

NEW YORK AND NEW JERSEY MHDV FLEET WORKSHOP

Summary report for online workshop hosted by Atlas Public Policy and the Environmental Defense Fund held on October 17, 2022

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Executive Summary

On Monday, October 17, Environmental Defense Fund (EDF), in collaboration with Atlas Public Policy, hosted the New York and New Jersey Medium- and Heavy-Duty Fleet Electrification Virtual Workshop. This event featured sixteen speakers representing private and public fleet operators and service providers of all sizes. For a full list of all represented speakers and organizations, please see the agenda in appendix A.

Truck and bus fleet electrification is gaining momentum across the United States. New York and New Jersey have made commitments to electrifying these vehicles by joining the 17-state memorandum of understanding (MOU) to achieve 100 percent sales of zero-emission vehicles by 2050 and adopting the Advanced Clean Trucks rule. Full-scale deployment of medium- and heavy-duty vehicles (MHDV) will require the installation of substantial high-power charging infrastructure at fleet depots, truck stops, public spaces, and more. For example, an analysis conducted by Atlas Public Policy estimates that by 2030, there will be a need for committed investment to deploy up to 10,000 direct current fast chargers at depots in New York and New Jersey, with even more Level 2 chargers for vehicles with lower-power requirements. [1] New York and New Jersey have developed specific programs to encourage zero-emission MHDV adoption, such as the New Jersey Zero-Emission Incentive Program and New York Truck Voucher Incentive Program, and these efforts are critical to meeting the 2050 MOU goals. Notwithstanding these statewide initiatives, electrification challenges for MHDV persist and will specifically require utility coordination and support to meet growing charging infrastructure needs.

EDF and Atlas convened this public workshop to create a space for fleets and other stakeholders to discuss their MHDV charging infrastructure needs, current incentive barriers, and the support they may require from utilities in New York and New Jersey. Speakers discussed these key issues over the course of three panel conversations: 1) The road to electrification, 2) The relationship between fleets and utilities, and 3) The cost to electrify. While open to the general public, this workshop sought to inform and educate representatives from utility commissions and state regulatory staff on their role in advancing MHDV electrification. In total, more than 200 people tuned in to learn and gather feedback from featured fleet operators. Below are the key findings distilled from the workshop.

Key Findings

1. Fleets are interested in deploying more electric vehicles in New Jersey and New York. The lack of adequate utility support for these deployments is a major barrier.

- This is especially the case for national fleets that are able to focus their deployments in states with robust utility programs. Several fleets noted that they have large deployments underway in California but were not currently considering undertaking similar deployments in New Jersey or New York because of the lack of utility support.
2. Government and utility incentive programs that reduce the cost of both the infrastructure and electricity rates are crucial to helping fleets electrify. Utility programs will be critical to enabling fleets to justify the upfront costs of electrification in the near term.
 3. Operational challenges for medium- and heavy-duty vehicles include: insufficient onsite electrical capacity and physical space to serve fleet charging needs, technological readiness for more challenging vehicle use cases (such as plowing), and limited charging windows for vehicles that are operated for multiple shifts a day. Charging infrastructure deployment programs need to integrate solutions that address operational barriers and support fleets with varied use cases.
 4. Long utility interconnection lead times, often upward of two years, pose a major obstacle to fleet electrification. Long wait times often make it difficult for fleet operators to plan ahead and to pair vehicle purchases with infrastructure deployment. Operators do not want to purchase vehicles if they do not know when power can be supplied to them, which introduces planning challenges into the vehicle procurement process. Utilities and regulatory commissions need to explore solutions to prevent long interconnection lead times in order to provide fleets with certainty.
 5. Early, consistent, and frequent communication between fleets and utilities is essential to keeping reasonable timelines and achieving overall project success. Fleets expressed that the best electrification experiences stem from regular standing engagements with designated utility staff and project managers.
 6. Fleet operators are new to vehicle electrification and are not subject matter experts. Likewise, many fleets currently lack the capacity to regularly engage with utilities or manage infrastructure deployment. As such, support from the utility, particularly with issues requiring technical knowledge, is critical to ensuring fleets can move through the electrification process with ease. Fleets will require additional technical assistance from utilities, such as through fleet advisory

programs.

