



September 16, 2019

President Joseph Fiordaliso
Board of Public Utilities
P.O. Box 350
Trenton, NJ 08625-0350

Submitted via email: emp.comments@bpu.nj.gov

Re: Greenlots' comments on New Jersey's Draft Energy Master Plan

Dear President Fiordaliso:

Greenlots submits these comments in response to the Board of Public Utilities (BPU)'s invitation for public comment on its draft Energy Master Plan¹ (the Plan, or EMP) published June 10, 2019. These written comments supplement and expand upon our oral comments offered at the Camden stakeholder meeting on September 12, 2019.

Greenlots is a leading provider of electric vehicle (EV) charging technology and services. Greenlots' product is a software platform to manage EV charging. A significant percentage of America's public DC Fast Charging infrastructure operates on the Greenlots network, as does a growing percentage of Level 2 stations. Greenlots' smart charging solutions are built around an open standards-based focus on future-proofing while helping site hosts, utilities, and grid operators manage dynamic EV charging loads and respond to local and system conditions.

Greenlots is encouraged by New Jersey's acknowledgement of the challenge before us and the need to accelerate the energy transition. This draft EMP, along with other policy actions such as the Clean Energy Act of 2018², collectively point the way for New Jersey to achieve cleaner energy and reduce emissions. To help New Jerseyans realize even more benefits from this EMP and to increase the likelihood the state will achieve its goals, Greenlots offers four comments on the EMP's Strategy No. 1 (Reduce Energy Consumption and Emissions from the Transportation Sector), summarized as follows:

1. Place greater emphasis and urgency on deploying EV charging infrastructure at scale and tailor strategies to different market sectors
2. Place greater emphasis not just on EV charging, but also on managed EV charging
3. Leverage electric utilities to more rapidly scale deployment of charging infrastructure
4. More assertively call for medium- and heavy-duty vehicle electrification

¹ Available here: <https://nj.gov/emp/pdf/Draft%202019%20EMP%20Final.pdf>

² Available here: https://www.njleg.state.nj.us/2018/Bills/AL18/17_.PDF

1. Place greater emphasis and urgency on deploying EV charging infrastructure at scale and tailor strategies to different market segments

The EMP should more assertively recognize the need to deploy charging infrastructure at scale, and call for strategies tailored to specific market segments such as fleets that are prime opportunities for rapid electrification. Moreover, while collaborative planning and coordination are essential, the EMP should also call for more urgent action to deploy charging infrastructure.

Charging infrastructure is the *sine qua non*—the essential ingredient without which transportation electrification will not accelerate or scale.

Drivers of gas vehicles generally don't have to think twice about how to get the fuel they need to drive. America has more than 110,000 gas stations. On the other hand, EV drivers generally need to plan their trips to ensure EV charging stations will be available. Range anxiety—including uncertainty about whether charging stations will be available—has consistently been among the leading barriers limiting EV adoption.

There remains an enormous infrastructure gap in New Jersey. As the draft EMP notes, New Jersey ranked 45th in the nation in EV charging outlets per registered vehicle last year. Private investment has proven insufficient to meet the need and close the growing infrastructure gap.

In addition to more clearly focusing on the deployment of charging stations statewide, the EMP would also benefit by focusing on specific market segments that either offer high-uptake opportunities or face unique barriers to adoption. For instance, fleets offer potential for rapid adoption. A dual-pronged approach that pairs education and outreach to fleet managers with deployment strategies—for instance by leveraging electric utilities as described in Recommendation 3 below—can be highly effective. Education and outreach are important for fleet managers who are unfamiliar with EVs, but the lack of charging infrastructure is also a barrier for fleet managers who are aware of EVs and want to convert their fleet. This is why substantive initiatives to deploy charging stations such as utility-led charging programs can be so effective.

Specific market segments also face unique challenges and require tailored solutions. For instance, residents of multi-family apartment and condominium developments (multi-unit dwellings, or MUDs), often lack the ability to install their own charging stations, often due to bylaws, covenants or even insurance policies. Apartment residents face similar challenges, and because they rent rather than own they have even less ability to make a purchase decision. As a result, programs that support deployment of charging stations accessible to MUD residents and policy actions that support the ability of individual tenants and condominium owners to install their own charging stations are both important. In particular, utility-led turnkey installation programs have proven to be among the most effective means of addressing this market.

Similarly, low-income and less urban communities face unique challenges not always shared by wealthier and more urban communities. Lack of disposable income and lack of EV awareness are two examples of challenges that call for tailored solutions. Examples of best practices include leveraging community-based organizations with established relationships to lead outreach efforts; maximizing resources by pairing EV education and awareness campaigns with related home energy efficiency campaigns; and allocating resources to support electrification of carpool, rideshare and transit.

In short, the EMP should more clearly identify and propose strategies tailored to specific market segments such as fleets that are prime opportunities for rapid electrification, as well as other market segments that face unique barriers to EV adoption.

