

**STATE OF NEW YORK
PUBLIC SERVICE COMMISSION**

Proceeding on Motion of the Commission Regarding
Electric Vehicle Supply Equipment and Infrastructure

Case 18-E-0138

**PETITION OF CALSTART, ENVIRONMENTAL DEFENSE FUND, NATURAL
RESOURCES DEFENSE COUNCIL, SIERRA CLUB, SOUTH BRONX UNITE, AND
WE ACT FOR ENVIRONMENTAL JUSTICE FOR THE INITIATION OF A
PROCEEDING AND INTERIM MEASURES ADDRESSING ELECTRIC VEHICLE
SUPPLY EQUIPMENT AND INFRASTRUCTURE FOR MEDIUM- AND HEAVY-
DUTY ELECTRIC VEHICLES**

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I. Introduction

On January 13, 2020, New York Department of Public Service (“DPS”) Staff (“Staff”) released a whitepaper (the “Staff Whitepaper”) recommending that the Public Service Commission (“PSC or “Commission”) establish a statewide program to incentivize the installation of electric vehicle (“EV”) charging stations to support light-duty vehicles through the creation of subsidies for make-ready infrastructure.¹ On July 16, 2020, the Commission published its Order Establishing Electric Vehicle Infrastructure Make Ready Program and Other Programs (“Make-Ready Order”).² This order largely followed the Staff Whitepaper’s recommendations, focusing primarily on supporting light-duty EV deployment.

Both the Commission and Staff have recognized, however, that the medium- and heavy-duty vehicle (“MHDV”) sector cannot be ignored, even in the short term. In its Staff Whitepaper, Staff wrote that it “recognizes the need to take additional steps beyond light duty vehicles and anticipates that issues of assuring adequate and useful charging infrastructure for medium and heavy-duty vehicle types will be addressed expeditiously in the open EVSE&I proceeding.”³ The Commission similarly recognized the immediate need for policies to advance MHDV electrification. In the Make-Ready Order, the Commission explicitly agreed with comments from several parties that “more work is urgently needed to support the transition to electrified medium- and heavy-duty vehicles.”⁴ It went on to take limited, but meaningful, action on this topic, directing the utilities to create MHDV make-ready pilot programs and fleet assessment services, and directing the New York State Energy Research and Development Authority (“NYSERDA”) to create the Clean Medium-Duty and Heavy-Duty Innovation Prize, now known as the Electric Truck and Bus Challenge.⁵ It did not, however, establish any program or

¹ Case 18-E-0138, *Proceeding on Motion of the Commission Regarding Electric Vehicle Supply Equipment and Infrastructure*, Staff Whitepaper Regarding Electric Vehicle Supply Equipment and Infrastructure Deployment (Jan. 13, 2020) [Hereinafter “EVSE Whitepaper”].

² Case 18-E-0138, *Proceeding on Motion of the Commission Regarding Electric Vehicle Supply Equipment and Infrastructure*, Order Establishing Electric Vehicle Infrastructure Make-Ready Program and Other Programs (July 16, 2020) [Hereinafter “Make-Ready Order”].

³ EVSE Whitepaper, *supra* note 1 at 9.

⁴ Make-Ready Order, *supra* note 2, at 127.

⁵ Make-Ready Order, *supra* note 2, at 5–6.

framework for facilitating the transition of the MHDV sector over any particular time horizon. This petition seeks to move the Commission expeditiously to assure the existence and efficient operation of adequate and useful charging infrastructure for medium and heavy-duty vehicles.

Transitioning the MHDV sector from internal combustion of fossil fuels to non-emitting technologies is an essential element of any strategy to avert the worst impacts of climate change and to advance public health and justice, especially in disadvantaged communities. New York’s governor and legislature have both expressly acknowledged the criticality of this transition and have mandated that it move forward, and the DEC has followed suit, adopting vehicle regulations that require an adoption curve in line with those of other leading states. This shift to zero-emission MHDVs will be a crucial component of meeting the emissions requirements of the Climate Leadership and Community Protection Act (“CLCPA”), the state’s landmark 2019 climate law, which set statewide greenhouse gas emissions limits.⁶ Transportation is currently responsible for twenty-eight percent of the state’s greenhouse gas emissions,⁷ with emissions from diesel fuel combustion the fastest growing source within this sector.⁸ Policies supporting a transition to zero-emission MHDVs are crucial for reducing the disproportionate levels of air pollution burdening New York’s disadvantaged communities, and may in fact be necessitated by the CLCPA’s requirement that state agencies “prioritize reductions of greenhouse gas emissions and co-pollutants in disadvantaged communities.”⁹

But, as detailed below, electric MHDVs will be reliant on charging infrastructure for their daily operations, and to enable the levels of adoption required by current policy and environmental regulations, significant Commission action is needed to support the installation of this infrastructure and prepare New York’s grid for these vehicles. The challenge consists not merely of installing chargers where they happen to be needed; rather, it will be necessary to anticipate and plan for the upstream, system-level impacts that this charging will have as it scales up, and to put in place from the start the enabling technology and business practices that will enable MHDVs to provide value to the grid as soon as possible. The limited current programs in place for MHDVs are not calibrated to complement the ambition of the state’s goals and mandates for the deployment of these vehicles, nor do they recognize the criticality of deploying sufficient MHDV charging infrastructure for the state to meet the CLCPA’s emissions limits. The current programs also fail to contemplate the significant lead time that can be required to prepare the distribution grid for effective integration of potentially significant new load. Both short-term and long-term action is needed in a variety of areas to align the PSC’s policies with the expected

⁶ Climate Leadership and Community Protection Act, 2019 N.Y. Laws 106.

⁷ New York State Department of Environmental Conservation, *2021 Statewide GHG Emission Report: Summary Report*, at v (2021), available at https://www.dec.ny.gov/docs/administration_pdf/ghgsumrpt21.pdf.

⁸ New York State Department of Environmental Conservation, *2021 Statewide GHG Emission Report: Sectoral Report #1*, at 8 (2021), available at https://www.dec.ny.gov/docs/administration_pdf/ghgenergy21.pdf (finding that diesel emissions in New York State grew 60% between 1990 and 2019, while gasoline emissions grew 5%).

⁹ Climate Leadership and Community Protection Act §7(3), 2019 N.Y. Laws 106.

pace of MHDV electrification and the unique needs of these vehicles.

