

A CLEAN FUEL STANDARD WILL SPEED ADOPTION OF ZERO-EMISSION VEHICLES (ZEVs)

Barriers to Meeting New York's Zero-Emission Vehicle Goals

New York's ZEV Goals

- 850,000 ZEVs on the road by 2025 goal set in the State Zero-Emission Vehicle Memorandum of Understanding.¹
- 6.9% progress, only 58,696 as of October 2019.²
- 30% zero-emission medium- and heavy-duty vehicle sales by 2030 and 100% by 2050 goal set by NY and 14 other states and District of Columbia.

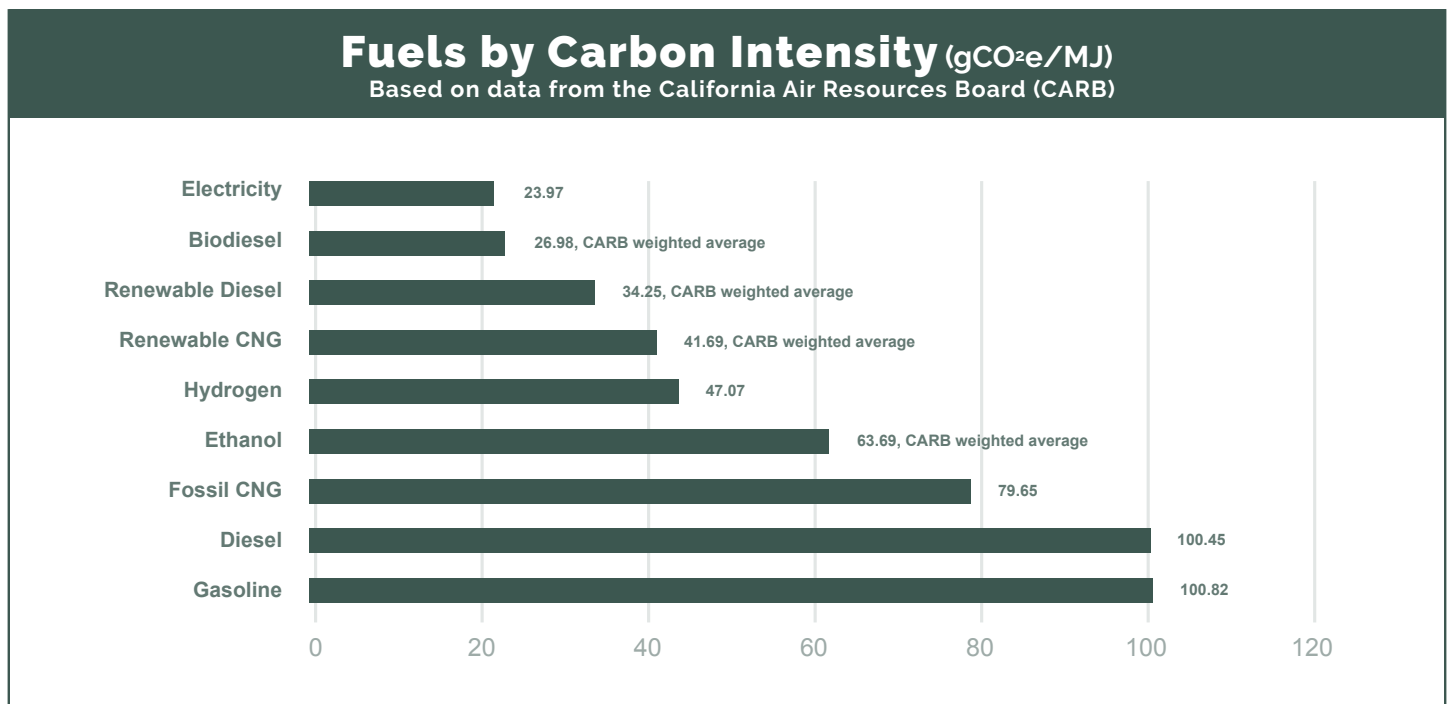
Main Barriers

- Vehicle cost, accessibility to charging, and the cost of commercial electricity rates are the **most commonly cited concerns about transitioning to ZEVs**.
- New York has **2.6% of Level 2 chargers and 15.8% of DC fast chargers** necessary to accommodate 850,000 EVs by 2025.

A clean fuel standard will break down barriers to obtaining electric vehicles and help New York reach ZEV goals.

What is a Clean Fuel Standard?

A clean fuel standard works to transform the fuels market from one that relies almost entirely on petroleum-based fuels to a diversified one that uses a variety of clean alternatives. It effectively makes polluters pay for the development and deployment of clean alternatives and electric vehicles through a credit-trading system based on total life-cycle emissions.



