ignore the potential dangers and environmental risks these alternatives may produce. The establishment of this new commission is the first step forward for the State to ensure it's moving in the direction that is considering all of these factors.

For these reasons we at MASFMA and MTC support Senate Bill 532/House Bill 468 and respectfully request this committee to give this bill a FAVORABLE report.

Thank you,



Jason Bowers, President - MASFMA



Patrick Coakley - Vice President - MTC

SB532 testimony.pdf

Uploaded by: Robert Phillips

Position: FAV

MARYLAND STATE FIREMEN'S ASSOCIATION

REPRESENTING THE VOLUNTEER FIRE, RESCUE, AND EMS PERSONNEL OF MARYLAND.



Robert P. Phillips

Chairman

Legislative Committee

17 State Circle

Annapolis, MD 21401

email: rfcchief48@gmail.com

cell: 443-205-5030

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SB 532: Commission to Advance Lithium-Ion Battery Safety in Maryland

My name is Robert Phillips, I am the Legislative Committee Chair for the Maryland State Firefighters Association (MSFA). The MSFA represents the 25,000 plus volunteer Fire/EMS and Rescue first responders across the state.

I wish to present testimony in favor of Senate Bill 532: Commission to Advance Lithium-Ion Battery Safety in Maryland

The MSFA fully supports this bill. The Lithium-ion battery has been with us for around 30 years now. The primary use has been to power our small rechargeable devices. Manufacturers are now using this technology to power our motor vehicles and to store electric energy from solar arrays. With the increasing use of these larger storage systems comes new areas of concern. For the fire service it is an issue of how do we safely respond, contain and suppress a fire emergency. For the environment how do we use and properly dispose of the materials after they have been taken out of service. This commission will be directed to look into these and other issues and recommend guidelines for us to use in the future

I thank the committee for their time and attention to this important bill and ask that you vote favorable on Senate Bill 531.

I will now be glad to answer any questions, or my contact information is listed above and welcome any further inquiries you might have.

Swaim Cmte HB0468 SB0532 Written 20240222.pdf

Uploaded by: Robert Swaim

Position: FAV

**Submitted to the Maryland House and Senate Committees regarding
A Commission To Advance Lithium-Ion Battery Safety
HB0468 and SB0532 (FAV)**

February 24, 2024

Senator Jason Gallion
Chairman Marc Korman
Delegate Sara Love
Delegate Regina Boyce

Senator and Delegates,

My name is Robert Swaim and I have been a Maryland resident for 36 years, moving to the area to become an NTSB aviation accident investigator and I've worked closely with firefighters around the world since the late 1980s. In January 2013, I was the launch investigator responsible for the Boeing 787 lithium ion battery fire investigations. I've been working lithium-ion battery incidents since, including Tesla and other electric vehicle fires since early 2017.

I retired from the NTSB after 32 years in 2019, started the www.HowItBroke.com website, and developed the first firefighter course for electric vehicles to be based in the international 17840 format. The Maryland Fire Rescue Institute – or MFRI – now provides training for free to Maryland firefighters and we all need to support that. I am also a leader in the SAE J2990 Committee for First Responder Electric Vehicle Safety, consult on the topic, teach a Lithium battery and electric safety course for the Society of Automotive Engineers (SAE), worked on the issues of flooded electric vehicle issues after Hurricane Ian, and am a member of the National Fire Protection Association, or NFPA.

Almost a year ago I was asked to help the New York legislature with some ideas about improving battery safety in their State. These efforts are underway and largely revolve around preventing e-bike fires, charger kill-switch requirements, and a new SAE sticker (J3108) for license plates to let firefighters know if they were working with an alternative fuel vehicle.

Last Fall I approached Chairman Korman, Delegate Love, and Delegate Boyce to see if they would be interested in similar ideas for our own State. This led to some excellent discussions as they brought in others and realized how pervasive lithium-ion batteries have become in our day to day lives.

Say “battery” and people think about cars, but those are actually a very small part of our reliance on battery technology. In answer to a question posed by the delegates, we estimate there were roughly 56 Maryland EV fires in 2022, more than a hundred in 2023,

and of course the number will grow with the increasing fleet of EVs. But those are not the biggest or only issues for this Commission to address.

When I was teaching firefighters in Queen Anne County last year we had great discussions about the number of vape fires they've dealt with and people horribly burned. We talked about house fires from cheap e-bikes.

When you drive along your own street and see houses with solar panels, realize that some of those will have a large Lithium-Ion power wall in the garage. Firefighters may only become aware of these once already involved in garage fires.

Most of the public is not aware that the electric utilities now have nice looking brick buildings which house lithium-ion banks called Battery Electric Storage Systems (BESS) for when the power goes out, such as one in Ann Arundel County. A world-wide database containing BESS failures has recorded at least 75 explosions.

We should fully support the proposed "Commission to Advance Lithium-ion Battery Safety in Maryland." While technically there is nothing new or cutting edge about what the Commission will do, the key is that it will be a tailored approach for what unique conditions are applicable by locations across Maryland.

For example, there are 60.9 gasoline car fires per EV, but they are dealt with differently. The best course of action for firefighters in Queen Anne or on I-70 in Allegheny County, where water needs to be trucked to a fire, is to let an electric car fire simply burn itself out. This approach could be disaster if the same car were to catch fire in a Baltimore apartment garage. Having taught around Maryland I am aware that most fire department vehicles do not carry simple chains or car fire blankets to extricate burning EVs from garages or prevent them from causing structural damage.

The Commission will need to look into how best to establish towing agreements because tow companies do not want to pick up cars which can re-ignite while on the bed of an expensive tow truck. At least one forward thinking County already has a standing agreement with a waste company to supply steel 20 foot roll-on containers for moving fire damaged EVs. An e-bike fire in Southern Maryland may burn down a house, but in the heart of West Baltimore it could burn down an entire block.