Therefore, in order to meet climate and environmental justice imperatives, and to ensure consistency with the legislative, regulatory, and executive mandates regarding the deployment of zero-emissions vehicles (“ZEVs”) in the MHDV sector, CALSTART, Environmental Defense Fund, Natural Resources Defense Council, Sierra Club, South Bronx Unite, and WE ACT for Environmental Justice (collectively, “Petitioners”) respectfully request that the Commission promptly take the following three actions:

1. Work with the utilities and the Commission’s sister agencies to collect information on the current level of deployment of electric MHDVs and associated charging infrastructure in New York, the timeline for vehicle and charging infrastructure deployment that can be anticipated based on the state’s goals and requirements, and the current and anticipated costs of chargers and make-ready infrastructure;
2. Review and modify pilot programs involving the deployment of charging infrastructure for zero-emission MHDVs to address program features that are limiting their current use and align these programs with New York State’s near-term goals for zero-emission MHDV deployment as well the State’s larger vision of an efficient, decarbonized energy system; and
3. Initiate a comprehensive stakeholder process, modeled on the light-duty EVSE proceeding but adapted to the special needs of the MHDV sector, that addresses the full suite of MHDV charging issues not covered by the existing initiatives and creates a framework for the New York electric utilities to implement programs aligned with the state’s long-term goals for zero-emission MHDV deployment and the role these vehicles will play in meeting statewide renewable energy goals and greenhouse gas targets.

II. Interest of the Parties

CALSTART is a nonprofit organization working nationally and internationally with businesses and governments to develop clean, efficient transportation solutions. CALSTART has offices in New York, Michigan, Colorado, and California, as well as industry partners worldwide. We have more than 300 member companies and agency innovators working to build a prosperous, efficient, and clean high-tech transportation industry. CALSTART has kept a Northeast Regional Office in Brooklyn, NY since 2013 and in that time has supported NYSERDA in the development and implementation of incentives for clean trucks, buses, and workplace charging, led demonstration projects for emerging zero-emission heavy-duty technologies, and provided direct technical assistance to vehicle fleets navigating electrification. CALSTART has engaged in several regulatory proceedings in New York including organizing the EV Industry Stakeholder

Coalition in 2020, which helped inform the Public Service Commission's ultimate ruling in that year's Make-Ready Order, particularly the inclusion of assistance and resources for medium- and heavy-duty fleet operators.

Environmental Defense Fund (“EDF”) is a membership organization whose mission is to preserve the natural systems on which all life depends. Guided by science and economics, EDF seeks practical solutions to resolve environmental problems, using the power of markets to speed the transition to clean energy resources. EDF has been focused on driving the adoption of clean trucks and buses for over 20 years, including advocacy before state and federal environmental regulators, as well as utility regulators in several states, where EDF has advocated for charging infrastructure programs and business models that are cost-effective, beneficial for the grid and the environment, and equitable. Before this Commission, EDF has long advocated for efficient integration of distributed energy resources, price signals that incentivize customers of all types to manage their demand to improve system utilization and enable flexibility in support of decarbonization, and utility metering infrastructure and business practices needed to support this evolution of the electric system. In the instant proceeding and in other proceedings, EDF has also advocated for timely, tailored consideration of the needs and capabilities of electric MDHVs as a key component of New York’s energy transition.

Natural Resources Defense Council (“NRDC”) is a national non-profit organization dedicated to protection of the environment with more than 3 million members and activists. NRDC has worked for decades to cut pollution from the transportation sector through pushing for stronger emission and fuel-economy standards in passenger vehicles and trucks, policies encouraging the adoption of electric vehicles, advocating for cleaner fuels, and policies that reduce the need to drive. Ensuring strong and equitable utility electrification support is an essential part of NRDC’s work to accelerate electrification of the transportation sector, reduce reliance on petroleum and associated pollution, and slow climate change.

Founded in 1892, Sierra Club is the nation’s oldest and largest grassroots environmental organization with approximately 800,000 members nationwide including nearly 50,000 members in New York State. Sierra Club’s mission is to explore, enjoy and protect the planet; to practice and promote the responsible use of the earth's ecosystems and resources; to educate and enlist humanity to protect and restore the quality of the natural and human environment; and to use all lawful means to carry out those objectives. Consistent with this mission, Sierra Club has been working at the federal, state, and local levels across the country to address the adverse health and climate impacts associated with vehicular pollution, including from medium- and heavy-duty vehicles, and to promote zero emission transportation alternatives. In New York, Sierra Club petitioned the Commission to open this EV docket to clarify the important role for utilities in supporting transportation electrification. Sierra Club has participated actively from the inception of this docket, including repeatedly highlighting the need to address strategies to support the

electrification of medium- and heavy-duty vehicles.

South Bronx Unite brings together neighborhood residents, community organizations, academic institutions, and allies to improve and protect the social, environmental, and economic future of Mott Haven and Port Morris. The South Bronx is NYC's epicenter for environmental injustice, where generations of people of color have grown up overburdened with environmental pollution, including a disproportionate number of waste transfer stations, peak power plants, expressways, heavy manufacturing, and diesel truck intensive shipping operations. As such, much of our advocacy efforts are focused on mitigating and removing environmental harms, primarily air pollution. And we have been dedicating an increasing amount of our attention to the electrification of medium and heavy-duty vehicles, which are a primary source of pollution in our community. We are partnering with organizations and companies that are engaged in pilot initiatives to electrify fleets of buses and trucks in NYC, helping them to collect community input for the initiatives. We are also participating in a national cohort of frontline communities to move forward a federal campaign to center overburdened communities in EPA rulemaking for the power and transportation sectors. The cohort and campaign are exploring the full scope of opportunity for the EPA to pursue mandatory emission reductions for all criteria of air pollution, including from medium and heavy-duty vehicles.

WE ACT for Environmental Justice ("WE ACT") is a Northern Manhattan based member organization whose mission is to build healthy communities. We do this by ensuring communities of color and people of low-income lead in creating sound and fair environmental health and protection policies and practices. For many years, WE ACT has fought for clean transportation policies that improve air quality and health for environmental justice communities across New York who are overburdened by diesel pollution from trucks and buses. Our Dirty Diesel Campaign led the Metropolitan Transportation Authority (MTA) to invest in cleaner buses, resulting in 95% reductions in tailpipe emissions citywide. Most recently, we successfully passed Intro 455, a law which requires school buses serving New York City public schools to be all-electric by 2035. At the city, state, and federal levels, we continue to focus our advocacy efforts on MHDV electrification, complemented by mandatory emissions reductions and locally-driven solutions that bring clean air, health improvements, and economic opportunities to environmental justice communities.

