

NYSERDA's Clean Transportation Program

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August 19, 2021

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- **Goal:** Develop, demonstrate and deploy cutting edge technologies, policies, and business models that expand the use of:
 - Electric Vehicles
 - Public Transportation
 - Mobility Management
- Manages and invests more than \$200 million in R&D, demonstrations, incentives
- Responsible for innovation, market development, and policy development in the transportation sector at NYSERDA

Market Development Programs

New York Truck Voucher Incentive Program

- \$57.4M incentive pool supporting medium and heavy duty trucks, transit buses, school buses, and repowers
- Vouchers reduce the upfront purchase cost and accelerate or eliminate the payback period associated with cleaner vehicles
- Brings together vehicle manufacturers, dealers, and fleets to get cleaner trucks and buses on the road
- Scrappage ensures removal of the oldest, dirtiest diesel engines from New York State roads

Voucher Funding Sources

#	Funding Source	Vehicle Types	Amount	
1	CMAQ	Class 3-8 Battery Electric Vehicles	\$10M	
2	Volkswagen Settlement	Class 8 Trucks	\$3.6M	
3		Class 4-7 Trucks	\$4.8M	
4		Class 4-8 Electric Transit Buses	\$33.0M	
5		Class 4-8 Electric School Buses	\$5.5M	
6		Class 4-8 Propane & CNG School Buses	\$0.5M	
			TOTAL	\$57.4M



Drive Clean Rebate Program for EVs

- Program launched in March 2017 with \$55M; added \$30M in April 2021
- Over 60 models from more than 20 manufacturers to choose from
- Applications approved for more than 42,000 electric vehicles
 - About 50/50 plug-in hybrids and all electric vehicles
 - 57% of rebates have been issued to buyers in NYC metro area (Long Island accounts for nearly 1/3 of all EV rebates)