Firefighter training will be a major aspect, as one day they need to already know what to do when there is a burning lithium-ion power wall in a garage. On the next call they may deal with a burning e-bike. There is a right way and a wrong way to simply approach and move a burning e-bike. As a side note, there is current Federal funding available which should be pursued immediately for our firefighter training.

The smoke from a burning lithium battery fire carries potentially cancerous heavy metals which bond to the fibers of firefighter clothing. Cleaning with normal soaps does not remove these deposits, so the Commission may look into whether fire stations have appropriate chemicals and procedures.

But as Delegates Love and Boyce pointed out, before all that and more important than the emergency response aspects are the needs for managing prevention through legislation and other programmatic aspects. How do we end the current problem of lithium-ion fires being created in our trash recycling locations? Since large scale back-up battery banks can emit a large plume of toxic smoke, how close can a utility place one upwind of a school for example? Should we allow a battery recycling facility to be built and where? Nobody currently knows how many large battery installations are in the heart of Baltimore skyscrapers. Can we get our Motor Vehicle Administration to begin using the SAE license plate stickers, informing firefighters they are approaching a burning alternate fuel vehicle? Should Maryland restrict sales of non-UL approved e-bikes, which is what New York now does? Are building codes ready for an apartment garage full of EVs?

I am submitting an outline which lists topics to assist Legislators understand and envision suggestions regarding what this Commission could or should look into. Thank you for your time and I look forward to any questions, by email or through my website at www.HowItBroke.com.

Respectfully,

Robert Swaim

Swaim Topics Outline HB0468 SB0532 20240222.pdf

Uploaded by: Robert Swaim

Position: FAV

Outline of Potential Topics for HB0468 and SB0532 (FAV)

MARYLAND COMMISSION TO ADVANCE LITHIUM-ION BATTERY SAFETY

1. PUBLIC UTILITIES, LARGE SCALE BACKGROUND

- Led by the Maryland Public Service Commission and while Maryland has targeted 3GW of energy storage by 2033 (2023 HB910), the management of battery energy storage systems (BESS) are currently spread among Commissions and agencies. These group include the Department of Natural Resources, Office of People's Counsel (OPC), the Maryland Energy Administration (MEA), the U.S. Department of Defense (DoD), environmental organizations, electric companies, third-party providers of storage devices, the University of Maryland Energy Innovation Institute, the Maryland Clean Energy Center (MCEC), developers and owners of electricity generation, and other interested parties.¹
- Note that there have been more than 75 explosions involving large scale BESS systems, four in 2023. (ref. https://storagewiki.epri.com/index.php/BESS_Failure_Event_Database)
- This section is not intended to alter the existing working relationships, it is meant to ensure that public safety is adequately addressed.

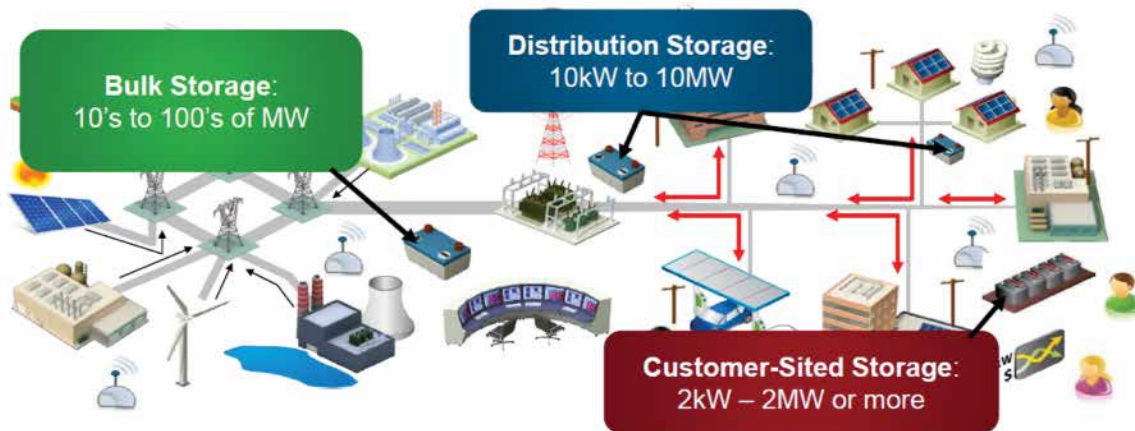


Figure 1. Maryland Department of Natural Resources illustration
<https://dnr.maryland.gov/pprp/Documents/Energy-Storage-In-Maryland.pdf>

FACT- FINDING

- Review the Maryland Energy Storage Program (MESP) to ensure it is the viable path for the various agency, group policies, and planning fall under.
- Document existing large scale public utility battery storage and potential plans for growth, including inventories of site locations.
- Since an explosion in Arizona Public Service McMicken BESS, the importance of normal and emergency ventilation has been realized. Document the adequacy of ventilation provisions in Maryland BESS facilities.

¹ Md Public Service Commission: <https://www.psc.state.md.us/wp-content/uploads/Maryland-Energy-Storage-Program-MESP-MGA-Status-Report-2023.pdf>,

MD Energy Administration: <https://energy.maryland.gov/Pages/InsideMEA/index.aspx>

- Document adequacy of scheduled maintenance programs in terms of preventing failures. (Example: <https://www.utilitydive.com/news/battery-energy-storage-fire-safety-report/707330/>)
- Document adequacy of planning for potential downwind and surrounding community risk prevention.
- Renewable sources (wind/solar) lithium-ion battery installations. Large scale battery storage is typically not located at the sites but some can have collection nodes.

ANALYSIS

- Discussion of growth from present storage capabilities and the meaning for changes in the grid.
- Potential distribution for architecture to become more resilient.
- Adequacy of maintenance to prevent failures.
- Potential risks to surrounding populations.
- Emergency response preparations and challenges with possible resolutions.