7. A number of constraints can prevent or deter fleet operators from taking advantage of utility make-ready incentive programs. For example, fleets repeatedly identified the need for utilities to assign a single point of contact or project management team to help them effectively access available incentive funds. Likewise, fleet representatives noted that utility-approved EV charging equipment lists are often outdated and out of sync with industry offerings. In addition, fleet operators highlighted narrow eligibility requirements as a barrier to accessing available funding such as voucher program or depot site owner requirements.
8. Fleet operators would like greater transparency from utilities regarding available grid capacity, as well as planned site upgrades and their associated costs. This information is important for fleets as they look to make key site selection and infrastructure deployment decisions. If utilities provided cost estimates for site upgrades based on location, fleets could better discern whether it is economically feasible to electrify a certain facility or how quickly they could deploy onsite charging.
9. Fleets currently employ distributed energy resources (DERs) and managed charging and view these as critical tools for minimizing charging system costs. Fleets expressed that they would like to see utilities integrate DERs into charging infrastructure incentive programs.

Detailed Findings

Considerations and Constraints of Fleet Electrification

In making electrification decisions, fleet operators want to know if available electric vehicles have the capabilities to meet their operational needs. According to panelists, ensuring that electric vehicles can adequately perform on the road and reliably deliver service is crucial to determining whether electrification is right for them. However, truck electrification is a nascent field, and the commercial availability of suitable vehicles often varies by specific duty function and cycle. While electric MHDV fleets can accommodate many use cases today, full-scale electrification will require commercially available trucks and buses that are capable of performing well across a number of more challenging use cases, such as plowing and long-haul operations.

Several fleet representatives pinpointed government and utility incentives as the key enablers in their fleet electrification transitions. Namely, the New Jersey Zero-Emission Incentive Program provided one fleet operator with the tools and resources necessary to integrate electric vehicles into its service. This government incentive program offers enhanced point-of-sale funding for small, certified businesses in New Jersey for the purchase of zero-emission trucks. Speakers also discussed the role of New Jersey's Clean Energy Program in facilitating their acquisition of both electric vehicles and charging stations.

Looking at challenges to electrification, fleet operators discussed several operational realities they face on the ground. In terms of limitations, speakers explained that fast-charging infrastructure is needed to support vehicles that must always be available and do not operate on single-shift duty cycles. For example, day cab tractor trailers are often operated for multiple shifts a day in operations such as drayage and regional delivery. Thus, these vehicles require convenient access to fast charging, unlike many fleets that can charge overnight with lower-powered Level 2 chargers. Likewise, vehicles that normally operate on a fixed route, such as delivery vehicles, require reliable charging access in order to adapt to on-demand needs.

Fleets also highlighted insufficient space at depots as a potential limiting factor to adding necessary electrical infrastructure to support their charging needs. Some fleet operators also expressed that their vehicles are too large to fit into EV parking spaces designed for passenger vehicles, limiting their access to public charging.

No two fleets are the same, and in making site selection and design decisions, each company will need to meet its own specific needs. Panelists relayed that in making such decisions, they often first evaluate whether a certain location makes sense for their duty cycle and vehicle mix, and in the case of leased property, whether a landlord will grant them access or support them in the process. For fleet operators on leased land or those providing trucking services from third party-owned depots, landlord and facility engagement can be challenging, particularly where the landlord is a smaller property owner who may be hesitant to grant easements. According to speakers, access to available onsite power and capacity, as well as a positive regulatory and incentive environment, often drive their site selection and design decision making process.

