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March 10, 2025

The Honorable Marc Korman  
Chair, House Environment and Transportation Committee

*Submitted electronically*

Re: SWTCH testimony in SUPPORT with AMENDMENT:  
[HB 1496](#): **Building Code – Construction and Significant Renovation of Housing Units – Electric Vehicle Parking Spaces**

Dear Chair Korman and Committee Members:

SWTCH is pleased to offer this testimony in SUPPORT with AMENDMENT of HB 1496.

### About SWTCH

SWTCH is a leading provider of electric vehicle (EV) charging and energy management solutions for multifamily, commercial, and workplace properties in Maryland and across North America. SWTCH's end-to-end solution optimizes EV charging usage and manages load to benefit drivers, property owners, and the grid. SWTCH has deployed more than 10,000 charging stations, with a particular focus on ensuring equitable access to EV charging. SWTCH's charging management platform is built upon a foundation of open communication standards and interoperability to ensure future flexibility, scalability, and innovation even after purchase and installation.

### Comments

This bill establishes EV-ready construction requirements for residential buildings – including multifamily properties – for new construction and significant renovations. These long-overdue standards will save Marylanders money by substantially reducing the cost of installing EV chargers.

If one accepts as a premise that the future of transportation in Maryland is electric, and Maryland's households will benefit from the accessibility and affordability of having at-home charging, then there is no question this bill will save Marylanders money. Only if one disputes that premise and believes Marylanders will not need charging can one argue that this bill would add unnecessary cost. However, Maryland has already determined as a matter of policy – and indeed law – that Maryland will transition to a zero-emission future. The question for the legislature is not whether, but how, to achieve that transition in a cost-effective way for Marylanders. This bill is a key policy lever to do that.

### Maryland's clean transportation policy leadership

For many years now, Maryland has been a leader in clean transportation policy. In 2023, the State continued to set the bar high when it adopted the Advanced Clean Cars II (ACCI) Rule. This Rule requires automakers to deliver an increasing percentage of light-duty zero-emission or hybrid vehicles with each model year beginning with Model Year (MY) 2027,

culminating in 100% ZEV or hybrid deliveries by MY2035. These and other policy actions matter because policy shapes the market for EVs and charging.

Zero-emission vehicle (“ZEV”) mandates and other policy goals such as the ACCII Rule – while eminently worthy – are insufficient in and of themselves to bring about the changes they envision. Indeed, without a host of complementary actions, the achievement of high-level policy mandates and goals are likely to fall short. EV-ready construction requirements are among such complementary actions. For residents of apartments and condominium buildings in particular, EV-ready requirements are imperative – not only for the state to keep pace with its overall EV adoption targets, but to keep pace in an equitable way that helps shrink the disparity between those who live in single-family homes and those who don’t.

#### The value of EV-ready construction requirements

Establishing minimum EV-ready construction requirements matter because they enable more widespread and equitable EV adoption by driving down the cost of charging infrastructure. It is far less expensive – generally 4 to 8 times less expensive – to plan, engineer, design, and install EV charging infrastructure during new construction than to retrofit an already-built building.

More than 30% of all U.S. households live in multifamily apartment and condominium buildings. Multifamily properties are an underserved segment when it comes to EV charging for a host of reasons, cost being a major one. By driving down the cost of charging infrastructure, EV-ready construction codes will help expand equitable access to charging among multifamily households, as well as enable the corresponding savings that accrue to those who are able to charge at home. This is especially important because multifamily households are disproportionately low- and moderate-income, and face an above average transportation energy burden.

#### Charging infrastructure costs

In SWTCH’s experience, the typical cost to install a commercial-grade Level 2 EV charger at an existing multifamily property ranges from \$5,000 to \$10,000. This range is consistent with industry experience. The National Renewable Energy Laboratory (NREL)’s “2030 National Charging Network” included a meta-review of literature and reported a range from \$4,400 to \$10,600 (Note “commercial” in the table below is the category that includes multifamily properties”):

**Table 5. EVSE Capital Cost Assumptions**

<b>Charger Hardware</b>		<b>Unit Cost per Port</b>	<b>Install Cost per Port <sup>a</sup></b>	<b>References</b>
L1 residential	Low: High:	\$0 \$0 <sup>b</sup>	\$100 \$1,000	(Fixr.com 2022; Courtney 2021; HomeAdvisor 2022)
L2 residential	Low: High:	\$400 \$1,200	\$500 \$1,700	(Borlaug et al. 2020; Fixr.com 2022; Courtney 2021; HomeAdvisor 2022)
L2 commercial	Low: High:	\$2,200 \$4,600	\$2,200 \$6,000	(Nicholas 2019; Nelder and Rogers 2019; Borlaug et al. 2020; Bloomberg New Energy Finance 2020; Pournazeri 2022)

Source: National Renewable Energy Laboratory.<sup>1</sup>

NREL's meta-review is consistent with Maryland's own experience as reflected in BGE's Q3-Q4 2024 Semi-Annual Report to the Public Service Commission. Whereas NREL's report aggregates data from reports published between 2019-2022, BGE's latest report indicates an average cost of \$11,847 per charger, installed:

- 4. Actual costs of implementation at each site. Discuss the overall costs, broken down by cost categories and charger type (including capital costs and annual operations and maintenance costs). Also include incentive costs and any "make ready" costs such as distribution system upgrades.**

Average Multifamily Program Costs per EV Charger Port Jul 1, 2024 – Dec 31, 2024	
Equipment Cost	\$ 3,934
Install Cost	\$ 6,429
Other Cost*	\$ 2,438
<b>Total Average</b>	<b>\$ 11,847</b>
* Other Cost average based only on properties who reported applicable project costs that were not qualified under equipment or installation costs. 53% of properties reported other costs associated with residential EV charger installation.	

Source: BGE. <sup>2</sup>

Note that in all three of these examples – SWTCH, NREL, and BGE – the installation and supporting infrastructure comprise the bulk of the cost; the chargers themselves are

<sup>1</sup> National Renewable Energy Laboratory. (2023). The 2030 National Charging Network. Page 33. Available at: <https://www.nrel.gov/docs/fy23osti/85654.pdf>.

<sup>2</sup> BGE. (Jan. 31, 2025). Semi-Annual Report to the PSC, Case No. 9478. Page 25. See Item No. 690 available at: <https://webpscxb.psc.state.md.us/DMS/case/9478>.

generally between \$1,000 to \$4,000. These cost estimates are all for installing chargers in existing buildings. Importantly, if Maryland adopts EV-ready construction requirements, the costs to install chargers will be far less.

### Recommended Amendment

1. The proposed EV-ready requirements in this bill, while forward-looking, are relatively modest. SWTCH encourages stronger provisions that align with the new Appendix CG of the 2024 edition of the International Energy Conservation Code (IECC), which requires a minimum of 20% EVSE Installed, 5% EV Ready, and 75% EV Capable spaces for R-2 occupancies.<sup>3</sup>

### In Closing

SWTCH supports the goals of this bill and respectfully encourages favorable consideration with amendment.

Thank you for your consideration of these comments. If you have questions or if I can provide more information, please contact me at [josh.cohen@swtchenergy.com](mailto:josh.cohen@swtchenergy.com) or 202.998.7758.

Respectfully,

A handwritten signature in blue ink, appearing to read 'Josh Cohen', with a long horizontal flourish extending to the right.

Josh Cohen  
Head of Policy

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<sup>3</sup> International Code Council. (2024). 2024 International Energy Conservation Code, Appendix CG. Available at: <https://codes.iccsafe.org/content/IECC2024P1/appendix-cg-electric-vehicle-charging-infrastructure>.