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October 5, 2021

Aida Camacho-Welch  
Secretary of the Board  
44 South Clinton Avenue, 1st Floor  
Post Office Box 350  
Trenton, NJ 08625-0350

**RE: Medium and Heavy Duty Electric Vehicle Charging Ecosystem, Docket No.  
QO21060946**

Dear Secretary Camacho- Welch,

The Nature Conservancy, NJ Chapter is pleased to provide the enclosed comments regarding the Medium and Heavy Duty Electric Vehicle Charging Ecosystem.

We thank you for your consideration,

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We thank the Board of Public Utilities for releasing the Medium and Heavy Duty Electric Vehicle Charging Ecosystem Straw Proposal and inviting input. Without incentives for electric vehicles and the associated charging infrastructure, the electrification of the MHDV sector and the electrification of fleets will not happen as rapidly as is needed in order for New Jersey to achieve its clean energy and emissions goals.

It is critical that the charging infrastructure for these vehicles exist in a way that is beneficial for the communities through which these trucks pass, truck owners, fleet operators, the electric grid and NJ ratepayers. In these early stages of MHDV electrification, NJ must ensure that there are multiple benefits achieved with the lowest risk and flexibility to ensure the greatest opportunities. Amongst the benefits that can be achieved are:

- drastic reduction in air pollutants, especially where MHDV traffic is the highest,
- an integration with other NJ programs to achieve at least 80% greenhouse gas emission reduction by 2050 based on 2006 levels
- an enhanced and efficient electric grid that utilizes various levers, such as energy storage and advanced metering infrastructure, and distributed energy generation that results in downward pressure on electricity rates for all NJ ratepayers, using incentive mechanisms such as effective time of use rates and/or the use of technology such as storage that may be coupled with renewable distributed generation.
- a user experience that in this initial phase of electric MHDVs is convenient, transparent, and cost effective
- private market investment in NJ in the charging station and storage value chain

The outcomes of this new MHDV EV Ecosystem not only benefits New Jerseyans but also sets a model for other states to follow. Each of the benefits listed above will be explored further below.

### Reduction in air pollutants

According to the NJ DEP website, the MHDV vehicle fleet is a significant contributor to air pollution. In New Jersey, there are approximately 500,000 medium and heavy-duty trucks. Zero-emission vehicles have no tailpipe emissions, including NO<sub>x</sub> and PM<sub>2.5</sub> which are harmful to respiratory health. This is especially true when there is a concentration of MHDV traffic as there is in many of NJ's Overburdened communities, as defined by the Environmental Justice law. Elizabeth, NJ hosts the East Coast's largest port. With an explosion of online shopping, port traffic, and thus increasing warehouses throughout NJ truck traffic is set to significantly increase not just in port communities but throughout NJ. The enabling of electrification of the MHDV is imperative to get ahead of increasing air pollution in already Overburdened communities and the increase of air pollution from MHDVs to get to farther warehouses and then for last mile delivery of those goods.

While freight transportation has an outsized presence in Overburdened communities, it plays an outsized role in rural economies. Rural areas are traversed by multimodal freight corridors that are key to the economic viability of these communities and the nation as a whole.

According to research commissioned by The Nature Conservancy, “Supporting Rural Communities Through Clean Transportation Investments” (submitted by EBP in August 2020), populations living near truck stops, distribution centers, and freight corridors, as well as those who work at truck stops and the truck operators themselves, will benefit most from reduced air pollution. This often includes low-income communities.

Unlike other vehicles, heavy-duty freight vehicles tend to have long periods of extended engine idling, which produces substantial emissions. This is especially true of long-haul trucks. For safety reasons, long-haul operators are obliged by federal regulations to rest a specified number of hours for every eight- or ten-hour driving shift. As a result, many long-haul operators have sleeper units onboard their vehicles and will spend at least some of non-driving time in their vehicles. In order to power lights, heaters, air conditions, and other electrical appliances, operators typically run their vehicle engines, known as engine-on idling.

Reducing heavy-duty combination truck extended idling at truck stops along rural highways can have significant benefits for rural communities. Not only does it reduce GHG emissions, it can have significant air quality benefits for individuals who live near or work at truck stops. Additionally, constructing and installing electrification infrastructure at truck stops will create rural jobs.

**GHG Emissions.** Electrifying 10 percent of truck stop idling activity in the rural New England and MidAtlantic region would produce an annual GHG emissions reduction of about 230,000 tons, a benefit valued at \$18 million. Total energy consumed will also be reduced by 2.5 million MMBTU.

