

CASE STUDY

In June of 2020, Lyft became the first transportation network company to commit to reaching 100% electric vehicles (EVs) on its platform by 2030. **Reaching 100% EVs on the platform won't be easy, and will require the collective action of industry and government on forward-thinking policy.**

In Colorado, for example, Lyft built on the leadership of state policymakers who allowed Lyft's Express Drive rental partners' vehicles to become eligible for the state's EV tax incentive. This enabled the introduction of access to hundreds of new EVs in the greater Denver area – one of the largest EV deployments in the nation to date. By electrifying fleets like those that are part of Lyft's Express Drive rental program, which have higher utilization, there can be an even larger positive impact compared with personally owned EVs.

A New York Clean Fuel Standard program would similarly be a catalyst for creating funding to invest in electrifying many parts of the state's transportation ecosystem, and cement New York's leadership role in achieving a clean transportation future. *Working with drivers to transition to electric vehicles in New York has the potential to:*

Avoid

1 million

metric tons of GHG emissions.



Generate up to

\$750 million

in savings for drivers from reduced vehicle operating expenses.



Result in

4.5 billion

electric vehicle miles traveled (eVMT) across the state in the next decade.





CASE STUDY

Clean Energy is a natural gas vehicle refueling provider with over a dozen stations covering each region of New York and over 500 locations nationally.

At their Hunts Point station located in the Bronx, Clean Energy provides renewable natural gas to several local distributors, including Anheuser-Busch Distributors of New York, Atlantic Coast Transport Group, C. Blackburn Inc., and Baldor Express Transportation Company. Clean Energy also works with these companies to modify existing vehicle maintenance facilities.



Currently, Clean Energy's clean fuel helps reduce heavy-duty truck nitrogen oxide emissions by

90-95%



Renewable natural gas was certified by CARB to be the **first carbon negative vehicle fuel** under California's LCFS program



While they already sell and distribute clean fuel, Clean Energy plans to transition all of their refueling stations from traditional natural gas to renewable natural gas by 2025.

“Natural gas trucks, particularly ones fueled by renewable natural gas, have a tremendously low carbon footprint, which is important for communities disproportionately affected by diesel emissions. The addition of this station now makes possible and plausible the transition of large portions of Hunts Point fleet industries to this cleaner, domestically produced fuel.”

NIVARDO LOPEZ,
BRONX BOROUGH COMMISSIONER WITH THE
NEW YORK DEPARTMENT OF TRANSPORTATION

HOW A CLEAN FUEL STANDARD CAN HELP

A clean fuel standard would create a market for clean fuels, allowing local fleets to transition to cleaner alternatives, and allow Clean Energy Fuels to scale their business across New York. It would also create the economic engine for the state to turn agriculture and food waste into clean renewable fuel, while reducing methane emissions.

Communities with high levels of truck traffic would see improved air quality, as near-zero trucks virtually eliminate nitrogen dioxide emissions. **The replacement of one traditional diesel-burning truck with a renewable natural gas truck is the equivalent of removing 119 fossil gasoline powered cars.** A large-scale transition to RNG fleets would create lasting impacts on air quality in the Bronx.



THE REPLACEMENT OF ONE TRADITIONAL DIESEL-BURNING TRUCK WITH A RENEWABLE NATURAL GAS TRUCK

is the equivalent of removing

119 FOSSIL GASOLINE POWERED CARS





CleanFuelsNYCoalition



Clean Energy

CASE STUDY

Manhattan Beer Distributors, a full-service beverage company located in the heart of the Bronx, delivers popular beer brands like Corona, Heineken, and Coors to restaurants and bars across New York City and the metropolitan region.

Headquartered in Hunts Point, a neighborhood notorious for some of the worst air pollution levels in the state, Manhattan Beer Distributors has been leading the transition to clean fuel trucks.

In 2001, Manhattan Beer Distributors invested in their first compressed natural gas (CNG) truck with the financial support of NYSERDA, and they've since been able to significantly expand their fleet. Now, the distributor operates 175 CNG trucks, about half of their total truck fleet, across their five facilities.

We must incentivize businesses like Manhattan Beer Distributors to invest in a clean energy future. We must pass a clean fuel standard.