PROPOSED POLICY AND RECOMMENDATIONS

[To be developed]

2. LANDFILL AND TRASH FACILITIES

BACKGROUND

Improperly disposed batteries have become an increasing fire problem and risk for waste collection at all levels, from fires created by trash trucks compacting contents to major facility fires. Per DEP Director Adam Ortiz. "We have seen fires caused by improperly disposed materials, such as batteries ..." An increasing number of cities are banning all batteries in trash pick-ups.

Separately, there are an insufficient number of battery recycling facilities across the country which represents an opportunity to attract business. (example: https://www.wenatcheeworld.com/news/seattle-bans-throwing-away-batteries-in-garbage-citing-fire-risk/article_98eb8c78-bfa3-11ee-a9e3-5be414831bb5.html)

FACT- FINDING

- Document history of Maryland landfill and trash facility fires, including those in waste transport vehicles.
- Document how the unique location of Maryland and the Port of Baltimore could attract businesses conducting recycling operations.

ANALYSIS

- Discussion of existing potential risks and problems, followed by examining possible resolutions.
- Discussion of how recycling should be in the future. Will need to examine costs.
- Examine opportunities and needed guidance for potential private recycling businesses to be established in Maryland.

PROPOSED POLICY AND RECOMMENDATIONS

[To be developed]

3. PRIVATE FACILITIES, LARGE SCALE AND MAJOR BUILDINGS

BACKGROUND

- Lithium-based battery powered backup systems are becoming standard in large buildings and business facilities. Being privately owned and part of refurbishment, these may fall outside of awareness of the Public Service Commission.*

- *Extinguishing gasoline car fires is typically accomplished in less than 10 minutes and building codes require fires to not compromise structure for at least 15 minutes. Electric vehicle fires typically take about 45 minutes to extinguish. Major parking structures have been destroyed when electric vehicles have become involved in fires.*
(<https://www.autospies.com/news/index.aspx?submissionid=101194>)

FACT- FINDING

- Investigate and report on the extent and use of large scale battery installations by corporate and private entities, including in major buildings. This includes facilities which perform battery testing. (example: <https://www.wmar2news.com/news/local-news/lithium-battery-fire-causes-hazmat-situation-at-towson-black-decker-building>)
- Renewable energy source (wind/solar) lithium-ion battery installations. As noted about those under the Public Service Commission, large scale battery storage is typically not located at the sites but some can have BESS collection nodes.
- Building codes should be examined for the need to withstand longer burn times using extensively more water, and changes to response planning.

ANALYSIS

- Discussion of potential risks to surrounding populations
- Examine adequacy of emergency response preparations and challenges with possible resolutions.
- Discuss building codes for parking structures and the adequacy in light of fires.

PROPOSED POLICY AND RECOMMENDATIONS

[To be developed]

4. VEHICLE RECHARGING FACILITIES AND NETWORK

BACKGROUND

- *While the vehicle recharging network is not typically battery based per se, these systems frequently have numerous embedded lithium-ion battery storage systems (BESS) for storage and surge needs.*
- *The recharging network is also so closely tied to the subject of vehicles with large format traction batteries (i.e. hybrid and battery vehicles) that it lends itself well to documentation and review by this commission.*

FACT- FINDING

- Document state and capability of BESS in existing infrastructure.
- Consider documenting the related existing state of recharging stations in Maryland, to include rates of broken stations.
- Document power cut-off (“kill switch”) requirements in terms of National Electric Code and Maryland building codes. Includes ability to find and disable the source of power, as these may be in a shop or store and away from the actual charger if less than 60 amps. Many large charging stations have main power switches inaccessible due to being in locked panels.

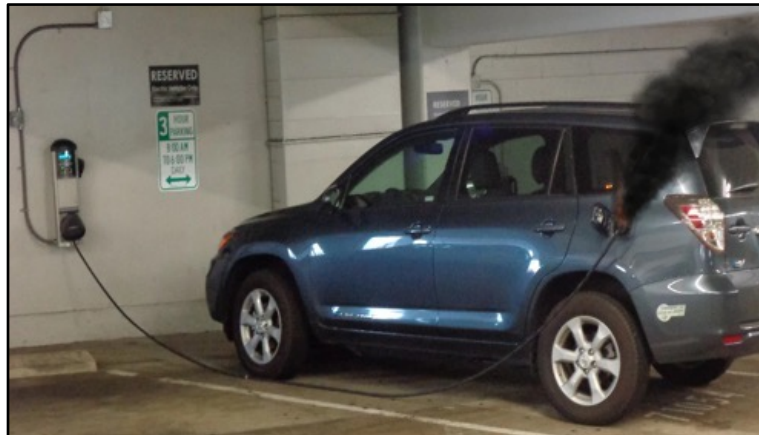


Figure 2. Note lack of power cut-off on <60A charger and lack of signage regarding where the circuit breaker is located.

- Document difficulty for charging by non-home owners. Charging is both expensive and inconvenient for those without the ability to charge at home, inhibiting Maryland goals for wide adoption of electric vehicles.

ANALYSIS

- Discuss expansion and growth needs for related electrical infrastructure, including in light of changes in various energy sources.
- Discuss expansion and growth needs for charging stations across Maryland.
- Examine adequacy of power cut-off methods in place.
- Should policy address the prohibitive hurdle of charging by people who do not have ready access in a home?