**Economic.** Jobs will be created to construct and install truck stop electrification infrastructure. Construction spending generates on average 6 jobs for every \$1 million spent. Truck stop electrification will also reduce freight transportation costs, as electricity is cheaper than diesel fuel. As in the case of freight vehicle electrification, these cost savings may have a modest positive impact on rural economies in the New England and MidAtlantic region.

**Public Health & Safety.** The reduction in criteria pollutants from truck stop electrification can have significant positive impacts on public health.

#### Achieve at least 80% greenhouse gas emission reduction by 2050 based on 2006 levels

According to the NJ DEP website, Medium and heavy-duty trucks and buses (>8,500 lbs.) account for only 4% of all vehicles on the road, but nearly 25% of transportation sector greenhouse gas (GHG) emissions. When compared to diesel vehicles, they are two to five times more energy efficient, reduce dependence on petroleum, and reduce

GHG emissions substantially. The electrification of the MHDV is imperative for NJ to meet its clean energy goals.

An enhanced and efficient electric grid and downward pressure on electricity rates for all NJ ratepayers

Rate design is critical to achieve the maximum benefits and reduce risks of MHDV electrification. Time of use rates incentivizes charging to occur during off peak times. Also critical is the use of technology such as advanced metering infrastructure that allows utilities and customers to have a clear picture of energy use. Further, energy storage lessens demand from electric distribution companies and enhances resiliency. This could also be paired with renewable distributed generation. Last, vehicle to grid integration supports lower total cost of ownership, lower grid costs, better environmental outcomes and greater resiliency. These tools must be supported through incentives where appropriate in order for MHDV electrification to benefit the grid and conversely, avoid overburdening the grid.

All ratepayers in NJ will benefit from the reduced pollution from electric MHDVs. To accurately capture these costs and appropriately reflect them in rate design, more air pollution monitors should be installed throughout MHDV traffic corridors. It is recommended that this rate case be revisited yearly to assess the actual pollution reduction, and simultaneously data on hospital visits for respiratory ailments can be tracked to capture the public health costs that are avoided.

Electric Distribution Companies (EDCs) are best suited to ensure that grid is enhanced and tools to most effectively use the grid are implemented. Even in Make-Ready cases, EDCs should be incentivized to think broadly and forwardly so that grid usage is maximized and all ratepayers benefit by for instance including energy storage and resiliency considerations. The advisory services of EDCs in this broad and rapid transition to MHDV electrification (especially when combined with the adoption of California's Advanced Clean Truck rule) are key to success for ratepayers, MHDV operators, and public health.

As mentioned in the first section regarding electrification of rural truck stops, it is important that charging stations are mapped through traffic corridors and that EDCs can estimate load demands for truck operators.

EDCs should also be incentivized to start grid buildout immediately since that seems to be the longest lead time (up to 10 years) in ensuring MHDV charging is implemented.

To further ensure efficiency of grid utilization, the EDCs should have make ready responsibilities to support the charging infrastructure of private fleets, including depot charging. With the huge addition to the load that private and depot charging will incur, it is important that EDCs are taking those into account when planning grid enhancements and rate design.

### A convenient, transparent, and cost effective user experience

MHDVs are used in multiple ways, e.g. school buses which are on the road in the morning and afternoon but stationary during the day, drayage trucks, last mile delivery trucks, garbage trucks and many other examples of trucks that have a wide variety of uses. If rate structure strategies are to be deployed, those rate structures must be appropriate for each use case type, providing clear signals for off peak charging.

Initially, as users are learning how to effectively use electricity as a fuel, demand charges should not be overly punitive by for instance, being capped at a certain low load utilization, eg. 20%.

### Private market investment in NJ in the charging station and storage value chain

Our comments have emphasized the critical role of EDCs. At this current stage where NJ has an old electricity grid and the demands on it are set to significantly increase in very different ways and locations than in the past, it is important that EDCs have a critical role in ensuring the grid is enhanced and used in the most efficient way. Not only do the EDCs have a role in ensuring an effective uptake of electrification, but so do also other public sources of funds for incentive programs for instance from the Economy Development Authority, the Small Business Administration, Green Bank, proceeds from the Regional Greenhouse Gas Initiative and others.

At the same time, we also believe that it is important that conditions allow for increasing private capital to be leveraged in the value chain of MHDV electrification. The make ready construct is a useful and appropriate way to leverage private investment.

### MHDV EV Stakeholder Working Group

As a final note, with the rapid acceleration of electric MHDVs on the road, the associated charging and rapidly evolving technology, e.g. induction or other wireless charging and various battery technologies, we recommend an ongoing MHDV EV Stakeholder Working Group. Our proposal is that this WG would include environmental justice groups, port communities, individual truck owners, private fleet operators, municipal fleet operators, environmental and public health advocates, EVSEs and EDCs with the BPU.