2. Place greater emphasis not just on EV charging, but also on managed EV charging

Because of the significant benefits that managed charging offers not just to EV drivers but to all New Jerseyans, the EMP should strongly encourage managed charging as a key component of the state's electrification strategy.

Networked charging is an important first step to enable managed charging, which offers a robust suite of benefits to the state and its citizens. If networked charging can be described as providing passive visibility into charging behavior, managed charging enables active operation of it. Managed charging can shift load away from peak periods, enable use of generation from intermittent renewable generation, incorporate site-specific demand charge mitigation, and a range of other methodologies to smooth out electricity demand and enable better utilization of grid assets. This will become even more important as the state integrates the 3.5 gigawatts of offshore wind coming online in the next decade.

Ultimately, the highest value of grid-connected managed charging is that it reduces system costs and applies downward pressure to rates, not just for EV drivers but for all ratepayers. This is illustrated in part by a 2018 report prepared for ChargeVC, "Electric Vehicles in New Jersey – Costs and Benefits."³ This report compared different EV adoption and charging scenarios and found:

"EV adoption provides significant savings that accrue to electric utility customers overall, and those benefits grow with EV usage, affect all components of the utility bill, and are amplified significantly if policies and programs that encourage managed charging are implemented." (page 53)

3. Leverage electric utilities to more rapidly scale deployment of EV charging infrastructure

³ Available here: <http://www.chargevc.org/documents/electric-vehicles-in-new-jersey-costs-and-benefits/>

New Jersey should leverage the capabilities and reach of its electric utilities to help scale deployment of infrastructure through a combination of programs that should include utility ownership and management, in addition to incentives to support third-party ownership. Utilities have geographic footprints that cover every driver in the state, have trusted relationships with customers, and have a fleet of field technicians and grid operators to deploy and maintain infrastructure at scale and then manage the grid impact.

The EMP rightfully acknowledges “the private sector has not made a business case to install charging infrastructure without a critical mass of EVs on the road” (page 30) and calls for “identifying a clear role for regulated utilities in building out the infrastructure” (page 31). We concur, and believe utilities have a clear and necessary role to accelerate this transition in several ways.

Lack of awareness—about EV benefits, operation, vehicle model availability and incentives—remains the biggest obstacle to EV adoption; utilities are in a prime position to raise awareness through customer outreach and education. Financing is also an obstacle; despite EVs’ lower total cost of ownership, the upfront cost is often higher. Utility programs and incentives can lower that barrier. In addition, the grid impact of EV charging will increase as EV adoption increases. It is vitally important for utilities to anticipate EV adoption scenarios and leverage technology-based managed charging to enable and encourage broad uptake of EV charging at scale.

4. More assertively call for medium- and heavy-duty vehicle electrification

The EMP calls for converting the state’s light duty passenger fleet to EVs (page 31) which is essential for the state to meet its goals. Greenlots also believes the EMP will benefit from a more assertive call to electrify its medium- and heavy-duty vehicle sectors (page 33).

New Jersey can accelerate the pace of transition for these sectors through targeted incentive programs. For instance, today it is already less expensive to operate an electric transit bus than a diesel bus, but higher upfront capital costs often remain prohibitive; reducing this adoption barrier should be a priority target.

Other jurisdictions are already developing policies and programs to accelerate the transition of these sectors. As a policy example for the BPU’s consideration, Greenlots recommends California’s Innovative Clean Transit Regulation which requires all transit agencies to gradually transition to a zero emission vehicle (ZEV) fleet.⁴ For an implementation example, we call attention to CalStart’s Drive to Zero “beachhead” strategy which focuses on the commercial vehicle market segments where ZEV adoption is most likely to succeed first.⁵

Conclusion

⁴ Available here: <https://ww2.arb.ca.gov/our-work/programs/innovative-clean-transit>

⁵ Available here: <https://globaldrivetozero.org/about/strategy/>

Greenlots offers recommendations to improve this draft EMP that will yield greater benefits for New Jersey residents and increase the likelihood of the state achieving its climate and clean energy goals. Lack of EV charging infrastructure is in many ways the biggest hindrance to EV adoption, and as such this EMP should more strongly prioritize deployment of charging infrastructure at scale, including in key market sectors. Managed charging amplifies the benefits of charging for all citizens, not just for EV drivers, and should be incorporated as an integral focus of the state's charging strategy. The EMP should leverage the unique capabilities and reach of its electric utilities and encourage a variety of business models for infrastructure ownership and operation. Finally, the EMP should more assertively call for electrifying the medium- and heavy-duty vehicle sectors.

Thank you for encouraging and enabling input from stakeholders such as Greenlots. Please consider us as a resource in the further development and implementation of the Energy Master Plan. We welcome the opportunity to share our perspective to further inform this process.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Josh Cohen", with a long horizontal stroke extending to the right.

Josh Cohen
Director, Policy