June 6, 2025

Attn: Sherri L. Golden
Secretary of the Board
New Jersey Board of Public Utilities
44 South Clinton Avenue 1st Floor
Trenton, NJ 08625-0350

RE: In the Matter of the Clean Energy Programs and Budget for Fiscal Year 2026
(BPU Docket Nos. QO25040205 and QO25040206)

Dear Secretary Golden,

ChargeScape appreciates the opportunity to provide comments on behalf of our automotive investors (BMW, Ford, Honda, and Nissan) regarding the New Jersey Board of Public Utilities' (NJBPU) Fiscal Year 2026 (FY26) Clean Energy Program Budget[1]. As New Jersey's distribution grid becomes increasingly decarbonized and electrified in pursuit of the goal of 100% clean energy by 2035 set forth in the Energy Master Plan[2], demand management is essential to grid reliability. Flexible resources, such as batteries, will play an important role in managing demand on the grid for New Jersey, as evidenced by the statutory mandate of 2GW of storage deployed by 2030.[3]

Bidirectional EVs, including both medium-heavy EVs (such as school buses) and light-duty EVs (passenger vehicles), are flexible resources that can be used to support the grid by serving on-site loads and/or sending energy back to the grid during peak times. In the proposed FY26 Budget, the expanded $4M in funding for the V2X School Bus Pilot is consistent with previous guidance provided to NJBPU to work toward "advancing new demand response and demand management technologies, such as vehicle-to-grid

[1] FY26 CRA Straw Proposal and FY26 program budgets. Available: https://www.njcleanenergy.com/main/njcep-policy-updates-request- comments/policy-updates-and-request-comments
[2] New Jersey Energy Master Plan. Available: https://nj.gov/emp/docs/
[3] Ibid.

("V2G")."[4] As such, ChargeScape recommends that the NJBPU also pursue bidirectional (V2X) charging pilots for light-duty EVs. This can be achieved within the proposed FY26 budget by approving the $1.5M in FY25 Carryforward Budget designated for EV Studies, Pilots, and Administrative Support and reserving a majority of that budget for a residential light-duty (LD) bidirectional (V2X) charging pilot.

Residential V2X pilots at the state level are a worthwhile investment that will deliver the following benefits for New Jersey.

- **Grid benefits** from residential EVs contributing as a flexible resource, providing power to homes and the grid during times of peak demand;

- **Utility benefits** from allowing for development of processes to interconnect residential V2X systems prior to the technology reaching scale; and

- **Customer benefits** from lowering the total cost of ownership associated with their EV investment, making bidirectional EVs more attractive to the next wave of adopters. Additionally, determining the actual costs and timelines associated with residential V2X installation in New Jersey will accurately set expectations for the market.

These benefits are discussed in further detail below.

BACKGROUND

ChargeScape is the continuation of over a decade of experience gained through the foundational work of the Open Vehicle-Grid Integration Platform (OVGIP), which was initially launched as a pilot collaboration between BMW (with US headquarters in Woodcliff Lake, NJ), Ford, General Motors, and other EV automakers. The OVGIP served as an industry-first initiative to explore how electric vehicles could support grid stability and energy management through demand response and managed charging.

In 2024, following the success of OVGIP's pilots, ChargeScape was officially established an independent joint venture with BMW, Ford, Honda and Nissan as investors. ChargeScape's long-term data agreements with these and other OEMs allow us to provide secure, reliable EV telematics data access, advanced EV load control, and direct access to the EV driver for the purposes of customer enrollment and engagement. ChargeScape's direct OEM

[4] FY23 T2 EE5 Demand Response Program Straw Proposal. Available: https://www.njcleanenergy.com/main/njcep-policy-updates-request- comments/policy-updates-and-request-comments

integrations represent 69% of the EVs in New Jersey. ChargeScape's areas of expertise include active EV load control via OEM telematics and networked EVSEs, localized load management to deliver asset-level optimization, and bidirectional charging (V2X).

Successful delivery of LD V2X pilots in the near term will require working with EV OEMs that have demonstrated V2X functionality readily available. ChargeScape's OEMs currently produce EV models equipped with bidirectional V2G capability. In close collaboration with OEMs, ChargeScape currently supports existing V2X pilots with major IOUs in several states, including California, Massachusetts and Michigan.

BENEFITS OF RESIDENTIAL V2X PILOTS

Grid Benefits

As New Jersey continues to expand demand response and storage program offerings, batteries within light-duty EVs represent a significant opportunity for residential customers to contribute to grid stability. The average light-duty EV battery size in the US is 60 kWh,[5] nearly 5x the capacity of residential stationary battery storage systems which are typically around 12.5 kWh.[6] While residential bidirectional EVs have significant potential, near-term funding for pilots is essential to motivate progress toward successful incorporation as flexible grid resources in New Jersey.