The CNG fleet offers improved dependability and operational cost savings, and also contributes to creating a more sustainable community in one of the most polluted communities in the Bronx. The company owns and operates its own CNG pumps, enabling its fleet to refuel quickly and as needed before heading out for more deliveries. In addition to their own fueling system, the nearby Clean Energy natural gas fueling station is available for quick stops to refuel while drivers are out for deliveries.





Clean Energy natural gas fueling station



CNG tanks and pumps at Manhattan Beer Distributors

Drivers have also grown to prefer the CNG trucks, which are outfitted with new safety features and technology. This makes the experience more enjoyable for drivers and reduces turnover for Manhattan Beer Distributors. CNG trucks are also larger and more efficient than the fleet's diesel-powered trucks; for every two new CNG trucks that Manhattan Beer Distributors purchases, they're able to phase out three diesel-powered trucks.

HOW A CLEAN FUEL STANDARD CAN HELP

For Manhattan Beer Distributors, the largest barrier to fully transitioning to CNG trucks is the upfront cost. The New York Truck Voucher Incentive Program makes it possible for Manhattan Beer Distributors to make the initial investments and start to transition their fleet, but a clean fuel standard is needed to fully realize the true potential of CNG truck fleets. A clean fuel standard would 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. Producers of more polluting fuels pay for the development and deployment of clean alternatives, which drive down the cost so businesses like Manhattan Beer Distributors can make the full transition to clean fuels.

THE FUTURE OF THE FLEET



CASE STUDY

A leader in renewable products and circular solutions, Neste is committed to helping reduce their customers' greenhouse gas emissions by at least 20 million tons every year by 2030.

When the City of Oakland, California, wanted to affordably and quickly achieve their climate goals, they partnered with Neste to switch their entire municipal fleet of diesel-powered vehicles and stationary equipment to run on renewable diesel.

This was a seamless switch, transforming existing internal combustion engines and equipment to help fight—not contribute to—climate change and air pollution. It is a drop-in, low emission, renewable fuel that can immediately replace fossil diesel and reduce emissions with no extra costs for taxpayers.

By switching to Neste's low-carbon, direct replacement fuel, Oakland was able to cut:

engine-out greenhouse gas emissions by

↓ **80%**



fine particulates by

↓ **33%**



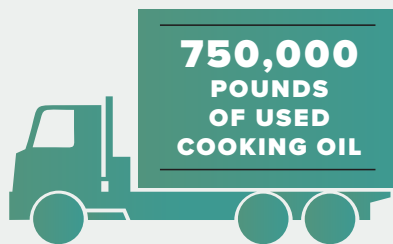
nitrogen oxide emissions by

↓ **9%**



Switching from fossil diesel to renewable diesel automatically converts even the City's oldest and dirtiest polluting vehicles into alternative fuel vehicles overnight and with no additional costs.

JASON MITCHELL,
DIRECTOR OF PUBLIC WORKS
CITY OF OAKLAND



Neste also partnered with Oakland to create a circular economy, turning the used cooking oil from 110 local restaurants into renewable diesel to power the City's vehicles and equipment. In the first three months of the program, **750,000 pounds of used cooking oil** were collected and turned into renewable fuel, creating extra revenue for local businesses and supporting jobs.

By switching to renewable diesel and a circular economy model, Oakland was able to take necessary steps to reduce transportation emissions and clean the air for residents.

More than 1,000 U.S. customers have already made the switch to Neste's renewable diesel, preventing 11.6 million metric tons of CO₂ equivalent from entering the atmosphere over the last five years.

THE OPPORTUNITY FOR NEW YORK

A clean fuel standard would help New York municipalities and businesses convert their fleets to clean fuels and would deliver tangible incentives for the production and supply of low-carbon fuels in the State. **This would open doors to competitive renewable fuel markets, including renewable diesel, in the transportation sector.**

Increased demand for renewable diesel would also support the more than 50,000 restaurants in New York by transforming their waste materials, including used cooking oil, into a valuable resource for our clean transportation future.

*GHG reduction calculations based on Californian LCFS carbon intensity calculation methodology

*PM and NO_x reductions depend on age and model of engines



**NOBLEHURST
FARMS**



CASE STUDY

LINWOOD, NY



In Linwood, New York, Noblehurst Farms is redefining the way that dairy farms operate. To reduce the farm's carbon footprint, the seventh-generation dairy farm has created a closed-loop system where energy is generated and used on-site.