III. The Urgent Need for Action

New York State policies will drive the deployment of zero-emission MHDVs, including electric MHDVs, in the coming years. Through a memorandum of understanding with sixteen other states, the District of Columbia, and the Canadian province of Quebec, signed by New York's Governor just two days before the issuance of the Commission's Make Ready Order (the "ZEV MOU"), New York committed to having ZEVs make up at least thirty percent of all MHDV

sales by 2030 and one hundred percent by 2050.¹⁰ The state enshrined even more ambitious vehicle electrification goals in statute with Governor Hochul’s signing of legislation that sets a goal of one hundred percent of MHDVs operating in the state being zero-emissions by 2045 “everywhere feasible.”¹¹

The Department of Environmental Conservation (“DEC”) has now gone a step further, by setting mandatory targets for zero-emissions MHDV sales. The recently adopted Advanced Clean Truck rule (the “ACT Rule”) establishes requirements for MHDV manufacturers to sell ZEVs as an increasing percentage of their New York sales between model years 2025 and 2035.¹² Beginning with model year 2025, ZEVs must make up 7% of class 2b-3 vehicle sales, 11% of class 4-8 straight truck sales, and 7% of truck tractor sales.¹³ By 2035, the ZEVs requirements rise to 55% of class 2b-3 vehicles sales, 75% of class 4-8 straight truck sales, and 40% of truck tractor sales.¹⁴ The agency justified its adoption of the ACT Rule by emphasizing its importance for helping the state to meet the greenhouse gas emission reduction requirements established by the CLCPA.¹⁵ Furthermore, a budget agreement was reached in April between Governor Hochul and state legislators that commits the state to achieve a fully electric statewide school bus fleet by 2035.¹⁶ Electrifying New York’s 50,000 school buses will require advanced charging infrastructure planning and significant investment in the coming decade that is yet to be fully understood.

Even without these policy mandates, New York fleet owners would likely be on the cusp of demanding rapid deployment of charging capacity, for reasons of simple economics. A recent study from the National Renewable Energy Laboratory estimates that all zero-emission MHDVs will be cost-competitive with fossil fuel MHDVs on a total cost of ownership (“TCO”) basis in

¹⁰ Multi-State Medium- and Heavy-Duty Zero Emission Vehicle Memorandum of Understanding (July 14, 2020), available at <https://www.nescaum.org/documents/multistate-truck-zev-governors-mou-20200714.pdf>; see also NESCAUM Welcomes Nevada's Participation in the Multi-State Zero-Emission Electric Trucks Initiative, available at <https://www.nescaum.org/documents/nescaum-welcomes-nevada-s-participation-in-the-multi-state-zero-emission-electric-trucks-initiative/nescaum-welcomes-nevada-s-participation-in-the-multi-state-zero-emission-electric-trucks-initiative#>.

¹¹ A4302, 2021-2022 Leg., Reg. Sess. (N.Y. 2021); see also Press Release, In Advance of Climate Week 2021, Governor Hochul Announces New Actions to Make New York’s Transportation Sector Greener, Reduce Climate-Altering Emissions (Sep. 8, 2021), available at <https://www.governor.ny.gov/news/advance-climate-week-2021-governor-hochul-announces-new-actions-make-new-yorks-transportation>.

¹² Medium- and Heavy- Duty Zero Emission Truck Annual Sales Requirements and Large Entity Reporting, 44 N.Y. Reg. 8 (Jan. 19, 2022) [hereinafter “ACT Rule”].

¹³ N.Y. COMP. CODES R. & REGS. tit. 6, §218-4 (2022).

¹⁴ *Id.*

¹⁵ ACT Rule, *supra* note 12, at 12 (“The Department emphasized the importance of ACT adoption for both criteria and GHG pollutant reduction, to support the GHG emission reduction requirements of the CLCPA”); Climate Leadership and Community Protection Act §7(2), 2019 N.Y. Laws 106.

¹⁶ See Rachel Silberstein, *New York Schools Have Five Years to Begin Electric Bus Conversion*, Albany Times Union (Apr. 13, 2022), available at <https://www.timesunion.com/news/article/New-York-schools-have-five-years-to-begin-17072485.php>.

all vehicle classes by 2035, with some medium-duty vehicles reaching that point by 2026.¹⁷ That same study found that some electric buses are cost-competitive today.¹⁸ Another study by M.J. Bradley and Associates concluded that EVs may be cost-competitive with equivalent internal combustion vehicles on a TCO basis for more than two-thirds of MHDVs by 2025.¹⁹ And a study conducted this year by Roush Industries for EDF concluded that by 2027, seven of the eight types of electric MHDVs analyzed will have a lower TCO than their fossil fuel equivalent.²⁰ This means that for many fleet operators, an electric truck or bus may be the most cost-effective option when they next replace their current vehicles. And, a prolonged period of the high fuel prices we are seeing today, should they persist, will only make a shift away from diesel and towards electricity as a fuel more attractive to operators. A rapid and successful transition away from diesel vehicles would be enormously beneficial for fleet owners, for the communities that continue to suffer from truck congestion together with the local air pollution generated by today's diesel-powered MHDVs, and for the climate. However, these TCO studies rely on the assumption that sufficient charging infrastructure is available.²¹ The Commission has never instructed its regulated utilities to take actions that lay the groundwork for a transition of this magnitude. At this juncture, there is an urgent need for the Commission to build on its prior actions to ensure the charging infrastructure necessary to support the electrification of these vehicles is in place in time to meet the new demand that will materialize rapidly as a result of the ACT Rule and other state targets. Without affirmative steps that are tailored to the change that is coming to the truck and bus marketplace, these infrastructure needs may go unmet.

Although the Commission has taken initial steps, these steps are merely incremental—that is, they were not scaled to support achievement of State policy goals even when they were initiated, and further delay will imperil the state's ability to meet the MHDV targets it has now established. The fact that the ACT Rule's initial requirements begin with model year 2025 means that New York will start seeing large numbers of electric MHDVs on the road in 2024 at the latest. Based on the average annual replacement rate for MHDVs, New York could see more than 2,900 electric MHDVs joining New York fleets in just the ACT Rule's first model year, more than twenty-five times greater than the current total of zero-emissions MHDVs in the

¹⁷ National Renewable Energy Laboratory, *Decarbonizing Medium- and Heavy-Duty On-Road Vehicles: Zero-Emission Vehicles Cost Analysis* 19 (March 2022), available at <https://www.nrel.gov/docs/fy22osti/82081.pdf> [hereinafter "NREL Study"].