The Role of the Utility

In terms of the utility-fleet relationship, many fleet operators relayed the critical importance of establishing early, frequent, and consistent communication with utilities. Operators conveyed that by far the best electrification experiences stem from regular standing engagements with designated utility staff and project managers. A frequent back

and forth and a direct line of communication with utilities are essential to the success of an electrification project. Participants also explained that utility-fleet coordination should be structured and tailored to the needs of the fleet.

Furthermore, participating fleet operators explained that they are not electrification subject matter experts and that many organizations do not have the capacity to actively manage utility engagement or infrastructure deployment. As such, assistance from utility staff, particularly around technical issues like charging optimization and infrastructure siting, will be critical to ensuring operators can move through the process. As a primary example, a fleet representative highlighted the success of a utility fleet assessment program in identifying a charger optimization strategy and minimizing operational costs.

Moreover, speakers highlighted the role of onsite distributed energy resources (DERs) in their fleet electrification and resilience strategies, citing examples of solar and storage projects they have already implemented. These DERs serve as redundancy during an outage or natural disaster and lower overall vehicle fueling costs by reducing or eliminating electricity demand charges. To support their deployment, operators recommended that utilities pair solar-plus-storage incentives with charging infrastructure programs.

Fleets also discussed ways to mitigate demand charge costs when utilization rates are low. For many fleets, utilities are not involved in energy management at the company site, leading some to install a separate EV meter and an onsite battery storage system to mitigate demand charges. Additionally, fleets expressed that deploying a smart charging system without utility support can be cost prohibitive. Fleet representatives shared that utility incentives to offset demand charges are crucial to easing cost burdens.

And for fleet vehicles that remain unused for long periods of time, such as school buses, understanding how vehicle batteries can support the grid during peak demand is a vital consideration to ensuring scaled and efficient integration into the system. A diverse array of vehicle-to-grid technologies and use cases are currently being explored, and such developments require robust coordination with utilities.

Utility-Related Obstacles

In terms of utility-related challenges, the most pervasive barrier mentioned was long interconnection lead times, with several panelists explaining it could take upwards of two years for utilities to complete necessary grid upgrades and energize a site. These long wait times introduce high levels of uncertainty for fleet operators as they attempt to plan out their vehicle procurement process with only a vague understanding of when power will be supplied. Panelists described the challenges of the mismatch between vehicle delivery times and interconnection times – with cost of capital and the passage of time on the new vehicle warranty being two critical concerns. Beyond interconnection delays, panelists

explained that many utilities are not organized in their engagement with fleet customers; participating operators recommended utilities hire the necessary staff and invest in the adequate human resources now to prepare for incoming customer demand.

At the start of the electrification process, many fleet operators noted the absence of utility make-ready incentives and explained they were forced to absorb greater upfront costs without the additional capital support. Utility incentives, particularly those that fund make-ready infrastructure, are essential to enabling fleet electrification.

Total Cost of Ownership

Seven states, including New York and New Jersey, have adopted, or are considering, regulations that require the sale of increasing numbers of electric trucks beginning in model year 2025. Fleets noted that regulatory requirements may push fleets to electrify earlier than if their decisions were based solely on total cost of ownership (TCO) considerations. Moreover, fleets noted that MHDV electrification includes several considerations that are difficult or impossible to capture in a comparative TCO financial model and are therefore hard to plan for.

Fleets explained that with the existing TCO financial modeling tools or software available to fleet operators, default variable costs such as the price of electricity do not always accurately reflect current or future market prices. In addressing the limitations associated with existing TCO tools, participants conveyed that they need technical and advisory support that is adaptable to both the individual needs and diversity of fleet operations across the industry.