Noblehurst Farms installed their first anaerobic digester, with the help of funding from NYSERDA, nearly two decades ago to turn manure and food waste into biogas. The farm uses the energy produced and sells any unused energy to the local utility at a wholesale price.

As the business grew, they upgraded their system and began to collect food scraps from local restaurants and grocery stores. The farm now breaks down the organic material via anaerobic digestion and produces biogas to power their dairy operations. With the new market opportunities created by the anaerobic digester, the farm has been able to diversify and grow its business, all while reducing greenhouse gas emissions.



Today, the farm's food collection company, Natural Upcycling, recycles millions of pounds of food waste that would otherwise go to landfills.

9 million

*pounds of food waste
recycled each month,*



3,964 MTU

*reduction in carbon
dioxide pollution*



Equivalent of taking

10,269 cars

off the road each month.



HOW A CLEAN FUEL STANDARD CAN HELP

The anaerobic digester at Noblehurst Farms is one of 30 operating digesters in New York. Now that the state has completed the initial step of funding these systems, owners of digesters need an economic environment to sustain these projects for the future.

A clean fuel standard is needed to create a market for the biogas produced. Currently, New York farms are looking to sell the biogas in California, where there is a larger market for clean fuels because of the clean fuel standard. A clean fuel standard in New York would keep this economic activity in state, help New York farmers scale biogas operations, provide alternative revenue streams to farmers while managing a waste that could impact water quality, and aid in reaching clean transportation goals.

A clean fuel standard would also compliment the recently passed NYS food scraps diversion law.¹ The food industry has raised concerns about the potential for increased cost associated with food waste disposal. However, a clean fuel standard would incentivize food waste diversion to anaerobic digestion and could lower tipping fees charged by those digesters to accept the material, since they're gaining revenue from the sale of low carbon energy.

¹ <https://www.dec.ny.gov/chemical/114499.html>

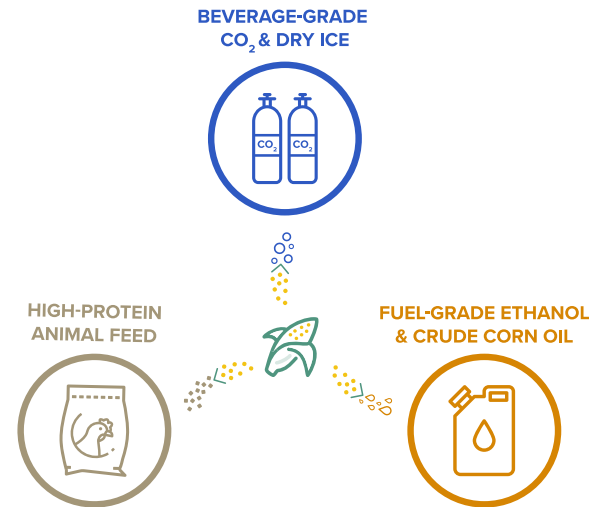


CASE STUDY



Western New York Energy has been investing in clean, renewable biofuels since they first opened their facility in 2007, making them the first biofuel plant to operate in the Northeast. **Over the past 13 years, they have consistently maintained their operations, purchasing locally produced corn, and now produce over 60 million gallons of ethanol each year.**

Through a natural fermentation process, Western New York Energy transforms the starch from animal-grade corn into fuel-grade ethanol. This zero-waste process utilizes all parts of the corn kernel and in addition to clean, renewable ethanol also produce other high-quality co-products, including high protein animal feed, CO₂ that is processed into beverage-grade CO₂ and dry ice, and crude corn oil that can be used for biodiesel production or animal feed.



Western New York Energy's use of corn has allowed them to partner with local corn growers, represented by the NY Corn and Soybean Growers Association. Increased ethanol production would increase demand for local corn, allowing growers to improve their operations. Furthermore, sustainable farming practices, combined with ethanol production could create a carbon sink, which would see carbon intensity go below zero. Ethanol is 113 octane and is the cleanest burning, most economical octane available in the world. Ethanol is currently used as an octane booster in combustion engine vehicles in tandem with traditional gasoline. Today's engines need higher octane fuel for higher performance, improved fuel efficiency, as well as reduced emissions.

The production and use of ethanol are cleaner than that of traditional fossil fuels, with at least 40-50% lower emissions than the production and use of gasoline.