¹⁸ *Id.* at 27.

¹⁹ M.J. Bradley and Associates, *Medium- & Heavy-Duty Vehicles: Market Structure, Environmental Impact, and EV Readiness* 23 (July 2021), available at <https://www.mjbradley.com/reports/medium-heavy-duty-vehicles-market-structure-environmental-impact-and-evreadiness> (projecting that electric MHDVs in vehicle classes representing 72% of the current fleet could achieve cost parity with equivalent fossil fuel vehicles by 2025).

²⁰ Roush Industries, *Medium and Heavy-Duty Electrification Costs for MY 2027-2030*, at 18 (February 2022), available at http://blogs.edf.org/climate411/files/2022/02/EDF-MDHD-Electrification-v1.6_20220209.pdf.

²¹ See NREL study, *supra* note 17, at 13 ("charging is assumed to become progressively available as [electric MHDVs] are adopted").

state.²² The diverse array of new EV models with ever-improving capabilities expected to come on the market in the intervening years, and rapidly improving economics, could mean EV market share in the MHDV sector grows even faster. This rapid, near-term transition expected in the vehicle marketplace stands in stark contrast with the customary slowness of more traditional sources of electric demand growth, which by their nature come with build-in lead time for a utility to prepare.²³ Further, the electrification of fleets in certain areas will likely require new or upgraded substations, which will require careful planning to avoid artificially long lead times. Given the speed with which this new demand is expected to arrive, and the lead time some of the new infrastructure will require, the time to begin preparing the electric grid for MHDV charging demand at scale is now.

Commission action is needed now to avoid misalignment of ZEV sales mandates with utility policies and programs needed for ZEV owners to charge their vehicles in a manner that allows for smooth fleet operations without overloading the electric grid. For these reasons, Petitioners respectfully request that Commission promptly take the three actions called for in this petition to understand and address the infrastructure needs of public and private MHDV fleets, and to position New York’s utilities to address those needs at the scale and pace that is consistent with the State’s ZEV goals and the economy-wide greenhouse gas reductions and equity provisions established in the CLCPA.

IV. Requested Relief

A. The Commission should take action now to understand the current state of MHDV electrification in New York, the expected infrastructure needs for future deployments, and the associated costs.

Currently, to our knowledge, there is no publicly available information from the Commission, NYSERDA, DEC, the New York State Department of Transportation (“NYSDOT”), or other New York State agency concerning the number, type, or cost of chargers currently serving electric MHDVs in the state, nor is there a systematic effort underway to gather such information. While the Make-Ready Order does direct the utilities to create a “customer

²² This figure assumes an average annual replacement rate of 6.1 percent for class 2b trucks and 4.7 percent for classes 3–8 for New York’s approximately 685,000 MHDVs. See .M.J. Bradley & Associates, *supra* note 19, at 10. See also CALSTART, *Zeroing in on Zero-Emission Trucks* 12, January 2022, available at https://calstart.org/wp-content/uploads/2022/02/ZIO-ZETs-Report_Updated-Final-IL.pdf (listing 113 zero-emission trucks currently deployed in New York State).

²³ The acquisition of the vehicles themselves can happen in a matter of weeks or months, rather than the several years a traditional commercial or industrial facility can take to connect to the grid. See United States Department of Energy, *An EV Future: Navigating the Transition* 28 (Oct. 2021) available at <https://www.evplusgridworkshop.com> (“The magnitude of a customer’s load could change overnight. Traditionally, a utility might be aware of a new five-megawatt customer years before the building is constructed. Soon, five megawatts of load will be able to drive up without warning if a 100-kilowatt distribution center decides to electrify a fleet of 20 to 30 Class 8 trucks.”).

satisfaction survey” for those participating in the make-ready pilot, the absence of any participation in the pilot (discussed further below) means this cannot be a significant source of data. Moreover, even if the pilot were successful, reliance on this survey alone would mean that the Commission will not learn about the experiences of those MHDV operators who electrify without using the pilot program. Understanding the experiences, and costs, of early adopters will be essential to appropriately designing and scaling programs beyond the pilot stage. Therefore, the Commission should direct the utilities to collect and provide to the Commission data on chargers serving MHDVs that have already been interconnected or have applied to be interconnected in their service territory, regardless of whether those EV charging customers have participated in the MHDV make-ready pilot or fleet assessment programs. The data collected could be based on the categories laid out in the light-duty reporting requirements—reporting period program participation information, utility system and billing information, plug and charging session data, and financial information—but should be tailored to the unique characteristics of the MHDV sector.²⁴ At minimum, the data collected should include, to the extent available to the utilities, the number and location of chargers, capacity of those chargers, the cost of customer- and utility-side make-ready and what portion of those costs were covered by the utility, the types of vehicles using those chargers, and representative charging behavior of those vehicles.

In addition to better understanding the current state of MHDV charging in New York, the Commission and other state agencies also need to have a sense of what is expected to happen in the coming years. This includes an estimate of how many chargers will be needed to serve the growing number of electric MHDVs in the state, the types of chargers needed and their location to best serve the MHDV market, and the expected cost of those chargers and associated make-ready infrastructure (including any savings through leveraging co-located distributed energy resources that can decrease total grid upgrade costs). One estimate from Atlas Public Policy found that New York will need approximately 2,500 to 2,800 public and private chargers dedicated to MHDVs by 2024, with that number rising to more than 31,000 by 2030.²⁵ Given the typical operating patterns and unique charging needs of these vehicles, the majority of these chargers will need to be located at depots, meaning they cannot, to any significant extent, piggyback off of current efforts to deploy public charging for light-duty vehicles. NYSDOT’s role in distributing the federal funding for charging infrastructure appropriated by the Infrastructure Investment and Jobs Act (IIJA) will make it an essential partner in understanding, and influencing, the transition to electric MHDVs. In addition, the policies and programs of local governments, in particular the City of New York, will affect where and when MHDV electrification will happen, and Commission actions should incorporate this information. The Commission will need to work with NYSERDA, DEC, NYSDOT, and other relevant agencies to

²⁴ Make-Ready Order, *supra* note 2, at 104–06.

