

March 20, 2026

Education, Energy, and the Environment Committee  
Maryland Senate  
2 West Miller Senate Office Building  
Annapolis, MD21401

**RE: Unfavorable HB 451: Maryland Zero Emission Electric Vehicle Infrastructure Council – Reporting and Sunset Extension**

Dear Chair Feldman, dear Committee members,

My name is Emanuel Wagner, and I live in Takoma Park, MD. I've been active in the clean energy space for nearly two decades. I support the original version of HB 451 to extend ZEEVIC, but I am highly opposed to the current version that was amended after the House hearing to **narrow ZEEVIC to charging-only** by removing **fuel cell vehicles and hydrogen expertise**; I respectfully ask the Committee find this bill unfavorable unless it restores the **technology-neutral** scope of the original bill language.

As a background, I've owned and driven hydrogen fuel cell electric vehicles and battery electric vehicles in the State of Maryland, and I provide insights into clean transportation as part of the Maryland Clean Cities advisory board and my local Takoma Park Green Team, where I've been a vocal advocate for charging infrastructure deployment. I've also participated with ZEEVIC, including presenting to the Council on hydrogen, because I believe Maryland's ZEV transition will succeed only if our planning stays grounded in real-world deployment constraints and includes the full set of viable solutions.

I'm writing because the bill before you includes amendments made after the bill hearing in the House, and the lack of transparency regarding why this elimination was proposed. No public discussion was held on these amendments.

Relatedly, ZEEVIC provided a letter of support for the original bill (continuing the Council's work), but the amended version appears to go much further by removing hydrogen/fuel-cell expertise from the Council and creating a statutory disconnect that risks pushing ZEEVIC toward a charging-exclusive focus in practice. This was not discussed or supported in the meetings that ZEEVIC held since the bill was introduced.

As someone who follows both technologies in practice, this is not insignificant; instead, it is a major change in direction. Hydrogen fuel cell mobility options, like fuel cell electric buses, are a growing part of the zero-emission bus transition, and federal planning documents from the U.S. Department of Energy and the U.S. Department of Transportation for medium- and heavy-duty transportation decarbonization explicitly treat the challenge as **charging plus hydrogen refueling**, not charging alone.

I also want to highlight that Maryland sits next to a region where hydrogen is no longer theoretical. Two federally selected Regional Clean Hydrogen Hubs are being developed immediately adjacent to Maryland: the Appalachian Regional Clean Hydrogen Hub (ARCH2) spanning West Virginia, Ohio, and Pennsylvania with a total federal support of up to \$925 million, and the Mid-Atlantic Clean Hydrogen Hub (MACH2) spanning Pennsylvania, Delaware, and New Jersey with a federal funding of up to \$750 million.

These hubs are specifically designed to build out producers, end users, and connective infrastructure (including fueling and distribution), and regional coordination efforts are already underway to protect and accelerate them. In plain terms: Maryland's neighbors are actively building the hydrogen supply and project pipeline that makes fuel cells and hydrogen mobility more practical over time, and it would be counterproductive for Maryland's statewide ZEV infrastructure council to narrow its scope just as regional momentum is developing.

Industry resources describe hydrogen fuel cells and batteries as complementary tools rather than mutually exclusive solutions. For example, Hydrogen Fuel Cell Partnership's California Hydrogen Mobility Vision & Roadmap frames

hydrogen as complementary to battery-electric progress, particularly where rapid refueling, long range, and certain fleet duty cycles matter.<sup>1</sup>

The Fuel Cell Hydrogen Energy Association similarly notes operational advantages for fuel cell buses versus battery-electric buses in certain conditions, and cites a Foothill Transit lifecycle analysis where operating FCEBs was reported to be \$12.9M less than BEBs on a specific route over a 12-year period.<sup>2</sup>

Maryland is also in the PJM region at a moment when PJM itself is warning that supply is not keeping pace with load growth. PJM's reporting on the 2027/2028 capacity auction reflects a 6,623 MW shortfall versus PJM's reliability requirement and highlights structural constraints that make new capacity difficult to deliver quickly.<sup>3</sup>

The PJM Board has outlined 2026 actions aimed at preserving reliability and affordability, including avenues for large loads to bring new generation and frameworks that enable earlier curtailment during system needs. This is a clear signal that, in some locations, the grid cannot simply absorb massive new electric load on the timelines policymakers expect.<sup>4</sup> Because transportation electrification depends on timely, affordable power delivery (interconnection, upgrades, and generation), these PJM constraints can **delay real-world ZEV adoption if Maryland's planning assumes that charging infrastructure alone will be sufficient everywhere**, on schedule, at predictable cost.

In contrast, hydrogen refueling can be implemented faster than multi-megawatt charging interconnections because the energy supply can arrive via delivered hydrogen rather than requiring large new electric capacity, even if stations need some electricity for compression and controls. Furthermore, mobile hydrogen power generators have been used to provide dispatchable electricity for EV charging and can be deployed in emergencies when grid outages limit vehicle charging, such as for emergency services.

Maryland has made real progress in supporting the deployment of charging infrastructure through major public programs and solicitations, including MDOT's NEVI awards and ongoing rounds of federal formula funding to build fast charging along designated corridors. Maryland also has additional EV charging grant mechanisms and program documents focused on EVSE planning and installations. On the other hand, Maryland does not provide infrastructure-focused state programs for hydrogen refueling. That imbalance is exactly why an infrastructure advisory council should not be narrowed to one technology pathway but rather advocate for all technologies that get us to the same goal.

I respectfully ask the Committee to restore the technology-neutral ZEEVIC scope of the original bill so the Council can continue to evaluate barriers and infrastructure needs across all ZEV options that Maryland residents, businesses, fleets, and agencies are actively relying on.

Respectfully,

/s/ Emanuel Wagner  
Takoma Park, Maryland

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<sup>1</sup> [https://h2fcp.org/sites/default/files/resources\\_public\\_files/ZEV%20Fwd-public%20release\\_CA%20H2%20Mobility%20Vision%20%26%20Roadmap\\_July2025.pdf](https://h2fcp.org/sites/default/files/resources_public_files/ZEV%20Fwd-public%20release_CA%20H2%20Mobility%20Vision%20%26%20Roadmap_July2025.pdf)

<sup>2</sup> <https://fchea.org/wp-content/uploads/2025/03/Fuel-Cells-Driving-Public-Transportation-Decarbonization.pdf>

<sup>3</sup> <https://www.pjm.com/-/media/DotCom/markets-ops/rpm/rpm-auction-info/2027-2028/2027-2028-bra-reserve-target-shortfall-report.pdf>

<sup>4</sup> <https://insidelines.pjm.com/pjm-board-outlines-plans-to-integrate-large-loads-reliably/>