The primary ethanol blend rate today in the United States is 10%, or E10. However, E15 (15% ethanol) which emits less harmful emissions and saves consumers money at the pump is a proven fuel that is available today in over 30 states and has been driven on over 20 billion miles. New York State approved E15 in late 2019 but retailers have been slow to adopt it, due to COVID restrictions and business challenges.

Improved availability of higher ethanol blends in New York can reduce our transportation emissions now in 94% of the current fleet.



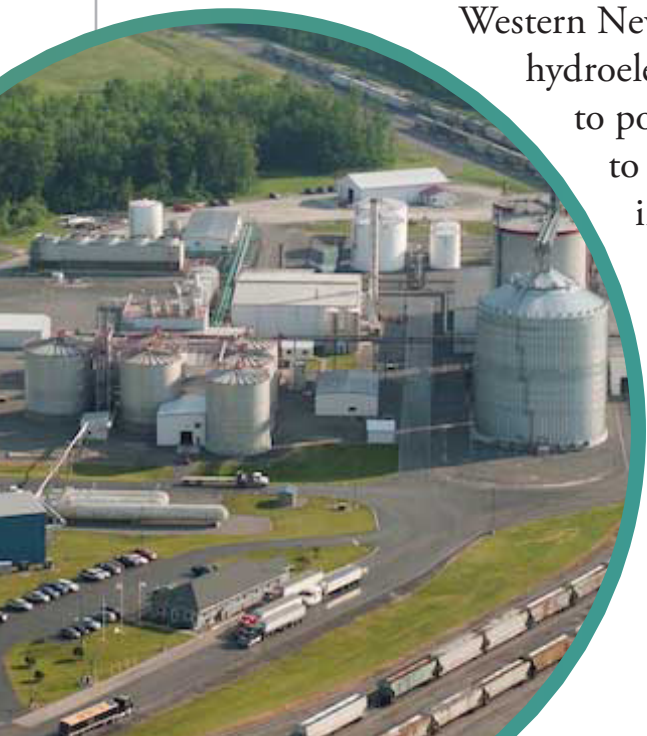
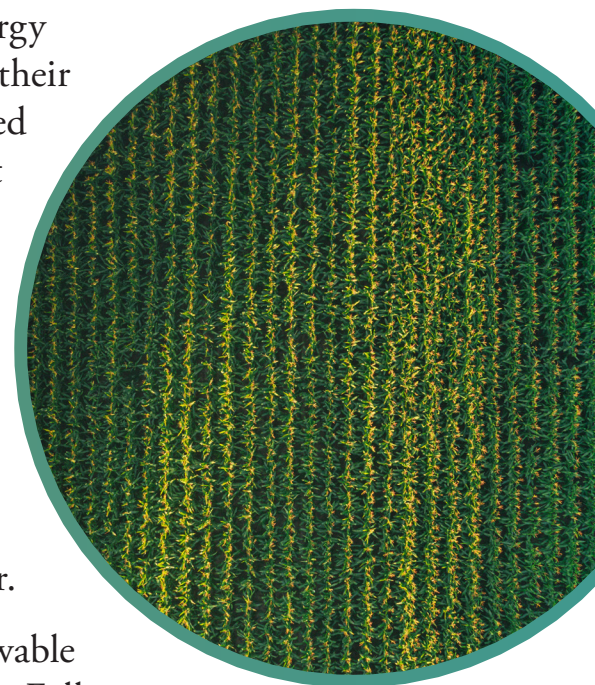
Consumers in neighboring states like Pennsylvania and Ohio are already enjoying lower emissions and saving money at the pump with E15 today.

HOW A CLEAN FUEL STANDARD CAN HELP

A clean fuel standard would help Western New York Energy invest in new advanced technologies that further expand their existing facility and lower their carbon intensity. Expanded ethanol production would create more direct and indirect new jobs in Orleans County and Western New York, where their facility is located. It would allow them to continue their important role in supporting New York agriculture and the local economy.

Under a clean fuel standard, each fuel source is given a carbon-intensity score that measures the full life-cycle emissions of the fuel. Over time, the standard is reduced, helping to reduce pollution from the transportation sector.