PROPOSED POLICY AND RECOMMENDATIONS

[To be developed]

5. VEHICLES

BACKGROUND

- *The Maryland EV population doubled in only two years, from 18,000 in 2020 to 46,100 in 2022. Calculating with 2022 data estimates that there were about 56 EV fires out of approximately 3,397 total Maryland vehicle fires. Obviously growth is quickly increasing the percentage of EVs on our roads so next year in 2024 we ought to easily pass 100 EV fires.*
- *While there is only one BEV fire per 60.9 ICE vehicles, the BEVs burn for substantially longer than building codes were designed for. This poses an immediate threat to parking structures.*
- *It is increasingly difficult to know which vehicles have alternate forms of power, especially since hybrids are a form of battery powered vehicle. Fast identification is further complicated when a single model may be sold in versions which are extremely hard for firefighters to distinguish. For example, the Hyundai Kona is sold with a gasoline powered internal combustion engine (ICE), in a hybrid battery/gasoline version, and as a battery electric vehicle (BEV). Although they look identical, the BEV has been involved in fires. The Jeep Wrangler is sold as an ICE and plug-in hybrid (PHEV) which are remarkably hard to tell apart; the hybrid versions having been recalled after a number of fires and explosions.*
- *Plug-in vehicles represent a potential asset in Maryland energy distribution and management, known as Vehicle to Grid (V2G).*

FACT- FINDING

- Investigate and report on various aspects such as Maryland rates of adoption, etc.
- Cost projections related to the future and increasing fleet of alternate fuel vehicles.
- Document vehicle to grid (V2G) capabilities which use vehicles as storage devices, such as when surge storage is needed for summer air conditioning.
- Aspects about vehicles themselves, starting with how to identify them, built-in safety items, etc.
- Document which Counties have methods to move fire damaged electric vehicles which can re-ignite.
- Emergency response capabilities and preparedness. History of incidents in parking structures in terms of building codes, etc. This is separate from the firefighter section.

ANALYSIS

- Examination of growing fleet size in Maryland in terms of cost and needs.
- Plans for vehicle adoption as State vehicles, which represents a potential for V2G to decrease State electrical utility bills.
- Examine the pros and cons of using vehicles as a buffer for the State energy supply and needs.
- Discussion of high level of preparedness for vehicle incidents.
- Examine agreements with waste companies to be able to quickly provide steel rollon / roll-off containers to move vehicles which may re-ignite.
- Vehicle-specific issues NOT covered in the firefighter/emergency response section.
- Something which can be initiated in the near term for minimal cost is Motor Vehicle Administration adoption of the SAE J3108 Alternate Fuel Marking stickers for firefighters.



Figure 3. Jeep plug-in hybrid undergoing battery failure was hard to differentiate from non-hybrid Wranglers. The cabin was full of flammable vapors. (Belgium 10/30/23)



Figure 4. Jeep exploding after firefighters broke a window to ventilate the interior. Arrows point to firefighters caught in blast.



Figure 5. SAE J3108 license plate marking (sticker) for firefighter awareness about alternative fuels and power sources.

PROPOSED POLICY AND RECOMMENDATIONS [To be developed]

6. RESIDENTIAL BACKGROUND

An increasing number of residential houses with solar panel installations have an accompanying lithium-ion BESS or other battery back-up power system.



Figure 6. Garage Power Wall BESS visible above front of car.

When these systems fail they can create the potential for explosive gasses to build in the garage. If firefighters have worked past these installations, they may have their path of retreat cut off.



Figure 7. Solar panels which may connect to BESS hidden in garage.



Figure 8. Ashburn VA after explosion launched garage door across street. Failure of charging car battery filled garage with explosive hydrogen, similar to failure of BESS systems.

Residential BESS systems also represent a potential asset in the ability to provide storage and buffer capabilities, such as during the summer when air conditioning demands are highest.

FACT- FINDING

- Document the extent of currently installed residential battery installations and growth of use. These uses may include collection of solar energy into backup power devices such as Power Walls and for home vehicle charging.
- Document typical house power panel capabilities in terms of being able to return grid energy (battery to grid, B2G) or store it.
- Document electrical code about such installations and how to disable systems in emergencies.

ANALYSIS

- Discuss use and potential hazards of BESS such as Power Walls.
- Discuss ability for use of home BESS systems to integrate with grid energy (battery to grid, B2G).
- Discuss how to facilitate responders being able to disable home power systems (BESS) in emergencies. For example, should the exterior door frame be marked to inform that a BESS is located inside?
- An action which does not need to wait for the Commission to finish is a marking requirement for home vehicle chargers.



Figure 9. Home vehicle charging plug labeled for responders to know where to disable power.

PROPOSED POLICY AND RECOMMENDATIONS
[To be developed]

7. **MOBILITY DEVICES,**
BACKGROUND

- *E-bikes, scooters, and other mobility devices have become a leading source of house and apartment fires, some of which have been fatal. Montgomery County alone reported having 24 major fires last year.*
- *They are not registered as motor vehicles and are loosely regulated by the Federal Consumer Product Safety Commission (CPSC). In addition to personal devices, these items intended to be recreational are now commonly used commercially as transportation by service people in urban environments, delivery workers, etc.*



Figure 10. E-bike fire.

FACT- FINDING

- Estimate the numbers of e-bikes, scooters, and other mobility not registered as a motor vehicle in Maryland for recreational use and growth of the fleet. Also estimate the extent of use by service people in urban environments such as tradesmen, delivery workers, etc.
- Examine and document the difference between construction of consumer devices those intended to be used commercially. Document the differences between UL-approved and low-cost devices.
- Document fires and failures in Maryland.

ANALYSIS

- Examine and try to quantify extent of mis-use, inappropriate chargers, and the pros and cons of requiring UL approvals.
- Discuss the above in terms of the history of Maryland fires, failures, and future trends.
- Consider requiring a large red tag near plugs to remind and prompt occupants to pull it if they detect the initial sight/sound/smell of a failing battery.

PROPOSED POLICY AND RECOMMENDATIONS

[To be developed]

8. CONSUMER ELECTRONIC AND VAPE DEVICES, BACKGROUND

- Consumer devices include lap-tops, tablets, phones, and failures regularly lead to fires which ignite surrounding paper and other flammable materials.*



Figure 11. Damaged consumer items emit flammable and toxic fumes, as shown with this new versus burnt booster pack.