²⁵ Atlas Public Policy, *U.S. Medium- and Heavy-Duty Truck Electrification Infrastructure Assessment* (see Appendix A).

develop estimates of the expected annual incremental fleet charging need over the coming years, to keep such projections up to date, and to ensure that the policies and programs implemented by all these agencies are designed to be complementary and aligned with the electrification targets of New York State and its local governments.

B. The Commission should move expeditiously to modify its current MHDV programs in light of the near-term realities of MHDV electrification in New York State.

Because the ZEV MOU was signed just two days before the Commission issued the Make-Ready Order, Commissioners did not have a genuine opportunity to align that order with the MOU's targets. The nearly two years that have elapsed since then, along with the Governor's signing of Assembly Bill A4302 and the adoption of the ACT Rule, have widened the gap between New York State's increasingly ambitious MHDV electrification goals and the utilities' readiness to support achievement of these goals. Because, as recognized by DEC, the ACT Rule is an important building block toward attaining the statewide greenhouse gas emissions limits established in the CLCPA, adequate charging infrastructure for the vehicles that come online as part of the ACT Rule is also essential to ensure consistency with attainment of those limits – and the absence of adequate charging infrastructure risks interfering with that attainment.

The timeline of the ACT Rule will mean at least some MHDV fleets need to start thinking about electrifying, including installing charging infrastructure, now. This in turn means the utilities serving these fleets, and the Commission, need to be thinking about this as well. Although a comprehensive proceeding addressing infrastructure and price signals for efficiently charging MHDVs will ultimately be essential, it is already too late for such a comprehensive proceeding to be completed in time to address this immediate need. Therefore, the Commission must review and order modifications of the MHDV make-ready pilot and the fleet advisory services programs with the aim of aligning them with the expected near-term MHDV electrification that will be driven by the ACT Rule.

Based on information Petitioners have gathered in recent conversations with New York State electric utilities, it appears there had been little to no participation in the make-ready pilot by fleets as of the date of our inquiries. The Commission cannot assume, however, that this limited participation means that there is no demand for the vehicles or for financial support for the associated infrastructure. Based on Petitioners' conversations with utilities, as well as with MHDV fleets and logistics companies, there are multiple limitations to the current programs that have contributed to their minimal uptake to this point, which are discussed in detail in Appendix B. In summary, several of the pilot's requirements, including participation in the truck voucher programs and the limitation of funding to utility-side make-ready, make the pilot unattractive or even inaccessible to the fleets that are most likely to electrify in the near future. The pilot is also completely inaccessible to customers who do not themselves own MHDVs but own facilities

where MHDVs are expected to operate, such as repair shops and logistics companies who rent facilities to fleets—a revealing flaw that evinces a fundamental lack of understanding of the needs of these future MHDV charging customers. Similarly, the narrow focus of the Commission-approved fleet assessment services means many fleet operators will still need to procure costly third-party consultants to gain a full picture of the cost and operational impact of electrifying, limiting the ability of small businesses in particular to see the full picture of what electrification will mean for them.²⁶ Petitioners also understand that for some large fleets that are electrifying quickly, there is an urgent need for significant additional capacity to be provided to existing premises on an expedited timeline, something that neither standard utility practices nor the MHDV make-ready pilots is addressing in a manner that complements fast-moving vehicle acquisition programs. The Commission should consider ordering modifications to the pilot programs to encourage uptake and achieve near-term successes. It is important to recognize that in addition to fleets needing these programs to familiarize themselves with their charging needs, the Commission itself is relying on these programs for much-needed information. Only by ensuring the participation of a diverse array of customers can the Commission reasonably rely on these pilots to provide data and insights that can inform the development of a full-scale program, as the Make Ready Order contemplates.²⁷

The Commission should also reassess the scale of the pilot programs to align with near-term needs. Because a full-scale program for MHDV charging infrastructure, as discussed below in Section IV.C, will take time to create and implement, such a program cannot be relied on to support New York State’s electrification goals over the next few years, including the early years of the ACT Rule. If modifications are made to the make-ready pilot and it becomes popular with early-adopter fleets, the currently authorized \$26 million may be depleted before a full-scale program can be implemented. And, newly created or expanded federal funding sources appropriated by IJJA could provide New York State with significant resources to purchase electric MHDVs and install the necessary charging infrastructure without needing to rely solely on ratepayer funds.²⁸ The Commission should also consider, based on estimates for MHDV charger need in the coming years, the expected cost of infrastructure to support those chargers, the ability of this infrastructure to generate additional revenue, and the availability of funding sources other than ratepayer dollars, increasing the amount of authorized funding to support the expected level of deployment in the interim period before a comprehensive stakeholder process can be completed and a full-scale program implemented. To the extent near-term funding needs exceed what can reasonably be funded through electric rates, there is no time to lose in working

²⁶ For an example of a more comprehensive fleet assessment program, *see* <https://www.massfleetadvisor.org/>, which has been launched by the Massachusetts Clean Energy Center (a Massachusetts state economic development agency) and CALSTART.

²⁷ *See* Make Ready Order, *supra* note 2, at 129 (“This relatively small-scale Medium- and Heavy-Duty Fleet Make-Ready Pilot Program will inform fleet electrification throughout New York State.”).

²⁸ *See* HDR Inc., *What to Know and Do to Receive IJJA Zero Emission Funding in 2022* (February 17, 2022), available at <https://www.hdrinc.com/insights/what-know-and-do-receive-ijja-zero-emission-funding-2022> (detailing the funding authorized by the law for zero-emission vehicles and associated charging/fueling infrastructure).

with other policymakers and agencies to identify alternative funding sources that can help ensure upfront transition costs are borne equitably.

Relatedly, once the Commission recognizes that today's pilots must provide a foundation for transitioning the MHDV sector, the Commission should examine whether the pilots as currently constituted rely on a framework of uniform technology and communications standards that is an appropriate foundation for a fully electrified MHDV sector, and, to the extent appropriate standards are not yet specified in the pilots, order program modifications that will remedy that omission.