Given the nascency of V2X, pilots undertaken at the state level allow a broader pool of residential customers with eligible vehicles to participate, regardless of utility provider. For example, in February 2024 the state of Massachusetts announced a $8M investment in V2X Analysis and Demonstration Projects, currently being administered by the Massachusetts Clean Energy Center (MassCEC). The two-year statewide Vehicle-to-Everything (V2X) Demonstration Program aims to deploy bidirectional electric vehicle (EV) chargers across the state, a majority of which will be installed for residential customers. Goals of the pilot are to enhance grid resilience, reduce energy costs, and increase renewable energy integration by utilizing EVs as mobile energy storage units. The program is one of the largest state-led V2X initiatives in the U.S. and prioritizes participation from low-income and disadvantaged communities. [7] Once energized, the bidirectional systems allow EVs to

[5] https://www.iea.org/reports/global-ev-outlook-2023/trends-in-electric-light-duty-vehicles
[6] https://atb.nrel.gov/electricity/2024/residential_battery_storage
[7] https://www.mass.gov/news/healey-driscoll-administration-announces-50-million-investment-in-electric-vehicle-charging-infrastructure

participate as batteries and earn incentives from dispatching during peak times as part of the Massachusetts utilities' existing ConnectedSolutions demand response program.[8]

Utility Benefits

Successful execution of V2X will require close collaboration between New Jersey utilities and EV OEMs, especially for grid-parallel bidirectional charger installations that involve energy export back to the grid (V2G) rather than providing back-up power and netting out home load during peak periods or demand response events (V2H). By comparison, stationary battery storage systems are typically installed in tandem with solar PV, meaning that customers have already gone through the interconnection process required for net metering.

Residential V2X pilots serve as a catalyst for internal collaboration at utilities, involving groups such as interconnection and grid planning to determine how V2X resources should be addressed in various scenarios. Closer alignment of data inputs, assumptions, and process timelines for V2X in conjunction with other distributed energy resources (DERs) can help ensure more efficient and forward-looking identification and deployment of potential system upgrades.[9] Scalable, customer-friendly processes for V2X will become increasingly important as interest in residential bidirectional EV systems grows with declining installation costs. Based on the experience of ChargeScape's OEMs, the process for obtaining interconnection for even non-export bidirectional EVs can range from six months to several years if the utility requires additional witness testing to verify safe operation.

For example, in March 2025, the Michigan Public Service Commission approved Ford Motor Company's request for a declaratory ruling confirming that its home backup power system, featured in the Ford F-150 Lightning EV, does not need interconnection authorization from an electric utility under the state's Interconnection and Distributed Generation Standards. In what is believed to be one of the first rulings of its kind in the country, the Commission determined that because the system does not operate in parallel with the utility's distribution grid, it is exempt from requiring written utility approval before use.[10]

[8] https://www.masssave.com/en/residential/rebates-and-incentives/battery-storage-and-evs
[9] https://www.energy.gov/eere/i2x/doe-distributed-energy-resource-interconnection-roadmap
[10] https://www.michigan.gov/mpsc/commission/news-releases/2025/03/13/mpsc-takes-action-to-strengthen-power-grid-and-maximize-customer-value

Customer Benefits

Upfront expenses typically associated with the purchase and installation of bidirectional EV systems include the price of the charger, installation fees, interconnection permits, and potential panel upgrades. Additional costs may also arise if a home energy management system, transfer switch, smart inverter, or other supporting infrastructure is required. Estimated costs for installing residential bidirectional EV systems vary widely with prices ranging from $5,000 to $20,000 based on location, representing a $9,000 premium over unidirectional systems on average.[11]

V2X technology enhances the value of electric vehicles by allowing owners to earn compensation for using their vehicles as grid resources, opening up revenue opportunities through demand response programs. It also enables customers to reduce their electricity bills through time-of-use arbitrage, offering additional ways to lower the overall cost of EV ownership.

Additionally, uncertainty around installation costs, utility processes, and timelines present barriers to customer interest in V2X. Residential V2X pilots would bring more clarity in these areas to the New Jersey market for customers, OEMs and EVSE installation contractors. Providing assurance to market to encourage further adoption at this early stage of V2X is critical, as recent research indicates that 51% of customers would let their utility discharge their vehicle during grid emergencies if compensated and guaranteed a minimum battery level.[12]

[11] Smart Electric Power Alliance. "The State of Bidirectional Charging in 2023." September 2023. Page 35.
[12]https://www.researchgate.net/publication/382725582_Assessing_Public_Opinions_of_and_Interest_in_Bidirectional_Electric_Vehicle_Charging_Technologies_A_US_Perspective

CONCLUSION

ChargeScape thanks the NJBPU and other stakeholders for the thoughtful consideration of its comments. The proposed $210M of investment in electric vehicle programs as part of the FY26 Clean Energy Program budget will work in concert with programs offered by New Jersey's Department of Environmental Protection and investor-owned utilities to advance EV adoption toward the state's goal of 330,000 EVs on the road by 2025.[13] Designated funding for residential V2X pilots will fill a gap in EV-related program investment, enabling New Jersey to make progress toward realizing the full value that EVs can provide.

ChargeScape looks forward to continued engagement to advance the State of New Jersey's clean energy, reliability, and storage goals.

Sincerely,
/s/
Amy Findlay
Head of Policy
ChargeScape
1515 East Cesar Chavez St., Suite 100
Austin, TX 78702
amy@chargescape.com

[13] New Jersey Energy Master Plan. Available: https://nj.gov/emp/docs/