- Vape devices are banned on Navy ships and in many companies because of the rate of exploding batteries in pants pocket which create fires leading to extensive burn injuries and even injuries resulting in death.*



Figure 12. Typical burn injury from vape igniting in pocket shows battery and casing fragment removed from thigh. (<https://www.cambridge.org/core/journals/canadian-journal-of-emergency-medicine/article/burns-associated-with-ecigarette-batteries-a-case-series-and-literature-review/7ED4071739CCAA5CA071BB88EA3C27FC>)



Fig. 12. "24-year-old William Eric Brown died from a stroke when his vape pen blew up in his face and tore a major artery in his neck."
(<https://www.nbcnews.com/nightly-news/video/e-cigarette-explosion-blamed-for-texas-man-s-death-1437812803559>)

FACT- FINDING

- For context, document general numbers of lap-tops, tablets, phones, etc. This may have overlap with the charging and recycling sections.
- Document involvement of electronic devices involved in fires.
- Document vapes fires and injuries in Maryland.

ANALYSIS

- Examine potential means to better protect consumers in Maryland from injuries arising from fires involving electronic devices.
- Examine potential means to better protect consumers in Maryland from vape injuries. These could include awareness campaigns and prohibiting vape devices which eject exploding batteries toward the user.
- Examine potential means to protect public locations in the event of device failures.
- Examine responder times and adequacy of equipment when confronted with electronic device and vape failures.

PROPOSED POLICY AND RECOMMENDATIONS

[To be developed]

9. FIREFIGHTER TRAINING AND TOPICS [This should become a major section.]

BACKGROUND

Note that State firefighter training for electric vehicle responses is provided by the Maryland Fire Rescue Institute (MFR). However, as can be seen from this document, there are many other aspects of lithium-ion battery failures which responders need to prepare for.

FACTUAL

- Document existing emergency response preparations and guidance for each of the above topic areas.
- Determine cost of existing training accomplished.
- Quantify availability of tools and assets by stations. (example: extrication chain and vehicle fire blankets for garage structures)
- Check for appropriate cleaning materials and procedures at fire stations. The smoke from a burning lithium battery fire carries potentially cancerous heavy metals which bond to the fibers of firefighter clothing. Cleaning with normal soaps does not remove these deposits.
- Examine use of HazMat versus non-HazMat crews.
-

ANALYSIS

- Evaluate adequacy of training resources.
- Estimate costs for future training needs, beyond just electric vehicles.
- Estimate costs of tools and assets needed.
- Discuss benefits of dispatching HazMat crews since response may result in ability to bill and recover fire fighting costs.

PROPOSED POLICY AND RECOMMENDATIONS

[To be developed]

SB0532 Testimony.pdf

Uploaded by: Sarah Paul

Position: FAV



Statement of Maryland Rural Health Association (MRHA)

To the Senate Education, Energy, and the Environment Committee

Chair: Senator Brian J. Feldman

February 21, 2024

Senate Bill 0532: Commission to Advance Lithium-Ion Battery Safety in Maryland

POSITION: SUPPORT

Chair Feldman, Vice Chair Kagan, and members of the committee, the Maryland Rural Health Association (MRHA) is in SUPPORT of Senate Bill 0532 Commission to Advance Lithium-Ion Battery Safety in Maryland

Lithium-ion batteries have become a prominent part of our society. Sales of electrical vehicles powered by lithium-ion batteries in Maryland have risen 23% between 2022 and 2023, and it is predicted that sales will continue to rise over the course of 2024 (Devereux, 2023). Lithium-ion batteries can power objects that range from toothbrushes to cars and have proven to be beneficial in various ways. Providing long-lasting, high quality, and low maintenance energy, lithium-ion batteries are considered to be eco-friendly and convenient. In addition to the advantages lithium-ion batteries possess, they also carry grave disadvantages. In 2023, there were nearly 40 reported incidents of lithium-ion battery fires which resulted in 10 injuries. 18 incidents were due to battery failures and 24 took place in or near a residential dwelling (Maryland Office of the State Fire Marshal, n.d.). Causes of the fires range from design and manufacture issues to electrical overcharging, and many people are unaware of such hazards. If the batteries are mishandled or are improperly disposed of, it poses an immediate risk to public safety. Similar incidents have been seen in New York City (NYC) but on a much larger scale. In 2021, there were over 100 fires reported resulting in 79 injuries and 4 deaths (Fire Safety Research Institute, 2022). Contributing causes in New York also revolved around the mishandling, storage, and disposal of batteries. In the search for ways to keep NYC residents safe, The Fire Department of the City of New York has collaborated with the Fire Safety Research Institute to conduct research on best practices to handle lithium-ion batteries and how to best disseminate the information to the public. To prevent further fires and injury in Maryland, it is imperative that the state moves forward with establishing a commission to study best practices and regulations for lithium-ion batteries while remaining as safe as possible. Established regulations will not only keep the public safe, but also first responders. Lithium-ion batteries may seem to be the best option, but Maryland residents need to be made aware of the risks the batteries pose and how it could impact their life. With this in mind, the Maryland Rural Association strongly supports SB0532: Commission to Advance Lithium-Ion Battery Safety in Maryland.

