

Advanced Energy Group New York Stakeholder Challenge Mobility & Transportation

November 11, 2020

Introduction

Light Duty

- *NYC curbside demonstration*
 - *Nevins St. charging hub demonstration*
 - *Light Duty Make Ready Program*
 - *Cars.Coned.Com*
 - *DCFC Per-Plug Incentive*
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Medium- & Heavy-Duty

- *School Bus V2G Demonstration Project*
 - *Transit Authority Make Ready – Westchester Bee Line*
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Managed Charging

- *SmartCharge New York*
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Rates

- *Residential whole-house time of use (TOU) w/ 1-year price guarantee*
 - *Residential EV-only TOU rate*
 - *DCFC Business Incentive Rate*
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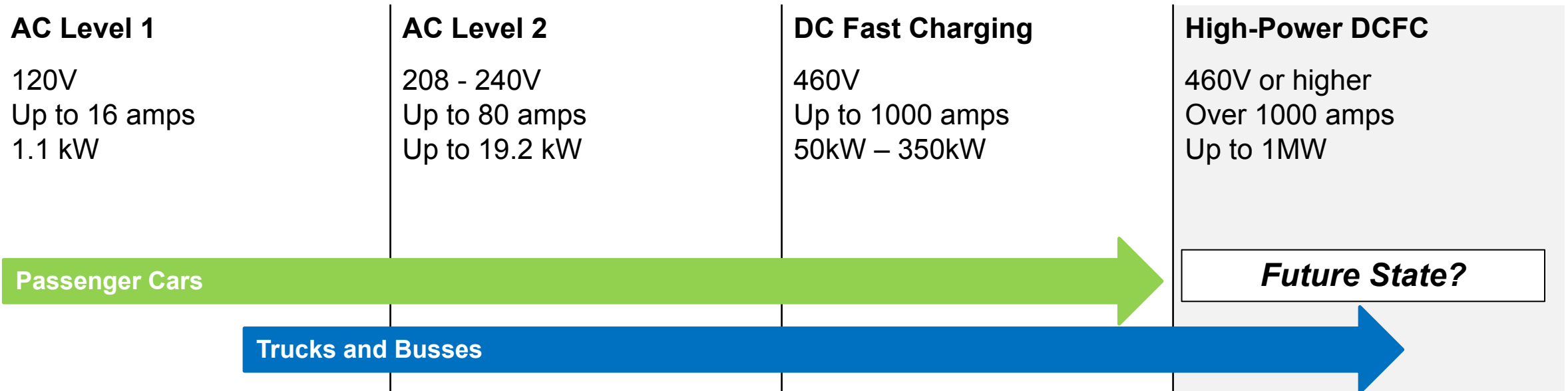
Fleets

- *Fleet interconnection make-ready program*
 - *Fleet Assessment Service*
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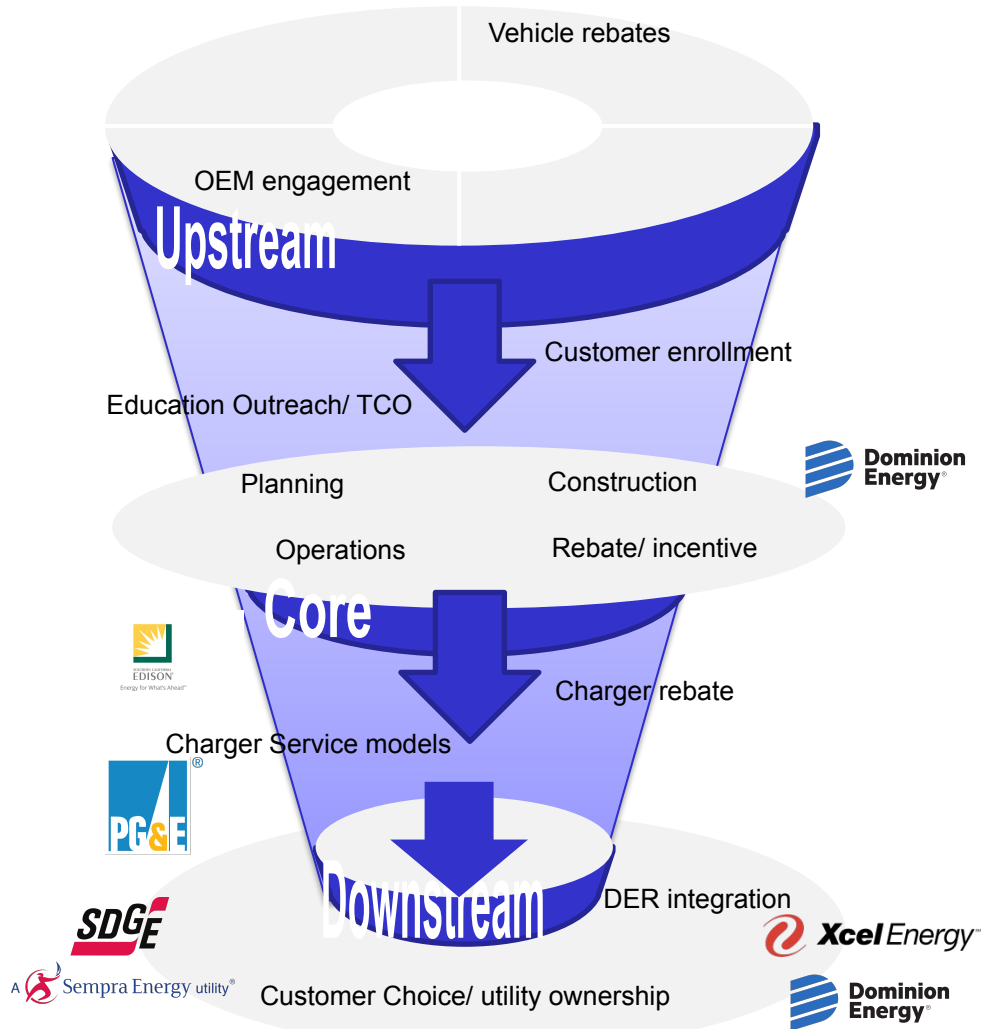
In development
Active

