



"Powering Cars for a Sustainable Tomorrow"

November 30, 2017

## **Response to request for comments regarding BPU EV Stakeholder Group Task 2 Questions**

Dear EV Infrastructure Stakeholder Group,

Greenspot is pleased to be included in this important project, and looks forward to working with the BPU and the stakeholder group toward a sustainable and energy efficient future for New Jersey.

Background of Greenspot:

Greenspot, based in Jersey City, works with municipalities and private developments to address the future challenges of urban and suburban mobility. Greenspot provides services and solutions that will revolutionize the way we commute – making it more economical, sustainable, efficient and reliable. Greenspot provides easy access to EV charging stations by continuing to invest in infrastructure for EVs.

Current state of mobility, sustainability, and infrastructure:

Greenhouse gas emissions, traffic congestion, and the lack of transportation options for disadvantaged communities are issues that plague New Jersey, as well as the entire planet. If EVs are deemed to be the solution to these issues, and we at Greenspot agree with this thesis, then the current infrastructure is insufficient to achieve these goals.

### **What goals for EV Infrastructure should be established?**

This is a dual-pronged question. The first part is to figure out what the infrastructure should look like, and the second is how we go about getting to that solution.

There are roughly 10,000 zero emission vehicles on NJ roads today; State Senator Bob Smith heads a committee that is planning to have 300,000 EVs on the roads by 2025, 2 million by 2035<sup>1</sup>, and 6.3 million by 2050<sup>2</sup> (90% of the total passenger and light-duty vehicles in New Jersey). Therefore, in order to meet the 80% by 2050 climate goals, EV infrastructure needs to be established and expanded in all areas of the state – urban, suburban, and even rural to a certain extent. With EVs expected to be cheaper to buy than internal combustion engine vehicles as soon as 2025 due to falling battery costs, according to a report from Bloomberg New Energy Finance (BNEF)<sup>3</sup>, those estimates might be extremely conservative. EV infrastructure therefore needs to not only expand exponentially; it also needs to be scalable. The charging stations need to be connected using smart technology, which will enable utilities and EVSEs to track usage and

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<sup>1</sup> [http://www.nj.com/opinion/index.ssf/2017/09/2\\_million\\_electric\\_vehicles\\_could\\_be\\_on\\_nj\\_roads\\_b.html](http://www.nj.com/opinion/index.ssf/2017/09/2_million_electric_vehicles_could_be_on_nj_roads_b.html)

<sup>2</sup> Sierra Club

<sup>3</sup> <https://www.bloomberg.com/news/articles/2017-05-26/electric-cars-seen-cheaper-than-gasoline-models-within-a-decade>



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position power proactively based on the expanding usage patterns, and avoid outages. EV charging station technology is also rapidly expanding, and the grid will need to develop technology to support these developments. That may be by developing multiple microgrids, making strides in time-management load technology, using solar energy, or any other advances in the overall power grid. Greenspot understands the significance of this discussion and would like to continue to contribute to it due to our expertise and long-term experience in the industry. Greenspot's major financial and intellectual commitment to the EV industry stems from its belief that electric vehicles are the future of mobility and significantly reduce pollution and place cities on track to achieve sustainability goals. Our value lies in our ability to select prime locations that will realize the highest amount of EV utilization.

Greenspot's recommendation on how to implement the solution is to incentivize private development of EV infrastructure in publically accessible locations. Charging station infrastructure requires high upfront costs which oftentimes don't justify investment due to the anticipated return. Offering subsidies can increase EV charging stations deployment by private sector. These subsidies can be in the form of grants, incentives, tax credits, etc. An example of this is being done in Illinois through the State of Illinois:

*The Illinois Department of Commerce and Economic Opportunity offers rebates for the purchase of EVSE. The rebates cover 50% of the cost of equipment and installation, up to \$3,750 per networked single station; \$3,000 per non-networked single station; \$7,500 per networked dual station; and \$6,000 per non-networked dual station. Eligible applicants include government entities, businesses, educational institutions, non-profit organizations, and individual residents of Illinois. The maximum total rebate award is the lesser of \$49,000, or 50% of the total project cost for up to 15 EVSE<sup>4</sup>.*

Operational costs of charging stations can be reduced by standardizing the demand charges. Allowing private entities to maintain EV infrastructure decreases both time and financial costs to the public/municipalities. In order for municipal transportation to be as efficient as possible as the EV market share increases, EV charging stations should be utilized both for public use and for car sharing. According to a study by University of California – Berkeley, every car share vehicle takes between 10-15 personal vehicles off the road, and car-sharing members report driving 40% less than they did before they participated in car-sharing<sup>5</sup>. They walk, bicycle, or take public transportation instead.

The argument for car share is appropriate in this forum as the research indicates that car sharing decreases the number of vehicles in the community, as well as the amount of driving. Therefore this would lower the load placed on the power grid as we move to the EV transportation era. Another effect of private entity development and maintenance of EV charging stations is that the

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<sup>4</sup> <https://www.illinois.gov/gov/green/Pages/ElectricVehicleInitiatives.aspx>

<sup>5</sup> <http://tsrc.berkeley.edu/sites/default/files/Greenhouse%20Gas%20Emission%20Impacts%20of%20Carsharing%20in%20North%20America%20%28final%20report%29.pdf>



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private entities can be required to operate EV car sharing in disadvantaged communities as part of an incentive program. Car sharing provides an equitable distribution of electric vehicles and a viable alternative for those who cannot afford to own/lease a vehicle, while also expanding the EV charging station network.

**What role should the Board, other government agencies; electric utilities, non-governmental organizations and the private market have in addressing EV/infrastructure adoption?**

Greenspot believes that educating New Jersey residents will be the most efficient way to increase the amount of EVs on the road. We anticipate leading the way in this arena through community events, town hall meetings, media coverage, and social media, to name a few. We would expect that all the Stakeholders participating in this forum will also be involved in the education process. Greenspot believes that public private partnerships are essential to facilitate EV adoption.

Greenspot is prepared to create a solution for the existing chicken and egg problem that lies in the EV infrastructure world. The assistance of the Board, other government agencies, electric utilities, and non-governmental organizations would allow companies such as Greenspot to help facilitate the EV revolution and quickly have a positive impact on our planet.