Conclusion

1. EVs today are capable of doing many of the jobs that fleets require. Fleet managers anticipate being able to utilize EVs in more applications as the technology matures.
2. Fleet managers are having a positive experience operating EVs. The vehicles are reliable, and drivers enjoy operating them.
3. Scaling up the charging infrastructure for EVs is a top challenge for fleets. Utility support is needed to:
 - a. Cover make-ready costs
 - b. Assist fleets with the process of charging operation design and infrastructure installation
 - c. Establish open lines of communication throughout the electrification process, and set clear expectations for feasible timelines to electrify

- d. Ensure lowest-cost solutions by designing for future growth and recognizing the importance of DERs
4. Fleets have significant interest in deploying more EVs in New Jersey and New York, which have high-density trips that are ideal for EVs.
5. Existing utility programs in New Jersey and New York are insufficient.
6. New Jersey and New York need to create robust utility programs to enable fleets to scale EV deployments. Such programs complement existing policies these states have already adopted as well as state climate and health goals.

Appendix A: Workshop Agenda



Workshop
facilitated by:



New York and New Jersey MHDV Fleet Workshop

Introduction: Overview of Medium/Heavy Duty Electrification in New York and New Jersey (15 minutes)

9:30 am – 9:45 am

This introduction will cover the state of electrification and the characteristics of fleets in New York and New Jersey. Speakers will dive into the medium and heavy-duty policy and regulatory landscape, the processes for establishing utility regulatory programs, and progress to meet charging needs in both states.

Speakers:

Mary Barber, Director, State Affairs (NY, NJ), Environmental Defense Fund

Mike Roeth, Executive Director, North American Council for Freight Efficiency

James Di Filippo, Senior Policy Analyst, Atlas Public Policy

Panel 1: The Road to Electrification- How Fleets Prepare to Use Electric Trucks and Buses (45 minutes)

9:45 am – 10:30 am

This panel will assess the technological readiness of fleets, how fleets determine their charging strategies, power reliability and security, and the operational impacts of electrification.

Speakers:

Vanessa Abad, Owner, ENAT Transportation & Logistics

Keith Kerman, Chief Fleet Officer & Deputy Commissioner, DCAS

Jonathan Polak, Director of Business Development, National Fleets, BYD Motors

Rodney Williams, Director of Energy and Sustainability, Newark Public Schools

Moderator:

Ben Mandel, Senior Director, CALSTART

10:30 am – 10:40 am Break (10 minutes)

	<p>Panel 2: Interactions Between Fleets and Utilities (1.5 hours)</p> <p>Fleets will discuss charging site selection logistics, site planning and design, as well as issues with hosting capacity. Fleets will also discuss navigating the regulatory process and highlight areas of needed support.</p> <p><i>Speakers:</i></p> <p>Bill Cawein, Manager of Technology & Integration, FedEx</p> <p>Carla Ford, Senior Project Manager, DHL</p> <p>Jim O’Leary, Vice President, Fleet Services, NFI</p> <p>Nora Ostrovskaya, Director of Strategic Initiatives, MTA</p> <p><i>Moderator:</i></p> <p>Aravind Kailas, Advanced Technology Policy Director, Volvo</p>
10:40 am – 12:10 pm	
12:10 pm -12:25 pm	Break (15 minutes)
	<p>Panel 3: The Cost to Electrify (1.5 hours)</p> <p>Fleets in this session will discuss the cost of electrification, from financing the chargers to managing the operational costs.</p> <p><i>Speakers:</i></p> <p>Matt Berlin, CEO, New York City School Bus Umbrella Services</p> <p>Chris Irvin, Senior Fleet Manager, DHL</p> <p>Troy Musgrave, Director of Process Improvement, DHE</p> <p><i>Moderator:</i></p> <p>Phil Jones, Executive Director, Alliance for Transportation Electrification</p>
12:25 pm – 1:55 pm	
1:55 pm – 2:00 pm	<p>Closing Remarks (5 minutes)</p> <p><i>Speaker:</i></p> <p>Mary Barber, Director, State Affairs (NY, NJ), Environmental Defense Fund</p>

References

- [1] J. D. Filippo, "Introduction: Overview of Medium/Heavy Duty Electrification in New York and New Jersey," in *New York and New Jersey MHDV Fleet Workshop*, 2022.



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