Problem Statement

- **Medium- and Heavy-Duty Vehicles (MDHD) electrification requires coordinated and thoughtful infrastructure planning**
- Diesel vehicles in NYC / Westchester growing by some estimates ~1.5% annually
- NYS targets 30% new MDHD vehicle sales zero-emissions by 2030, leading to 100% by 2050
- Most MDHD are delivery trucks and busses with high daily mileage and energy needs



Critical Barriers and Potential Utility Roles



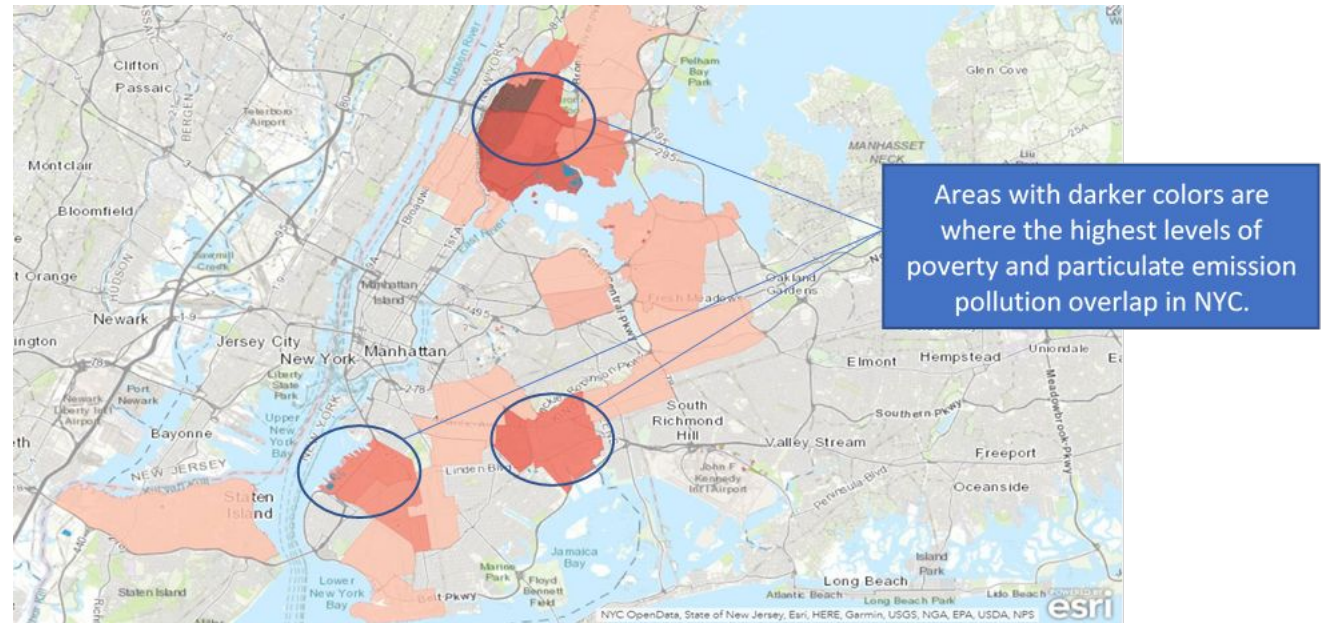
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Challenges	Opportunities
<ul style="list-style-type: none"> • Consumer awareness • Vehicle cost • Vehicle availability • Technology limitations • Performance data 	<ul style="list-style-type: none"> • Education & outreach • OEM Engagement • Demonstration projects
<ul style="list-style-type: none"> • Specialized planning, skills, and capabilities • Cross-functional coordination 	<ul style="list-style-type: none"> • Infrastructure planning • Shared infrastructure investments
<ul style="list-style-type: none"> • EVSE deployment • Business model success 	<ul style="list-style-type: none"> • Service model partnerships • V2G / V2B solutions • Demonstration projects

Benefits of Action / Consequences of Inaction

Significant impact on climate and local air quality

- MDHD vehicles account for ~12% transportation sector CO₂e emissions in New York City
- MDHD vehicles account for 12% of PM_{2.5} emissions in New York City
- MDHD vehicles account for ~33% NO_x emissions statewide
- PM_{2.5} levels are 70% higher in Disadvantaged Communities



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Final Statement

- Regarding Mobility and Transportation, to achieve NYC's 2050 Carbon & Equity goals, the most critical obstacle to overcome is **optimal infrastructure planning**.
- Utilities, customers, and third-parties bring expertise and shared goals to electrification projects
 - Meet customer requirements
 - Achieve policy targets
 - Control costs
- Collaborative approach considering (among others):
 - Vehicle specifications e.g., battery size, efficiency, operating requirements
 - EVSE specifications e.g., power rating
 - Operating cycles and EV charging behaviors
 - Site selection and planning