C. The Commission should initiate a comprehensive stakeholder process with the intent of producing an EVSE order specific to MHDVs, scaled to align with New York's long-term goals

On many fronts, New York has positioned itself to be a leader on EVs. But failure to move the utilities beyond their current pilot-scale programs for MHDVs risks leaving New York far behind other leading states. To achieve the ambitious goals of New York, the Commission needs to take affirmative steps to ensure the necessary charging infrastructure and price signals are in place to make it possible for fleets to electrify while still operating in a reliable and economical way. Moreover, meaningful action in this area is obligatory under Section 8 of CLCPA, which directs state agencies including the PSC to “promulgate regulations to contribute to achieving the statewide greenhouse gas emissions limits....”²⁹ Although the exact temporal and factual prerequisites for this obligation are not stated expressly in the CLCPA, it is clear that without the effective, efficient deployment of infrastructure to support the necessary chargers, electric MHDVs will not replace the gas- and diesel-powered vehicles currently on New York's roads, and transportation-sector emissions reductions will be insufficient for the statewide greenhouse gas emissions limits to be met.

While improvements to the MHDV make-ready pilot are important for the state's short-term MHDV electrification goals, there are multiple areas of utility activity that are critically needed to support long-term MHDV electrification but that do not pertain directly to the provision of make-ready for a particular requesting customer, which is the focus of the pilots. These include, for example: forecasting for electric MHDV load throughout the system; rate design and vehicle-grid integration opportunities; leveraging distributed energy resources to mitigate infrastructure costs; bidirectional charging using vehicle-to-grid systems to displace stationary storage, equity in access, ownership, and geographic distribution of chargers; marketing, education, and outreach; and any issues pertaining to hardware, software, and communications standards that are not addressed elsewhere. And, a comprehensive process would allow the Commission to consider its long-term goals for MHDV electrification and the funding, whether from ratepayers

²⁹ Climate Leadership and Community Protection Act §8, 2019 N.Y. Laws 106.

or other sources, necessary to achieve those goals, helping to assure fleet operators and other market actors that the Commission is committed to supporting their electrification beyond the limited scope of today's pilot programs.

The profound mismatch between the current pilot structure and the needs of actual fleets, as discussed above in section IV.B of this petition, speaks to an urgent need for the utilities and their regulators to develop a practical understanding of how buses and trucks actually operate. This will be essential for ensuring any grid impacts can be mitigated as adoption of electric vehicles accelerates and their electricity demand grows.³⁰ At least four states³¹ have responded to this need for shared understanding by conducting public utility commission proceedings to solicit robust stakeholder input for the purpose of enabling MHDV electrification. Hearing directly from fleet operators will be an essential part of this process. Fleet owners and operators are part of a complex business ecosystem—much of which is new to the utilities—and developing a shared understanding will also require the participation of vehicle manufacturers, charging providers, and the companies that own the facilities where fleets will operate and charge. Moreover, the diesel trucks and buses currently in use have profound impacts on communities, and the voices of community groups, environmental justice organizations, and other interested parties will also be essential to ensuring that the impacts of trucks and buses on communities are properly understood and that the benefits of electrifying them are optimized.

Finally, ensuring that MHDV charging is affordable for customers while not placing undue strain on the grid or driving unnecessary grid upgrades will require price signals that reward efficient charging and discharging. Focusing on the price signals and enabling technology that will shape vehicle-grid integration is also critical to ensuring that vehicle batteries can be leveraged to improve the feasibility and cost of integrating large amounts of renewable generation onto the system. Both the Commission and New York lawmakers have recognized the importance of creating price signals that incentivize the efficient charging of electric MHDVs and are reflective of the expected charging behavior of these vehicles. Senate Bill S7836, recently signed by Governor Hochul, establishes a new Section 66-s of the Public Service Law, which directs the Commission to initiate a proceeding “to establish a commercial tariff utilizing alternatives to

³⁰ See New York ISO, *Power Trends 2021*, at 14, available at <https://www.nyiso.com/documents/20142/2223020/2021-Power-Trends-Report.pdf/471a65f8-4f3a-59f9-4f8c-3d9f2754d7de> (estimating that EVs could add up to three gigawatts of peak load to New York's grid by 2040); see also U.S. Department of Energy, *supra* note 23, at 87–90 (discussing the unique challenges of electrifying fleets and the importance of hearing directly from operators).

³¹ See generally New Jersey Board of Public Utilities Docket No. QO21060946, *In The Matter of Medium and Heavy Duty Electric Vehicle Charging Ecosystem*; California Public Utilities Commission Docket No. R1812006, *Order Instituting Rulemaking to Continue the Development of Rates and Infrastructure for Vehicle Electrification*; Illinois Commerce Commission, *Beneficial Electrification Workshops 2021-2022*, available at <https://www.icc.illinois.gov/informal-processes/beneficial-electrification-workshops-2021-2022>; Connecticut Public Utilities Regulatory Authority, *Investigation into Medium and Heavy-Duty Electric Vehicle Charging* [21-09-17], available at [http://www.dpuc.state.ct.us/dockcurr.nsf/\(Web+Main+View/All+Dockets\)?OpenView&StartKey=21-09-17](http://www.dpuc.state.ct.us/dockcurr.nsf/(Web+Main+View/All+Dockets)?OpenView&StartKey=21-09-17).

traditional demand-based rate structures, other operating cost relief mechanisms, or a combination thereof (collectively, "solutions") to facilitate faster charging for eligible light duty, heavy duty, and fleet electric vehicles.”³² The Commission has already begun implementing the law, issuing a notice soliciting public comments and establishing a new docket (Case 22-E-0236, Proceeding to Establish Alternatives to Traditional Demand-Based Rate Structures for Commercial Electric Vehicle Charging (hereinafter the “Rate Alternatives” proceedings) on April 21, 2022.³³ But this is not the first time the Commission has considered rate designs intended to support emerging demand-side technologies like electric vehicles. In fact, the Commission and stakeholders have already put significant effort into developing a tariff paradigm suitable for flexible demand, paired with behind-the-meter resources. In its order establishing the net metering successor tariff in the Value of Distributed Energy Resources (“VDER”) proceeding, the Commission highlighted the newly created standby rate as “most likely to benefit customers with multiple DER technologies, such as solar PV coupled with energy storage and electric vehicle charging.”³⁴ Unfortunately, despite the salience of MHDV charging use cases on the future grid and the need for rapid MHDV uptake to meet state goals, the VDER proceeding has, to date, never analyzed MHDV charging use cases. The Rate Alternatives proceeding, which must focus on those use cases, will be an essential component of the larger project of developing a regulatory approach for MHDV charging infrastructure, and stakeholder insights developed in the process of developing that overall regulatory approach will provide essential insight into the development of these tariffs and other solutions. But this proceeding alone will not be sufficient to address the broader array of issues relevant to electric MHDVs. By combining or coordinating the Rate Alternatives proceeding with more comprehensive attention to MHDV electrification, the Commission could ensure that intertwined issues of electricity price signals and charging infrastructure needs are considered together, rather than in entirely separate silos.

