

New York Advanced Energy Q4 2019 Stakeholder Challenge Mobility & Transportation

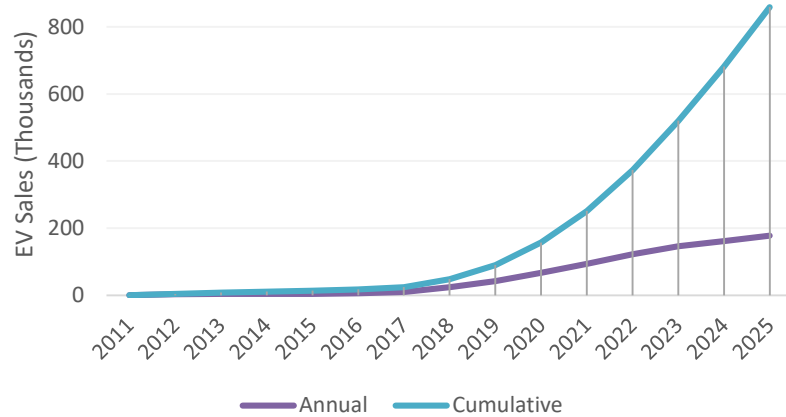
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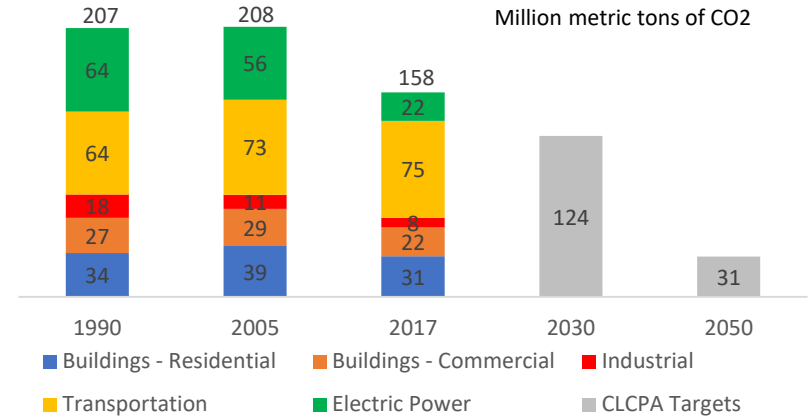
NYS Clean Energy Goals Impacting Transportation

Zero Emissions Vehicles MOU



- 850,000 EVs on NY roads by 2025
- 3.3 Million across 9 states

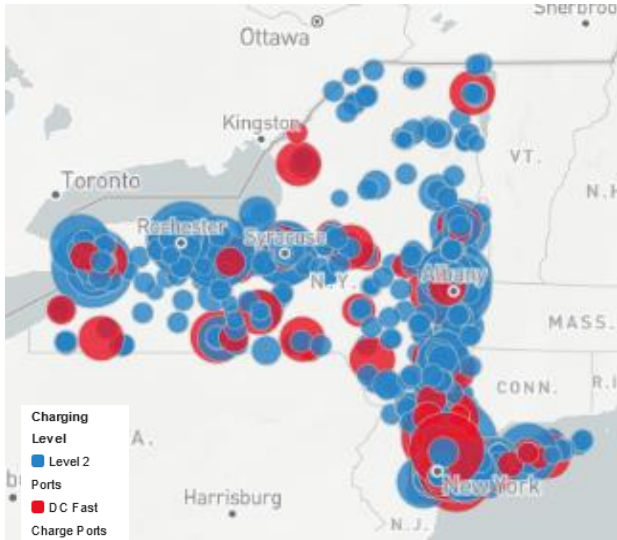
NY's Climate Leadership & Community Protection Act (CLCPA) GHG Targets



- 40% GHG ↓ by 2030... 85% by 2050
- 35-40% programming to benefit DAC/LMI

~18x ↑ in ZEV deployments by 2025, 2030 must include transportation

2025 ZEV Targets Require ~4,000 DCFCs



Current EVSE	Level 2	DCFC
NYC	1,045 (643 Tesla)	92 (76 Tesla)
Statewide	3,503 (875 Tesla)	499 (354 Tesla)

EVSE Needed For:	Workplace L2	Public L2	DCFC
400,000 EVs	41,100	28,000	1,800
850,000 EVs	80,900	52,200	3,800
1.1 million EVs	102,000	65,500	5,200

Source: National Renewable Energy Laboratory's (NREL) Electric Vehicle Infrastructure Projection Tool (EVI-Pro Lite), DPS, NYSERDA

>\$1 Billion in EVSE investment required today!

Future Proofing EVSE is Critical to Managing Costs in the next 10 years

EVSE Sizing



EVSE Standards

- ✓ SAE J1772
- ✓ OCPP
- ✓ ISO 15118
- ✓ OpenADR 2.0
- ✓ Energy Star

Other Factors

- Autonomous EVs
- Shared EVs
- Medium & Heavy Duty EVs

Balance future proofing w/need to deploy EVSE quickly, at low upfront cost

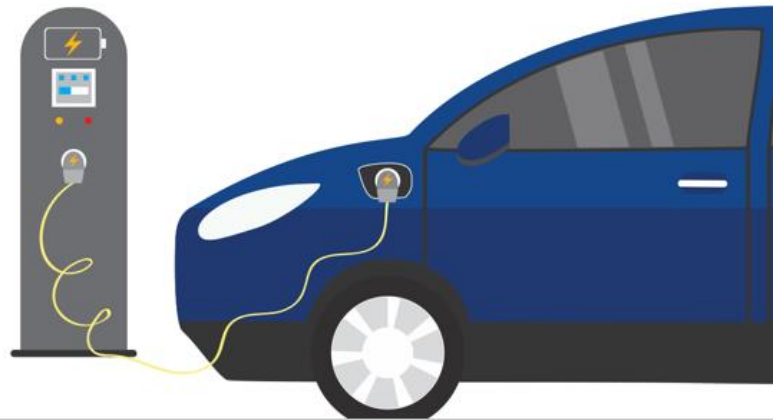
Future Proofing EVSE

“For Mobility & Transportation to enable New York’s decarbonization goals, we must first...”

Deploy public charging infrastructure that is appropriately Future-Proofed, to ensure infrastructure investments today can meet tomorrow’s needs.

Balancing:

- Plugs required to support 850,000 EVs:
 - Level 2: ~35x increase. 3,500 -> **130,000**
 - DCFC: ~10x increase. 500 -> **4,000**
- Plug locations
 - Highly visible
 - Geographically disperse
- Appropriate power levels and technical specifications



Thank you!