*On behalf of the Maryland Rural Health Association,
Jonathan Dayton, MS, NREMT, CNE, Executive Director
jdayton@mdruralhealth.org*

Devereux, M. (2022). *Number of electric vehicles continues to grow in Maryland*. Maryland Department of Transportation. <https://news.mdot.maryland.gov/number-of-electric-vehicles-continues-to-grow-in-maryland/>

Fire Safety Research Institute. (2022). *Examining the fire safety hazards of lithium-ion battery powered e-mobility devices in homes*. <https://fsri.org/research/examining-fire-safety-hazards-lithium-ion-battery-powered-e-mobility-devices-homes>

Maryland Office of the State Fire Marshal. (n.d.). *Lithium-ion battery fire reporting*. <https://mdosfm.wixsite.com/blog/lithiumionfires>

02.08.24 LOS SB 0532 Joint.pdf

Uploaded by: Terry Hale

Position: FAV

Danielle Hornberger
County Executive

Steven Overbay
Director of Administration

Office: 410.996.5202
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Jackie Gregory
Council President

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CECIL COUNTY GOVERNMENT
Cecil County Administration Building
200 Chesapeake Boulevard, Elkton, MD 21921

February 8, 2024

The Honorable Brian J. Feldman
The Honorable Cheryl C. Kagan
Education, Energy and the Environment Committee
2 West
Miller Senate Office Building
Annapolis, MD 21401

RE: SB 0352 - Commission to Advance Lithium-Ion Battery Safety in Maryland
Letter of Support

Dear Chairman Feldman, Vice Chair Kagan and Members of the Education, Energy and the Environment Committee:

The County Council and the County Executive of Cecil County unanimously supports SB 0532 - Commission to Advance Lithium-Ion Battery Safety in Maryland. The Hearing on this legislation is scheduled for February 22, 2024.

It is our understanding that this legislation is establishing the Commission to Advance Lithium-Ion Battery Safety in Maryland; and requiring the Commission to study and make legislative, regulatory, programmatic, and other recommendations and, on or before December 1, 2025, report its findings and recommendations to the Governor and the General Assembly.

Our Emergency Services, Volunteer Firefighters and public safety members are all concerned on the growing use of lithium-ion batteries and the associated risks. This Commission should help educate all of us on the associated risks and opportunities and help guide our policy decisions going forward. Cecil County strongly supports this legislation.

The County Executive and County Council of Cecil County respectfully request that the Education, Energy and Environment Committee send a favorable report on SB 0532.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Hornberger".

Danielle Hornberger
County Executive

A handwritten signature in blue ink, appearing to read "Jackie Gregory".

Jackie Gregory
President of County Council

Written Testimony in Support of SB532 – Commission

Uploaded by: Tom Taylor

Position: FAV

Written Testimony in Support of SB532 – Commission to Advance Lithium-Ion Battery Safety in Maryland

February 22, 2024

To: Chair Feldman, Vice Chair Kagan, and Members of the Education, Energy and the Environment Committee

My name is Tom Taylor. I am submitting testimony as an individual and as an active community volunteer in environmental and ecology efforts in Maryland. I am writing in support of SB532.

This legislation establishes a commission to study and make recommendations for best practices and guidelines regarding lithium-ion battery fire safety, the reuse and recycling of these batteries, the viability of extended producer responsibility for these batteries, and improving public information and education about battery safety.

I support the establishment of this commission. News reports about fires caused by these batteries make it clear that recommendations and guidelines for battery safety are needed. And, to advance Maryland's environmental and waste reduction goals, strong policies are needed to ensure optimal reuse and recycling practices and effective producer responsibility for lithium-ion batteries.

I urge that recommendations issued by this commission include requirements for better recyclability design, safer disposal, and ultimate financial responsibility for the improvements and disposal. With the expanding use of lithium-ion batteries, effective requirements are needed to protect public safety and the state's environmental health.

I ask for a favorable report on SB532. Thank you for considering my views.

Sincerely,

Tom Taylor
11-G Laurel Hill Road
Greenbelt, MD 20770
301-513-9524

2024 Tesla SB 532 Li ion Battery Commission V.2[94

Uploaded by: Ashlie Bagwell

Position: FWA

Testimony Regarding SB 532
Maryland Committee on Education, Energy and the Environment
Commission to Advance Lithium-Ion Battery Safety in Maryland
On February 22, 2024, at 1:00PM

Dear Chair Feldman, Vice Chair Kagan, and Members of the Committee,

Thank you for the opportunity to provide input on SB 532, which aims to establish the Commission to Advance Lithium-Ion Battery Safety in Maryland.

Tesla is committed to accelerating the transition to sustainable energy through the deployment of electric vehicles, energy storage, solar energy systems, and charging infrastructure. In 2023, Tesla delivered over 1.8 million electric vehicles (EVs) globally, representing approximately 55% of all EVs sold in the U.S. market last year.¹ Our extensive experience affords us a unique perspective on the mass deployment of products that use Lithium-ion batteries and the most effective policy mechanisms to promote their adoption and safety.

Tesla vehicles and storage products are constructed with safety-first design, and our commitment to battery safety is at the forefront of innovation and reliability. Tesla's advanced battery technology is subject to rigorous testing and validation processes that exceed industry standards, ensuring that our products are among the safest on the market. As a result of our innovation and experience, Tesla has a vested interest in the advancement of lithium-ion battery safety in Maryland. Consequently, Tesla supports SB 532 and suggests the following additions and amendments that will improve representation on the Commission, ensuring that a variety of important voices weigh in during the process:

1. Beyond the representatives specified in SB 532, Tesla recognizes an opportunity for the Commission to include additional stakeholders, which would enhance its composition. **Therefore, we recommend the following modifications to §(b)(2):**
 - (ii) **one representative of a high voltage battery storage system manufacturer;**
 - (iii) **one representative of a vehicle propulsion battery manufacturer;**
 - (iii) **one representative of the vehicle dismantling sector;**
 - (iv) **one representative of a large-propulsion battery recycler;**
 - (v) **one representative of a battery manufacturer trade group; and**
 - (vi) **one representative of a battery recycling trade group.**

Thank you for the opportunity to provide these comments.