V. Conclusion

The three needs identified in this petition—understanding current charger deployment and expected need, modifying and rescaling current MHDV pilot programs, and initiating a comprehensive stakeholder process to create a full-scale MHDV infrastructure program—are essential if New York is to be a leader in the effective deployment of ZEV trucks and buses. Failure to align utilities’ charging infrastructure programs with the state’s MHDV deployment requirements risks these ZEV vehicles being sold but not actually displacing the MHDVs currently on the roads of New York, jeopardizing the achievement of statutory and regulatory ZEV goals, as well as attainment of statewide greenhouse gas emissions reduction targets and

³² S7836, 2021-2022 Leg., Reg. Sess. (N.Y. 2022)

³³ Case 22-E-0236, *Proceeding to Establish Alternatives to Traditional Demand-Based Rate Structures for Commercial Electric Vehicle Charging*, Notice Soliciting Comments (April 21, 2022).

³⁴ Case 15-E-0751, *In the Matter of the Value of Distributed Energy Resources*, Order Establishing Net Metering Successor Tariff, at 18 (Jan. 13, 2020).

equity provisions established in the CLCPA. On the other hand, a well-designed program, in conjunction with the stopgap measures needed before that program can be implemented, would accelerate the transition of New York's MHDV sector away from fossil fuels and the attendant greenhouse gas emissions, local air pollution, and public health harms that come with fossil fuel combustion.

**Appendix A: Estimated Cumulative Annual MHDV Charger Needs in New York State
through 2030 (Source: Atlas Public Policy)**

(attached behind)

In both scenarios:

Location

- Personally-owned class 4 – 8 trucks & all long-haul trucks use on-road charging

Utilization

- 80% utilization of depot chargers during 9 overnight hours

In low-cost scenario:

Location

- Class 3 personal & class 3 – 8 fleet vehicles (excl. long-haul) charge 90% at depot/home, 10% on road

Utilization

- 40% utilization of on-road charging
- 70% utilization of long-haul truck parking chargers

In high-cost scenario:

Location

- Class 3 personal & class 3 – 8 fleet vehicles (excl. long-haul) charge 75% at depot/home, 25% on road

Utilization

- 20% utilization of on-road charging
- 40% utilization of long-haul truck parking chargers

Lower-cost scenario (see above for details):

Charger type	Cumulative charging ports needed in the state of New York:									
	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Home charging for class 3 trucks	74	252	559	1071	1788	2569	3652	4767	6139	
Charging at depots:										
Depot - Level 2 for Class 3 trucks	109	372	855	1,620	2,753	4,145	6,072	8,270	10,950	
Depot - Level 2 for Class 4 - 6 trucks	80	298	718	1,415	2,536	3,966	5,707	7,399	9,524	
Depot - 50kW for Class 4 - 6 trucks	17	52	132	277	503	888	1,233	1,607	2,058	
Depot - 50kW for class 7- 8 trucks	32	111	279	551	929	1,488	1,976	2,564	3,241	
Depot - 150kW for class 7- 8 trucks	21	76	179	349	596	967	1,260	1,637	2,063	
On-road charging (based on energy need & utilization assumptions, does not guarantee geographic coverage):										
On-road - 350kW for class 4 - 8 trucks excl. long-haul, plus motorhomes	6	14	27	47	75	112	149	190	239	
On-road - 350kW truck parking spaces for long-haul trucks***	7	29	68	142	248	419	548	727	922	

Charging need for all vehicles other than long-haul trucks are based on no. of vehicles registered in the state. For long-haul trucks, charging need is assigned to each state based on the state's percent of the nation's truck parking.

*** or, as an alternative to these 350MW charging ports for long-haul trucks, number 2MW charging ports needed (in reality a mix of both power levels and others could be needed. See slides 20 - 24 of full results deck):

	2022	2023	2024	2025	2026	2027	2028	2029	2030
On-road - 2MW for long-haul trucks:	1	5	12	26	45	76	99	132	167

Higher-cost scenario (see above for details):

		Cumulative charging ports needed in the state of New York:									
		2022	2023	2024	2025	2026	2027	2028	2029	2030	
Home charging:	Home charging for class 3 trucks	62	210	466	892	1,490	2,140	3,044	3,973	5,116	
Charging at depots:	Depot - Level 2 for Class 3 trucks	91	310	713	1,350	2,294	3,455	5,060	6,891	9,125	
	Depot - Level 2 for Class 4 - 6 trucks	66	248	598	1,180	2,114	3,305	4,756	6,165	7,937	
	Depot - 50KW for Class 4 - 6 trucks	14	44	110	231	419	740	1,028	1,339	1,715	
	Depot - 50KW for class 7- 8 trucks	26	91	228	451	760	1,218	1,620	2,104	2,661	
	Depot - 150KW for class 7- 8 trucks	19	63	150	291	498	806	1,051	1,366	1,720	
On-road charging (based on energy need & utilization assumptions, does not guarantee geographic coverage):	On-road - 150KW for class 4 - 6 trucks	9	33	77	149	257	393	555	719	919	
	On-road - 350KW for class 7 - 8 trucks excl. long-haul, plus motorhomes	7	17	36	65	106	164	212	270	337	
	On-road - 350KW truck parking spaces for long-haul trucks***	12	52	118	248	435	733	958	1,273	1,613	

Charging need for all vehicles other than long-haul trucks are based on no. of vehicles registered in the state. For long-haul trucks, charging need is assigned to each state based on the state's percent of the nation's truck parking.

