



June 16, 2020

Ms. Aida Camacho-Welch, Secretary  
New Jersey Board of Public Utilities  
Post Office Box 350  
Trenton, New Jersey 08625

***Re: Docket # QO20050357: IN THE MATTER OF STRAW PROPOSAL ON ELECTRIC VEHICLE INFRASTRUCTURE BUILD OUT***

Dear Ms. Camacho-Welch:

NJR Clean Energy Ventures Corporation (CEV) welcomes the opportunity to provide comments in support of an electric vehicle (EV) ecosystem in New Jersey.

CEV is the largest owner-operator of grid-connected solar generation in New Jersey. With approximately \$1 billion of capital invested in solar projects, CEV has supported more than 5,900 local jobs to install more than 300 megawatts (MW) of residential and commercial solar capacity. The energy produced annually can power up to 100,000 light duty electric vehicles with clean, emissions-free energy.

We have significant experience developing and installing solar projects in urban, suburban and rural locations as well as on rooftops, parking lots, landfills, schools and corporate settings. As such, we understand the issues of interconnection with the distribution network, land use regulation, safety and security of generation assets and ensuring safety of the surrounding population.

From this position and experience of renewable energy leadership in New Jersey, CEV submits for consideration in this proceeding that **market-based, 100 percent emission-free charging solutions are readily available to deploy – without the need for additional public or ratepayer subsidies as contemplated in this proposal.**

- By utilizing clean energy resources – many of which have been cultivated with public incentive structures on their own terms – to support onsite charging, a new generation of charging stations can be readily deployed, today, in locations with high volumes of vehicles including workplaces, campuses and mobile fleets, using fully proven and bankable technologies. This would advance the State's primary policy goal of ensuring adequate infrastructure to support rapid EV adoption where and when needed.

And, unlike grid connected infrastructure, by utilizing renewable resources and storage, this type of EV ecosystem is 100 percent emissions free. Approaches within this straw proposal, respectfully, would result in this type of market-driven, demand-based innovation being sidelined in favor of approaches at greater rate- or tax-payer risk and expense.

- **This type of rapid charging infrastructure deployment can be undertaken without the need for additional public subsidies and without an extensive and costly build out of utility infrastructure**, which would add additional burdens on New Jersey ratepayers. We believe the build out of the EV ecosystem is a priority that can and should have little to no impact on ratepayers. It is from this perspective that we offer recommendations for the Board’s consideration.

Our comments revolve around several key elements of the straw proposal, and conclude with important lessons and the latest research taken from California – one of the largest EV markets in the world – and the State of California’s approach and experience in cultivating the EV market and charging infrastructure, which has not been embedded in ratepayer costs .

### **1. Shared Responsibility model, where the “beneficiary-pays” doctrine is removed and rate-based funding of charger ready investments**

The Shared Responsibility model coupled with removing the “beneficiary-pays” doctrine could result in significant underutilized investment by both the Electric Distribution Company EDC and the Electric Vehicle Supply Equipment (EVSE) developer, thereby burdening ratepayers. Under this model, EVSE providers will not be motivated to prioritize location investments and innovate with new technology and new business models to optimize economic performance.

The shared responsibility model proposed provides limited accountability to ensure that everything possible is done to reduce costs and optimize utilization of existing infrastructure. The unintended consequence of this model is encouraging EDCs to make investments in charger locations that underperform, while risks are shouldered by ratepayers. Private capital operating within competitive markets and under a level playing field, is better suited to advance this public policy goal.

The model as described in the straw proposal appears to assume that all new charging locations will be best served by a new distribution network interconnection. There is no consideration of the adoption of technologies that would allow existing interconnections to be utilized for solar, energy storage or smart/adaptive charge management techniques, which could avoid the need for new, large and expensive interconnections.

At the very least, **EDCs should be required to consider alternatives to costly interconnections before making a new service determination.** In a model where the developer is responsible for interconnection costs, these alternatives and options would be considered as part of its normal course of optimizing project economics.