¹ <https://cleantechnica.com/2024/01/14/us-ev-market-grows-29-in-4th-quarter-tesla-holds-56-market-share/>

Respectfully,

Shatorah Roberson
Staff Policy Advisor
Tesla

SB0532 OPC Testimony.pdf

Uploaded by: David Lapp

Position: FWA

DAVID S. LAPP
PEOPLE'S COUNSEL

WILLIAM F. FIELDS
DEPUTY PEOPLE'S COUNSEL

JULIANA BELL
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————— **OPC** —————
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BRANDI NIELAND
DIRECTOR, CONSUMER
ASSISTANCE UNIT

CARISSA RALBOVSKY
CHIEF OPERATING OFFICER

BILL NO.: Senate Bill 0532 – Commission to Advance Lithium-Ion Battery Safety in Maryland

COMMITTEE: Education, Energy, and the Environment Committee

HEARING DATE: February 22, 2024

SPONSOR: Senator Gallion

POSITION: Favorable with Amendments

The Office of People’s Counsel (“OPC”) supports SB 532, which would establish the Commission to Advance Lithium-Ion Battery Safety (“Commission”) to study and make recommendations regarding—among other things—best practices and guidelines to prevent, detect, and suppress lithium–ion battery fires in utility applications; and training and education to better inform the public regarding lithium–ion battery safety.

Since its inception in 2019, OPC has been an active participant in the Energy Storage Pilot Program established by the Maryland Public Service Commission (“PSC”).¹ Through these proceedings, concerned community members raised concerns about the lack of fire safety planning and oversight,² and OPC has observed that no single agency—at the state, county, or local level—currently has the subject matter expertise and responsibility to address such concerns.

OPC is also an active participant in the Energy Storage Program Working Group, convened by the PSC to meet the mandate of HB910 to implement a permanent energy storage program by July 1, 2025.³ Among other things, the Working Group is considering

¹ See Maryland Public Service Commission Case No. 9619, *In the Matter of the Maryland Energy Storage Pilot Program*.

² Maryland Public Service Commission, Case No. 9619, *Indian Head Highway Area Action Council, Inc. - Comments* (Maillog Number: 305125) (Sept. 18, 2023).

³ 2023 HB 910 Chapter 570.

the “applicable safety and environmental requirements for utility scale storage . . . including, but not limited to, plans for risk assessment, emergency response, preventing fires and explosions, safe removal of damaged batteries, and for decommissioning, disposal and the potential salvage of batteries and associated equipment.”⁴ Given the potential for overlap in the work of the Commission and the PSC Working Group, OPC supports the PSC’s recommendations, including to (1) add to the Commission representatives of the PSC, the Power Plant Research Program, and the Building Codes Administration; and (2) to require the Commission to issue an interim report by December 31, 2024.

Recommendation: OPC requests a favorable Committee report on SB 532 with the amendments recommended by the PSC.

⁴ Maryland Public Service Commission, Case No. 9715, Order No. 90823, *Initiating Workgroup to Develop a Maryland Energy Storage Program*, pg. 3 (Maillog Number 305375) (Oct. 2, 2023).

SB0532_Favorable with Amendments_PSC.pdf

Uploaded by: Frederick Hoover

Position: FWA

FREDERICK H. HOOVER, JR.
CHAIR

MICHAEL T. RICHARD
ANTHONY J. O'DONNELL
KUMAR P. BARVE
BONNIE A. SUCHMAN



PUBLIC SERVICE COMMISSION

February 21, 2024

Chair Brian J. Feldman
Education, Energy, and the Environment Committee
2 West, Miller Senate Office Building
Annapolis, MD 21401

RE: SB 532 – Favorable with Amendments – Commission to Advance Lithium–Ion Battery Safety in Maryland

Dear Chair Feldman and Committee Members:

During the 2023 Legislative session, the Maryland General Assembly passed HB 910, which requires the Public Service Commission (PSC) to establish the Maryland Energy Storage Program and set targets for the cost-effective deployment of new energy storage devices in the State with a goal of achieving at least a cumulative total of 3,000 MW by the end of 2033. The program must be implemented by July 1, 2025. To meet the mandates of HB 910, the PSC established the Energy Storage Program Working Group. The safety of energy storage devices will be contemplated in the Working Group's development of regulations. However, SB 532 will allow for further research and guidance to be available directly related to lithium-ion batteries. The Public Service Commission requests a favorable report on SB 532, with a few amendments.

The Public Service Commission recommends expansion of the membership of the Commission to Advance Lithium-Ion Battery Safety to include representatives of the Public Service Commission, the Power Plant Research Program of the Department of Natural Resources and the Building Codes Administration.

Further, the PSC recommends the bill language include the study of standards, as well as decommissioning, in the Commission's scope. Currently the bill language requires the new Commission to study and make recommendations on training, education and other information to better inform the general public. The Public Service Commission recommends the language be expanded to include training and education for first responders.

Finally, the Public Service Commission requests an amendment for an interim report to be issued on the progress and status of the Commission to Advance Lithium-Ion Battery Safety by the December 31, 2024. This will be helpful to the PSC's Energy Storage Program Working Group as it develops safety standards as prerequisites for approval in the permanent Energy Storage Program.

I appreciate the opportunity to provide favorable testimony, with amendments on SB 532. Please contact the Commission's Director of Legislative Affairs, Christina M. Ochoa, at christina.ochoa1@maryland.gov if you have any questions.

Sincerely,

A handwritten signature in blue ink that reads "Frederick H. Hoover". The signature is written in a cursive style with a large, prominent initial 'F'.

Frederick H. Hoover, Chair
Maryland Public Service Commission

Ext. Comm. - Testimony - 2024 - Maryland SB 532 -

Uploaded by: Joshua Fisher

Position: FWA



February 19, 2024

The Honorable Brian Feldman
Chair, Senate Education, Energy, and the Environment Committee
Annapolis, Maryland 21401

SB 532: Commission to Advance Lithium–Ion Battery Safety in Maryland
Position: Favorable with Amendments

Chair Feldman:

The Alliance for Automotive Innovation¹ (Auto Innovators) is writing to share our perspective on SB 532 and to request an amendment that ensures automakers are a part of these important conversations.