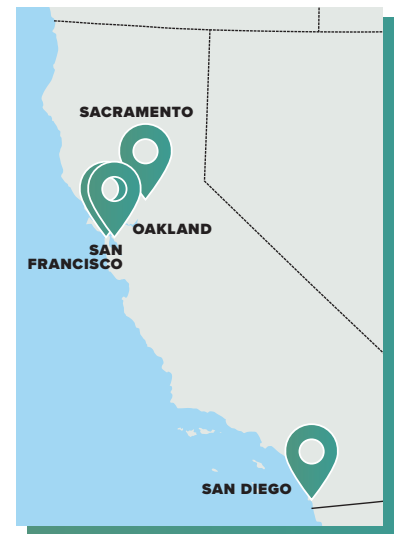
Western New York Energy uses renewable hydroelectric power from Niagara Falls to power their operation, allowing them to produce high-grade ethanol with a lower carbon intensity than most other ethanol plants in the US.



CASE STUDY

RENEWABLE DIESEL IN CALIFORNIA

Many cities and private companies have seen the importance and opportunity of replacing fossil diesel fuels with renewable diesel, a next stage biofuel derived from waste cooking oils, animal fat and excess soybean oils. Critically, renewable diesel can be used by a traditional engine and can immediately replace fossil diesel without investing in new or retrofit equipment. **San Francisco, Oakland, Sacramento, and San Diego have successfully switched to entirely renewable diesel, and UPS, Google and Boeing have also begun to phase in RD in their fleets.**



The state of California is one of the largest consumers of RD in the country, and its net supply has continued to grow ever since the State implemented the Low Carbon Fuel Standard (LCFS) program in 2011. Administered by the California Air Resources Board (CARB), the LCFS program reduces the carbon intensity (CI) of California's transportation fuels by requiring companies that sell or supply fuel to achieve carbon intensity targets. In essence, a clean fuel standard 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 of each fuel.

As a result, low CI fuels are cheaper and more accessible within the state. **In 2019, California reported over \$2.5 billion in credit value generated by the low carbon fuel standard, and over 15 million metric tons of annual greenhouse gas reductions.**¹ Due to the credit incentives, renewable diesel production and consumption are expected to increase exponentially over the next few years and replace fossil diesel.

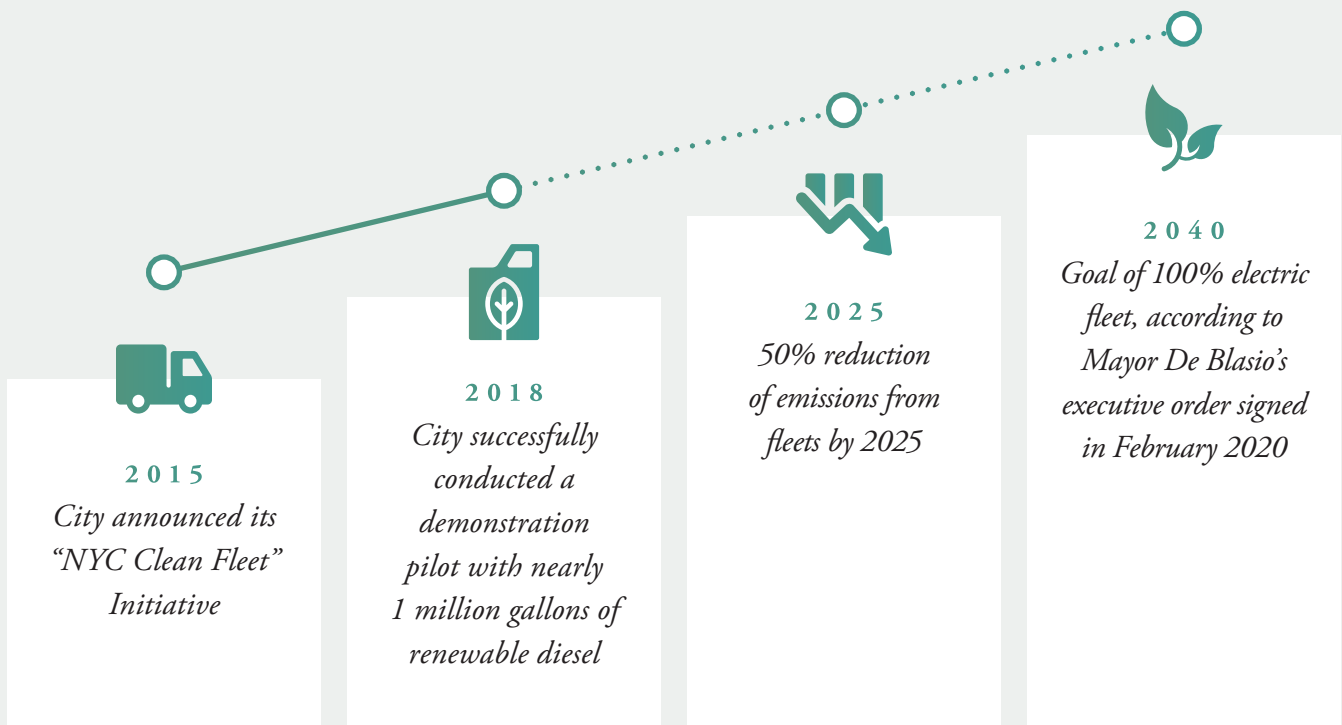
¹ https://ww2.arb.ca.gov/sites/default/files/2020-10/101420presentation_carb.pdf