Drive Clean Rebate for EVs

HOW THE DRIVE CLEAN REBATE WORKS



1 FIND YOUR FAVORITE
PLUG-IN HYBRID OR
BATTERY-POWERED CAR



2 GO TO THE NEAREST
PARTICIPATING DEALER AND
TRY THE ELECTRIC CAR YOU LIKE



3 GET UP TO \$2,000 OFF
YOUR ELECTRIC CAR
PURCHASE

REBATE AMOUNTS

Electric range of 200+ miles

\$2,000 OFF

Electric range of 40-199 miles

\$1,000 OFF

Electric range under 40 miles

\$500 OFF

Electric cars with MSRP >\$42,000*

\$500 OFF

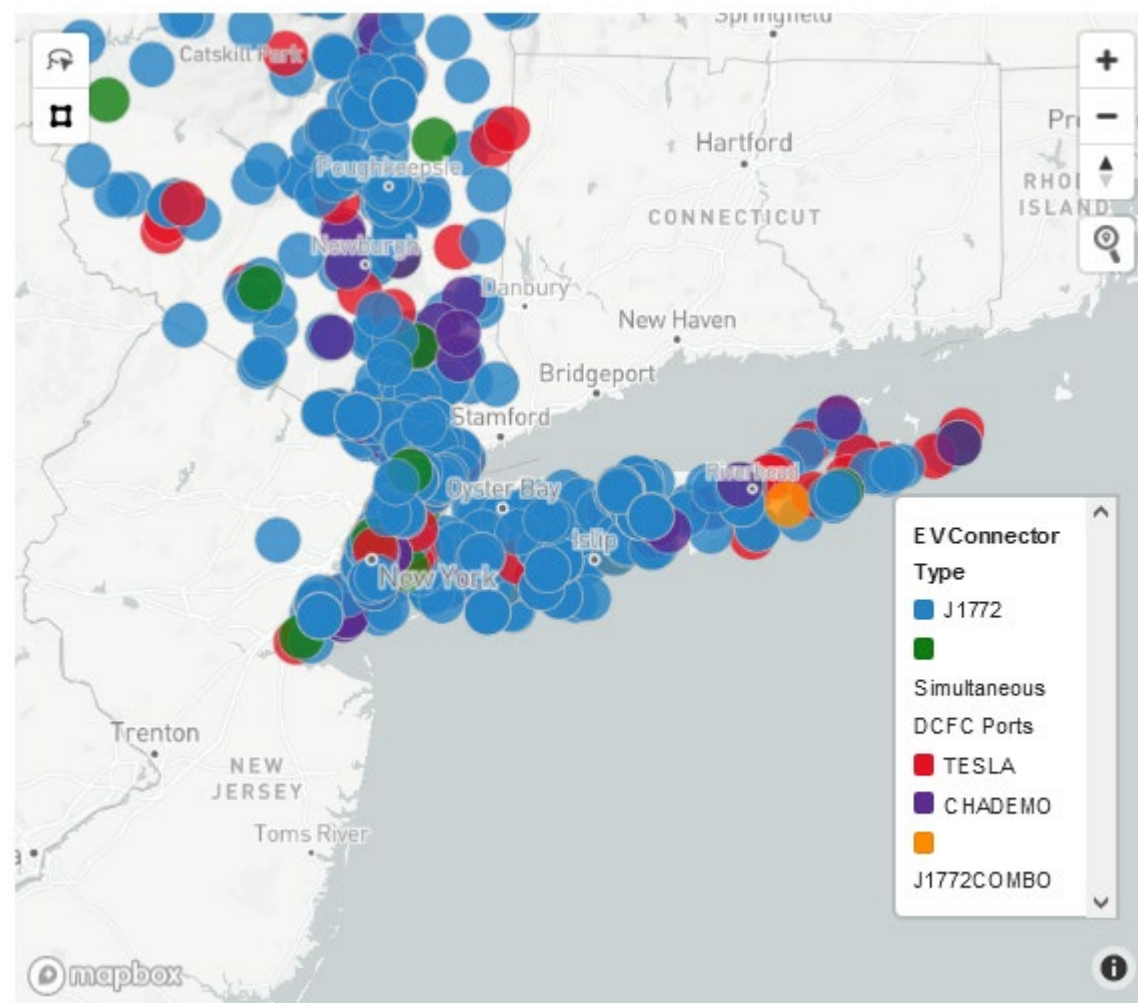
NYS EV Charging Programs

- > Public Service Commission Make-Ready Program
 - \$701M in ratepayer-funded investments across NY's six investor-owned utilities to install over 50,000 EV charging stations by 2025, support truck and bus charging
 - Over \$200M targeting disadvantaged communities, including \$85M prize competition
- > New York Power Authority EVolve NY
 - \$250M investment in DC fast chargers, fleet charging statewide, EV outreach
- > NYSERDA Charge Ready NY
 - \$17M in rebates for Level 2 charging stations at public, workplace, multi-family building locations
- > NYSERDA DC Fast Charger Program
 - \$11M in grants for DC fast chargers in upstate regions, funded by VW Settlement



Charging Stations in NYC Metro Area

- > Approximately 4,000 charging ports in the NYC metro area (in NYS)
- > ~90% are Level 2
- > Most DC fast chargers are Tesla-only



Innovation Programs

NY Clean Transportation Prizes

- > \$85 million prize initiative announced in July 2020 PSC EV Make Ready Order
- > Collaborative effort with state partners and subject matter experts
- > Three prize competitions launched in April 2021 to support innovative, replicable solutions:
 - Clean Neighborhoods Challenge: address air pollution reduction at scale, transform communities
 - Electric Mobility Challenge: safe, convenient, active and electric mobility options that meet community needs
 - Electric Truck & Bus Challenge: reduce the cost, system, and operational challenges of further deployment of medium- and heavy-duty electric vehicles, including charging and grid integration
- > Two phases of the competitions:
 - Phase One: initial proposals due next week (August 24-26, depending on prize)
 - Phase Two: Up to six finalists per competition receive funding plus targeted support to refine concepts, teams
 - Grand prizes awarded in 2022, range from \$7-10M

Transit and Mobility

- > Long-standing collaboration with NYSDOT
 - Information dissemination, feasibility studies
 - Demonstrations of underutilized solutions
- > Partnership with MTA and Transit Tech Lab
 - Funding for TTL winners to demonstrate technologies with MTA, PANYNJ, NYCDOT
- > Examples of projects
 - Demonstrations of multiple models for on-demand transit, bus route redesign
 - Development of efficient HVAC systems and bus lightweighting techniques for electric buses
 - Demonstration of virtual transportation management system
 - Demonstrations of adaptive traffic signal controls
 - TDM, Complete Streets programs in Buffalo
 - ICM & ITS demos in Buffalo around border crossings, work zones



Source: NYSERDA Strategic Outlook 2020-2023

Electric Vehicle Innovation

Key Areas of Research

- Advances in managed charging of EVs through hardware, software, business model innovations
- Advances in vehicle and charging options to advance cold-weather performance, reduce cost of charging, and minimize cost of charging installation
- Data collection to inform the market and enable financing solutions and innovative business models for medium- and heavy-duty EVs
- Engagement of customers to disseminate information and support purchase of EVs

Policy Initiatives

Climate Action Council and Clean Transportation Roadmap

CAC

- Group appointed in 2020 to develop a plan to meet the 2019 Climate Leadership and Community Protection Act (CLCPA) greenhouse gas emission goals
- Appointed a Transportation Advisory Panel (TAP) in 2020 to develop recommendations on how to achieve transportation sector GHG emission reductions

Roadmap

- Project led by NYSERDA with other state agencies, facilitated by Cadmus Group
- Chart a course to meet 2030 and 2050 CLCPA emissions targets for the transportation sector
- Identify barriers and opportunities in the EV and non-EV markets
- Inform the CAC process by estimating the GHG reduction potential and quantifying impacts of various transportation strategies and policies
- Roadmap analysis has been shared with the TAP to inform its recommendations

Key Takeaways from Initial Roadmap Analysis and TAP Recommendations

- > Strategies that include **a focus on electrification and a mix of electrification and hydrogen** can achieve the needed GHG emission reductions
- > Focusing on **managing vehicle miles traveled (VMT) helps control emissions growth** and minimize the number of vehicles we need to convert to zero emission vehicles (ZEVs)
- > While market advances are critical for transportation electrification, they are not enough. **Regulatory approaches are a major driver for reaching 100% ZEVs** and NYS's GHG emission goals.
- > Regulatory approaches are most successful when complemented with approaches that **increase consumer awareness and acceptance of ZEVs**, including incentives, marketing activities, and removal of sales and financing barriers, and **approaches that increase transit use and smart growth land use**
- > **Market-based mechanisms**, including a cap-and-invest program and a clean fuel standard, play important roles for funding the transition to a low-carbon transportation future
- > **Focus on equity from the start** – for ZEVs, electrify trucks and buses that have caused most pollution in overburdened communities, increase incentives for LMI customers and investment in DACs

Thank you!

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NYSERDA

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