To better promote the use of existing assets, **EDCs should be required to publish and regularly update distribution maps that indicate power availability for use by the EVSE developer community.** This would allow EVSEs to determine the most cost-effective way to deploy capital, whether through existing infrastructure or new interconnections and service, to be paid for by the EVSE.

Another option would be for EDCs to provide a cost to compare to the marketplace. The cost to compare is the price EVSE developers need to compensate the EDC for installation of make ready service and represents the competitive cost against which an EVSE developer can evaluate alternatives. It would include make ready costs and energy and demand charges for common kilo-volt-ampere (kVA) configurations. This concept is based on the beneficiary-pays doctrine, is fully self-funding and may result in savings for both time and money to develop EV infrastructure.

To date, EVSE developers have deployed 791 public Level 2 chargers and 437 public DC fast charging stations (DCFC) at least 50 kW. Tesla, for example, has deployed approximately 200 DCFC along New Jersey's travel corridors that could be opened to the public. **This demonstrates that the current goals of 1,000 Level 2 public chargers and 400 DCFC at 150kW are achievable within the current regulatory model and without additional subsidies.**

CEV, through its market research, has identified significant potential for chargers in locations with high volumes of daily commuters including workplaces and campuses. With workplace charging coupled with home charging systems and increasing battery capacity, we believe consumer concern over range anxiety will gradually subside, with the market best suited to optimize the mix of charging locations, technologies and service offerings.

## **2. Rate structures that do not fully cover all associated energy and distribution costs**

Setting a target price for energy used by charging facilities as detailed in the straw proposal may result in favorable costs for the EVSE operator; however, unless that rate fully covers the cost of make ready, the energy and demand costs, **the subsidization will heavily burden ratepayers and suppress competitive innovation, creating a monopoly service where none existed before, and where it is not merely unnecessary, but actually works against the public good.**

Rate structures that incentivize the installation of energy storage, making the best use of off-peak energy, must also be implemented. Continuing the use of non-coincident billing would serve as a disincentive to install storage because a peak can never truly be avoided, only peak smoothing. Without appropriate market price signals, consumers have no incentive to adjust usage behaviors and embrace storage technology, which will be an important component of achieving a transition to 100 percent clean energy by 2050; however, less than full recovery of appropriate charges would cause additional cost burdens to ratepayers without reaping any benefit.

**3. Committing to populate “Community Locations<sup>1</sup>” or “Equity Areas<sup>2</sup>” with EVSE infrastructure where other options may provide greater emissions reductions for lower cost.**

**CEV fully supports the principle of equity in the State’s clean energy transition; however, socializing the cost of EV infrastructure will have a negative impact on the most economically vulnerable residents of New Jersey without a countervailing benefit.** Placing EV infrastructure in Community Locations and Equity Areas provides benefits that are less accessible to residents in those areas who must still help shoulder its costs, particularly in geographies with low population density or where residents do not own cars. As reported during the June 3 stakeholder meeting, 11.6 percent of New Jersey households, or 350,000 households, have no vehicle.<sup>3</sup> As an example, Katherina Miguel of Isles, Inc. shared that 30 percent of households in Trenton are car-free.

In other words, those less likely to realize the benefits of charging infrastructure will be asked to carry its costs, including those families who can least afford it. Other solutions would be more cost-effective in these areas and do more to reduce emissions and improve air quality. Public transportation fleets such as NJ Transit have budgets and plans that can and should over time shift funds from operating to capital budgets to secure and fuel their fleets, not requiring additional electric ratepayer funding. Shared ride fleets can be expected to make use of charging solutions that can be developed to operate at high utilization rates from inception, which would mitigate the need for any ratepayer support.

What remains important is that all segments of EV users, including those using public transport, shared ride services or those who own an EV, receive a compelling benefit, whether economic, environmental or social.