Passenger vehicles are the most recycled consumer product, with 95% of retired passenger vehicles processed for recycling every year². Innovative technologies and vehicle advancements, like Li-ion batteries, require a coordinated, proactive approach from industry and other stakeholders to ensure end-of-life uses are properly managed.

Our collective members established an industry framework to reuse, repurpose and recycle components of electric vehicle batteries and ensure batteries do not become landfill waste when reaching the end of their useful life. The shift to an all-electric vehicle future will result in a significant rise in demand for EV batteries. Many of the materials needed to build EV batteries aren't yet produced domestically. A domestic circular economy, including battery recycling, offers an opportunity to reduce U.S. reliance on other nations for critical minerals used in EV batteries, while bolstering national energy security.

Our "[Lithium-Ion EV Battery Recycling Policy Framework](#)" is designed to decrease reliance on mined materials, reliance on foreign economies, environmental impacts, transportation of goods, and the overall cost of the vehicle due to access to raw materials. This framework will also provide a safety net to capture outlier EV batteries (orphaned batteries) that have fallen outside of use cases and, importantly, during unforeseen market fluctuations.

Core Exchange with a Complete Vehicle Backstop

¹ From the manufacturers producing most vehicles sold in the U.S. to autonomous vehicle innovators to equipment suppliers, battery producers and semiconductor makers – Alliance for Automotive Innovation represents the full auto industry, a sector supporting 10 million American jobs and five percent of the economy. Active in Washington, D.C. and all 50 states, the association is committed to a cleaner, safer and smarter personal transportation future.
www.autosinnovate.org.

² <https://www.autosinnovate.org/initiatives/energy-and-environment/automotive-recycling>

This policy is referred to as a “Core Exchange with a Complete Vehicle Backstop”. For EVs still in service, if a battery (or any module or cell) is replaced before the vehicle reaches end-of-life, a core exchange program as detailed by the EV battery supplier or vehicle manufacturer will be used for the replacement battery (or any module or cell). The entity removing the battery will be responsible for ensuring that the battery (or module or cell) is transferred to a qualified facility to be properly refurbished, repurposed, or recycled.

For EVs reaching end-of-life, a dismantler who removes the lithium-ion battery from the vehicle is responsible for ensuring the battery is properly reused, refurbished, or recycled. In circumstances where an end-of-life EV is unwanted, and no parts are removed (i.e., a “complete vehicle”) by a licensed dismantler, the vehicle manufacturer shall be responsible to accept the vehicle and ensure that it is properly dismantled and the lithium-ion battery is properly reused, refurbished, or recycled.

Why a Complete Vehicle Backstop is an Appropriate Policy?

Traditional extended producer responsibility (EPR) schemes are appropriate for negative recycling value products, limited secondary life opportunities, and/or natural resource-intensive recycling technologies.

We are already witnessing the domestic battery supply chain’s quick adaptation to market dynamics due to the positive value of recovered materials, secondary life market opportunities, and awareness and demand for a domestic supply chain.

Requested Amendment

SB 532 proposes a format for important discussions concerning lithium-ion battery recycling. We think it is critical for the automakers who are manufacturing electric vehicles to have a seat at the table to share our perspective and to work constructively with the state to ensure the best policy outcomes.

We respectfully request the following amendment in Section 1(b) to the list of proposed members: “*one representative of the Alliance for Automotive Innovation.*”

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

Sincerely,



Josh Fisher
Director, State Affairs
Alliance for Automotive Innovation

SB 532 FAV Testimony .pdf

Uploaded by: Senator Gallion

Position: FWA

JASON C. GALLION
Legislative District 35
Harford and Cecil Counties

Education, Energy, and
the Environment Committee



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District Office
64 S. Main Street
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February 21st, 2024

The Honorable Brian Feldman, Chair

Senate Education, Energy, and Environment Committee

RE: SB532 – Commission to Advance Lithium-Ion Battery Safety in Maryland

Position: **Favorable w/ Amendment**

Dear Chairman Feldman,

SB 532 creates a Commission to Advance Lithium-Ion Battery Safety in Maryland. Lithium-Ion batteries are used to supply power to many of our devices daily such as our smartphones, laptops, and our electric vehicles. As electric vehicles become more prevalent we will have more and more lithium ion batteries on our roads and in our neighborhoods.

While we enjoy the advantages of these batteries as they have come to be a part of our everyday lives, we rarely tend to think of the disadvantages that come along with them. Unfortunately, these disadvantages can be deadly.

Establishing this commission will allow us as a state to study:

1) best practices and guidelines to:

- prevent, detect, and suppress lithium-ion battery fires in consumer, transportation, and utility applications
- Prevent detect and suppress fires at recycling facilities
- And for reusing and recycling, and decommissioning lithium ion batteries

2) the viability of extended producer responsibility for lithium – ion batteries

3) training, education, and other information to better inform the public regarding lithium-ion battery safety

4) any other global issues the commission may consider useful for enhancing the safety and reuse of batteries in the State.

On or before December 1st, 2025 the commission shall report its findings to the Governor and General Assembly

JASON C. GALLION
Legislative District 35
Harford and Cecil Counties

Education, Energy, and
the Environment Committee



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We're proposing one amendment that will add an interim report due in 2024 and add:

- One representative of the Power Plant research project appointed by DNR
- One representative of the Public Service Commission
- One representative of the Maryland Fire and Rescue Institute

I respectfully urge the committee for a favorable report on SB 532 so we can stay ahead of the curve on this issue and ensure that we're keeping the public safe as we place more of these batteries in our communities.

Sincerely,

A handwritten signature in black ink that reads "Jason Gallion".

Jason Gallion

Senator, District 35