All fuel sources are assessed on a carbon intensity (CI) scale that measures their full life-cycle emissions. Fuels that pollute more than the CI standard will generate deficits, and fuels cleaner than the standard will generate credits. The credits generated by low CI fuels will make it easier for New York businesses to move to electric or clean alternatives. Each year, the pollution standard is reduced steadily, creating a growing market for clean transportation, reducing costs for businesses to switch to clean fuels, and reducing harmful emissions from the transportation sector.

A clean fuel standard can create the economic landscape that will make EVs cost-competitive and will help reach New York's ZEV goals.

OPPORTUNITY FOR ELECTRIC VEHICLES UNDER A CLEAN FUEL STANDARD

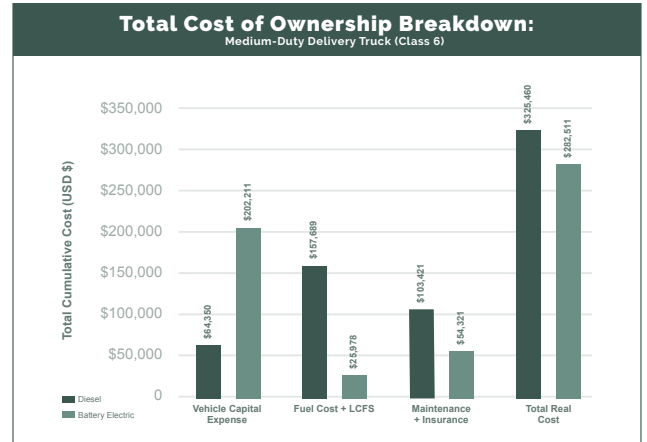
A Clean Fuel Standard Will Lower Total Costs – Ensuring EVs Cost Less Over Its Useful Life than Diesel

In California, the clean fuel standard directs a portion of credit proceeds generated by residential electric vehicle (EV) charging into point-of-sale EV rebates, which further lowers vehicle costs to consumers. CFS credit revenues on EV charging stations can also reduce the payback period on the station by at least 60%.

Due to the cost of gas, the annual cost of driving a new gasoline vehicle in the U.S. is over twice the cost of a battery electric vehicle - \$1,117 versus \$485.

Based on similar programs in other states, clean fuel standard credits create about \$100K - \$250K in total value for medium-duty delivery trucks over at least 10-to-12 year service life. With a clean fuel standard in place, a medium-duty EV truck can save >\$40,000 over its useful life relative to a medium-duty diesel truck, accelerating the rate at which bus and truck fleets would be able to adopt ZEVs. Without the CFS, an EV truck may not be more economic than a diesel unless it drives a significant number of miles.

New York State has generous purchase incentives available for all-electric trucks and buses, including the New York Truck Voucher Incentive Program, but a CFS can help further improve the total cost of ownership by addressing operating costs.



The California Air Resources Board (CARB) relied heavily on total-cost-of-ownership (TCO) analysis when justifying its ambitious Advanced Clean Trucks rule; the clean fuel standard has been critical in commercial ZEVs achieving TCO parity with diesel vehicles in California.


A CFS will significantly reduce barriers to investing in EV charging stations, which will support greater adoption of EVs.

A CFS means more EVs and more EVs mean more charging stations. Plugging in more EVs means greater electric load at times that are beneficial to the grid, particularly overnight. The additional revenue from electricity sales must be used to offset costs for utilities to maintain the grid. Therefore, EV adoption lowers the average cost of service, which exerts downward pressure on rates for all ratepayers whether they own an EV or not.

Each EV on the road will create

\$166


in annual benefits to New York electric ratepayers by 2030³



Achieving NY's EV adoption goals will reduce electricity rates

BY 6%


by 2050, resulting in annual savings of approximately \$144 per household⁴



Benefits will be highest on Long Island, where each EV will create

\$1,500

in value to ratepayers⁵



A Clean Fuel Standard Will:



Reduce Emissions



Increase Private Investment in EV Chargers



Lower EV Costs



Lower Electricity Costs for All Ratepayers

¹ <http://www.umich.edu/~umtriswt/PDF/SWT-2018-1.pdf>

² <https://www.autosinnovate.org/resources/electric-vehicle-sales-dashboard>

³ Plug-in Electric Vehicle Cost-Benefit Analysis: New York. M.J. Bradley. December, 2016.

⁴ Id.

⁵ Benefit-Cost Analysis of Electric Vehicle Deployment in New York State. E3, 2019.