**California’s EV Buildout Experience Provides Insight and Lessons Learned for NJ**

Since 2011, the year that the Nissan Leaf was introduced, California has increased its annual plug-in electric vehicles sales nearly 200 percent. In just eight years, the volume of new electric vehicles on the road went from 7,000 to nearly 600,000, with 150,000 purchased in 2019 alone.<sup>4</sup>

The state has supported EV adoption through end-user rebates, grants and financing programs. Those programs have been successful driving adoption of EVs in the light-duty market with little to no impact on California’s ratepayers. Drivers made decisions on the vehicle that they wanted to purchase and developers made decisions on where to place chargers to best serve customers.

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<sup>1</sup> “Community Location” means a charging location that is not a Travel Corridor location, and that is established in a town center, commercial area, retail center, or near concentrations of multi-family dwellings, to provide vehicle charging services to local plug-in electric vehicle drivers near where they live and work.

<sup>2</sup> “Equity Areas” refer to low-income, urban, environmental justice, and/or rural communities.

<sup>3</sup> [www.nationalequityaccess.org](http://www.nationalequityaccess.org)

<sup>4</sup> California New Car Dealer Association, California Auto Outlook™

The state has subscribed to the “beneficiary-pays” model<sup>5</sup> doctrine with respect to EVSE interconnection costs over this period.

Currently, California utilities are submitting proposals for EVSE investments that have not yet been approved. The delays are due largely to the high cost associated with the proposals when compared to the development costs incurred to date for make ready investments by the development community. While it is possible that California will support utility rate base treatment for make ready costs, it is not the case at this time.

Worthy of note in California is that EVSE developers are deploying tactics and technology that allow them to utilize existing infrastructure to minimize the requirement for new and expensive network upgrades while managing potential price spikes from demand charges. These techniques include physical and digital charge management solutions such as:

- **Smart charging** that allows the developer to modulate the demand to manage the demand charges associated with the charge device;
- **Adaptive charging** that allows large groups of chargers, such as campus, municipal, hospital and airport installations, where dwell time enables charging on an individual as-needed basis, saving demand and associated infrastructure;
- **Storage**, either integrated into the charger or remote, to allow for large demand spikes to be met with no impact on the grid allowing existing infrastructure to be used with no new upgrades or associated expense.

#### *Range Anxiety Rarely an Issue for Today’s EV Buyers*

California has seen a reduction in home charging which has given way to workplace and destination charging in the last two years, according to research from the University of California San Diego (UCSD). The data that they collect has identified a significant reduction in home charging in favor of workplace charging as the vehicle range increased from 80 miles per charge to more than 200 miles per charge. Byron Washom, Director of Strategic Energy Initiatives at the UCSD, noted that the need to charge every day has been removed. Washom described a change over time with respect to the EV charging patterns of the 1,330 EVs that charge on campus regularly.

This trend has been supported by an increase in the size of the batteries, with yields ranges from 160 miles to nearly 400 miles per charge in typical light duty vehicles (see Figure 1). The average range of representative EV cars including the Nissan Leaf, Ford Focus Electric and new entrants Kia Soul EV and Volkswagen Golf, has doubled since 2011 from 80 miles to 161 miles. Tesla now offers EV options that offer range in excess of 330 miles.

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<sup>5</sup> BPU docket # QO20050357: IN THE MATTER OF STRAW PROPOSAL ON ELECTRIC VEHICLE INFRASTRUCTURE BUILD OUT: where the entity creating the need for the upgrades (here, presumably the EVSE Infrastructure Company) pays for the upgrade costs, consistent with the Board’s regulations on extensions of utility service in N.J.A.C. 14:3-8 et seq.