MOVING NEW YORK TOWARDS CLEAN FUELS

Municipal transportation is the third largest source of greenhouse gas emissions in city government, with diesel trucks and gasoline vehicles being responsible for about 80% of those emissions.² The City of New York operates the largest municipal fleet in the country with 30,000 total vehicles including more than 13,000 trucks and off-road vehicles that use diesel fuel. Vehicles used for everyday public services – emergency response trucks, fire engines, ambulances, garbage trucks, forestry bucket trucks, street paving units, and others – all run off fossil diesel fuels.

New York City made a commitment to reduce GHG emissions 80% by 2050 from 2005 levels (80 x 50), with an interim target to reduce emissions by 40% by 2030 (40 x 30) and 50% for the City fleet by 2025.³ The City is pursuing many alternatives for its fleet, and in February of 2020, Mayor Bill De Blasio signed an executive order calling for a 100% electric fleet by 2040. However, there is an extensive existing legacy fleet that utilizes diesel fuel.

DRIVING THE INITIATIVE FORWARD



² <https://nyc-ghg-inventory.cusp.nyu.edu/#data>

³ <https://onenyc.cityofnewyork.us/wp-content/uploads/2018/04/OneNYC-1.pdf>

In pursuit of its commitment to reduce GHG emissions, the City of New York is already taking steps to convert to renewable diesel to fuel its city trucking fleet.



In 2015, the City of New York announced its “NYC Clean Fleet” initiative, which focuses on converting the fleet to clean and renewable vehicles and fuels. As part of the plan, the City is looking to displace the use of conventional diesel fuel with alternative fuels, such as biodiesel and renewable diesel.⁴



In the summer of 2018, the City successfully conducted a demonstration pilot with nearly one million gallons of renewable diesel that fueled city trucks across several agencies. The program was able to complete a 60% reduction in greenhouse gas based on carbon intensity. Using renewable diesel in its pure form also results in a reduction of Particulate Matter (34%), Nitrous Oxide (10%) and Carbon Monoxide (12%). Based on the success of the demonstration, the City of New York is in the process of bidding and implementing a long-term contract for the purchase of renewable diesel for its municipal fleet.⁵

THE OPPORTUNITY FOR NEW YORK

With New York State lacking a clean fuel standard similar to the program implemented in California, the higher cost of clean fuels poses a roadblock for a successful implementation of this critical initiative. Adopting low carbon fuel regulations will provide economic incentives for renewable diesel fuel producers and distributors to establish and invest in a supply chain infrastructure in the northeast and provide clean fuels to the City of New York and other municipal and private fleets at a lower cost.

A well-developed and successfully executed clean fuel standard in New York would deliver tangible incentives for the production and supply of low-carbon fuels in the State while also reducing co-pollutants. These incentives would open doors to competitive renewable fuel markets, such as renewable diesel, in the transportation sector.

Within a year of implementing a clean fuel standard, New York City could cost-effectively replace all fossil fuel-use in government fleets. Currently, diesel fuel is 60% of New York City’s fuel use, but with full RD implementation in addition to the current electric, hybrid, and efficiency initiatives, it’s possible to meet the goal of 50% reductions by 2025 as soon as 2022. A New York State clean fuel standard is key to reaching this goal.

⁴ <https://www1.nyc.gov/assets/sustainability/downloads/pdf/publications/NYC%20Clean%20Fleet.pdf>
⁵ <https://www1.nyc.gov/assets/lcas/downloads/pdf/fleet/Renewable-Diesel-Report-2019.pdf>