*** or, as an alternative to these 350MW charging ports for long-haul trucks, number 2MW charging ports needed (in reality a mix of both power levels and others could be needed. See slides 20 - 24 of full results deck):

	2022	2023	2024	2025	2026	2027	2028	2029	2030
On-road - 2MW for long-haul trucks:	3	11	24	51	90	152	199	264	334

Appendix B: Observations and Recommendations on the MHDV Make-Ready Pilot and Fleet Assessment Programs

Truck Voucher Program requirement

The requirement that fleets participate in the New York Truck Voucher Incentive Program or the New York City Clean Trucks Program in order to access the make-ready pilot funds unnecessarily limits who can qualify for the pilot funding.³⁵ Because of this requirement, make-ready pilot funding is unavailable to entities that do not themselves own MHDVs but provide vital services to fleets (including logistics companies that lease out warehouses and other facilities to fleets, and repair shops that services fleet vehicles) as well as to vehicle owners that find that the voucher program itself presents challenges. The exclusion of these prospective participants from the utilities' pilot programs is depriving the Commission and the utilities of important information about cost, timeline, and other aspects of installing charging infrastructure. Eliminating the requirement that a customer participate in one of the current truck voucher programs to access the make-ready pilot funding would allow a broader array of customers to participate in the pilot, which would support the state's near-term MHDV electrification goals, and allow the Commission and utilities to collect data from a broader array of customers to inform future action on the subject.

Utility-side make-ready limitation

While the light-duty make-ready program covers both utility-side and customer-side costs, the MHDV make-ready pilot does not. This limitation (for which no clear rationale is provided in the Make-Ready Order) ignores the reality of how utility-side costs are currently treated and is a significant contributor to demonstrated lack of interest in the program.

Although some fleets with ambitious near-term electrification plans may quickly bump up against limitations on the electric capacity currently available at their premises, many fleets looking to electrify in the near-term can do so without utility-side infrastructure upgrades because excess capacity presently exists on the distribution grid in their area. As a general matter, the utilities also already cover least-cost upgrade costs associated with increasing site capacity, with customers responsible only for costs above this amount if they require capacity to be distributed at the site in a manner that diverges from the utility's least-cost approach. This means that for many prospective early-adopter electric truck or bus customers, utility-side make-ready costs may make up a negligible part of the total costs to install charging infrastructure, or may even be zero. By contrast, customer-side make-ready costs can be a substantial fraction of total up-front infrastructure costs for an electrifying fleet – but these costs are entirely excluded from the pilot.

³⁵ Make Ready Order, *supra* note 2, at 131.

Modifying the pilot to provide the same fifty percent subsidy for chargers that are not publicly accessible, equivalent to what is available under the light-duty make-ready program, would better reflect the reality of EV infrastructure costs and would likely improve uptake.

DCFC requirement (applicable to Con Edison only)

The limitation of the make-ready pilot for Con Edison customers to Direct-Current Fast Chargers (“DCFCs”) fails to consider the charging needs of many MHDVs. In the Make-Ready Order, the Commission told Con Edison to implement the “Fleet DC Fast Charger Make-Ready Program” for which the utility had received approval for in its 2019 rate case, rather than include the utility in the generic MHDV make-ready program to be developed by the rest of the PSC-jurisdictional utilities.³⁶ Con Edison’s program, however, only included incentives for fleets installing DCFCs. While the largest vehicles will likely require DCFCs, many medium-duty vehicles such as delivery vans can be adequately served by level 2 chargers.³⁷ These chargers are much less expensive than DCFCs, and their lower charging capacity means the associated make-ready infrastructure can often be smaller and cheaper. Level 2 chargers can also encourage efficient charging behavior, as the lower capacity of the chargers leads fleet operators to spread charging over many hours.

Directing Con Edison to revise MHDV make-ready program to open eligibility to fleets looking to install level 2 chargers would encourage fleets to participate in the program without installing unnecessarily large infrastructure, decrease both utility-side and customer-side costs, and encourage more efficient charging.

Ambiguous approach to disadvantaged communities

The focus of the program on disadvantaged communities is laudable but ambiguous. The Make Ready Order sets out the following qualification for the MHDV make-ready pilot: “charging stations located in environmental justice areas, or that are dedicated for fleets operating a significant portion of the time in environmental justice areas, as defined in the Accessibility section of the Eligibility Criteria for the Make-Ready Program are of heightened interest.”³⁸ The Joint Utilities’ implementation plan for the pilot largely restates this language.³⁹ Neither the Commission nor the Joint Utilities, however, define what is considered a significant

³⁶ Make Ready Order, *supra* note 2, at 129–30.

³⁷ See North American Council for Freight Efficiency, *Electric Trucks Have Arrived: The Use Case for Vans & Step Vans*, at 8 (April 2022), available at <https://nacfe.org/vans-step-vans/> (explaining that because local delivery vehicles typically operate in a single shift out of a depot, fast charging is not necessary and level 2 chargers are adequate).

³⁸ Make-Ready Order, *supra* note 2 at 131–32.

³⁹ Case 18-E-0138, *Proceeding on Motion of the Commission Regarding Electric Vehicle Supply Equipment and Infrastructure*, NY Electric Vehicle Infrastructure Medium- and Heavy-Duty Make-Ready Pilot Program Implementation Plan (Oct. 15, 2020) (“the participating utilities will prioritize providing incentives to projects located in or that support fleets that are operating a significant portion of the time in DACs and that demonstrate greater commitment to reducing diesel emissions in DACs.”).

portion of time for a fleet to qualify for this priority or how this “heightened interest” would be applied in allocating funding. It is difficult to know whether this ambiguity has contributed to the pilot programs’ failure to attract participants, but going forward, it certainly could—and uncertainty about the meaning of this language could suppress future applications by prospective participants who, if they had applied, would have been admitted to the program.

To address the ambiguity in the current order and implementation plan, the Commission should clarify how the utilities should prioritize applicants and what constitutes a significant portion of time. And, the Commission should again ensure the restrictions on accessing the pilot’s funding are consistent with the fundamental purposes that make these pilot programs worth doing: that is, what should be supporting near-term infrastructure needs and obtaining data to inform the development of a full-scale program.

Narrow focus of fleet assessment services

The limitation of the fleet assessment services to a site feasibility study and rate analysis means fleets will need to look elsewhere for necessary information, including analysis of the total cost of ownership and available incentives, and options for vehicles, chargers and distributed energy resources, before choosing to electrify. Without this support, it will overwhelmingly be the multi-state and multi-national operators with the capital to pay for this work who will electrify in the near term. If the Commission wants to make sure that commercial customers of various sizes and types can participate in the earliest stages of MHDV, it must explore ways to ensure that more robust fleet assessment services (including, e.g., TCO analysis and vehicle/charger options), are made available to those who need them, whether those services are provided by electric utilities or otherwise.