## Figure 1: EV Passenger Cars Range

EV Passenger Cars Range (miles)

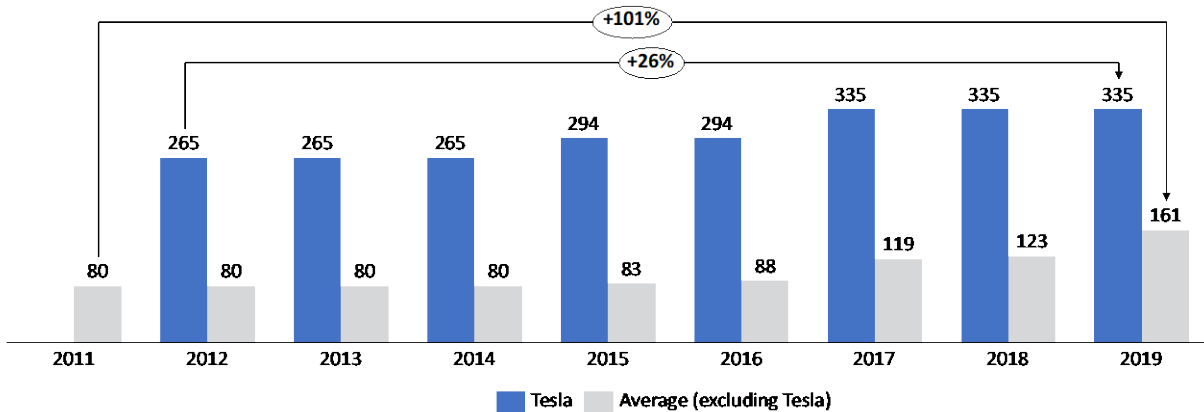


Figure 1: [https://www.greencarreports.com/news/1126873\\_survey-owning-an-electric-car-will-cure-range-anxiety-other-concerns-about-evs](https://www.greencarreports.com/news/1126873_survey-owning-an-electric-car-will-cure-range-anxiety-other-concerns-about-evs)

The straw proposal references “that addressing range anxiety is ‘high priority’ in the State of New Jersey;” however, research indicates range anxiety is rarely a major issue for today’s EV owners<sup>6</sup>.

### *Developers Focusing on Charge Rates*

Globally, we are witnessing the change in industry focus from battery size to charge rate. Data collected at UCSD reflects drivers show preference for faster charge rates.<sup>7</sup> Not long ago the non-Tesla charge rate was commonly 50 kW and New Jersey hosts nearly 450 DCFC chargers. Today, Electrify America is installing 350 kW chargers in the market on the expectation that auto manufacturers will soon upgrade onboard chargers to accept those rates of charge. While this may or may not occur, it is clear the common DCFC charge rate for new equipment is at least 150 kW. Five-year obsolescence of a charger is a matter that must be dealt with by an EVSE developer; however, five-plus year obsolescence of EDC make-ready infrastructure incurs needless costs upon all New Jersey residents.

Driver habits and technology will evolve over time. CEV encourages the Board not to rush to solutions in an industry with rapidly changing technology. The largest risk to ratepayers in a Shared Responsibility model is make-ready investments that would be obsolete in a matter of years.

## Conclusion

The State Legislature and the BPU should be commended for their commitment to a cleaner and more resilient energy economy. CEV believes EV infrastructure investments can be cost-effective

<sup>6</sup> [https://www.greencarreports.com/news/1126873\\_survey-owning-an-electric-car-will-cure-range-anxiety-other-concerns-about-evs](https://www.greencarreports.com/news/1126873_survey-owning-an-electric-car-will-cure-range-anxiety-other-concerns-about-evs)

<sup>7</sup> <https://www.youtube.com/watch?v=EyRKHdGgDEM> (Minute 15:47)

today without additional subsidies or negative ratepayer impact; however, there are thoughtful policy decisions that must be made to support the growth of New Jersey's EV ecosystem.

We would look forward to an opportunity to further discuss our thoughts on this straw proposal.

Sincerely,

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*Mark F. Valori*  
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Mark F. Valori

Vice President – NJR Clean Energy Ventures

Cc: Larry Barth, Director of Corporate Strategy  
Chris Savastano, Managing Director of Development  
Katie Feery, Manager of Corporate Strategy