

The New York Times

How Garbage Trucks Can Drive a Green Future

By ROBERT B. CATELL and JOANNA D. UNDERWOOD

AUG. 19, 2016



Wren McDonald

The administration of Mayor [Bill de Blasio](#) of New York has set clear, aggressive goals for reducing greenhouse gas emissions that would make the city a national leader in mitigating [climate change](#). But other decisions now in the works could prevent the city from meeting them.

In the wake of last year's Paris climate agreement, the mayor announced plans to cut emissions from activities controlled by the city government by 80 percent by 2050. Mr. de Blasio's pledge included cutting emissions from the city's vehicle fleets by 50 percent by 2025, and by 80 percent by 2035.

Halving emissions in less than a decade requires immediate, concerted action. But the Department of Sanitation — the city agency with the highest vehicle fuel consumption and greenhouse gas emissions — plans to buy 340 new refuse trucks this year, with at least 300 powered by diesel engines. That would lock in high diesel emissions for the seven-year service life of these trucks — and put the 2025 emissions goal out of reach.

The city has made some progress toward the new goals, cutting fleet emissions by 11 percent by running more than half of its vehicles at least partly on nonpetroleum fuels. New Yorkers are already seeing more hybrid and all-electric passenger cars and light-duty vehicles in city livery.

But the city has done little about its heavy-duty vehicles, the largest source of fleet emissions. Its 5,200 heavy-duty diesel trucks account for only a fifth of the fleet, yet emit more than 60 percent of its greenhouse gas emissions. Because these trucks need higher power and torque than other types of fleet vehicles, the options for alternative fuels are limited. The city mandates blending the diesel fuel with 5- 20 percent biodiesel, but that won't enable the de Blasio administration to reach its ambitious targets.

There is an alternative fuel that could: renewable [natural gas](#). Chemically, this substance is nearly identical to geologic natural gas, so trucks and buses equipped with natural gas engines can also run on renewable natural gas. But it's not a fossil fuel like shale gas; it's a renewable, made from biogases emitted by decomposing organic waste, like wastewater or food waste — both things New York has plenty of.

According to the California Air Resources Board, renewable natural gas is the lowest-carbon fuel available. In fact, where food wastes are a major source, as they are in New York City, renewable natural gas can be carbon-free or even net carbon-negative over its life cycle. This is because renewable natural gas captures powerful climate-warming gases like methane produced by decomposing organic matter, and prevents their escape into the atmosphere by burning them as fuel.

This is no futuristic pipe dream; it's happening now. Cities like Sacramento; South San Francisco, Calif.; and Grand Junction, Colo., are producing renewable natural gas from local waste sources and using it to power refuse trucks and other municipal vehicles. In Southern California, Orange County, Long Beach, Culver City and Santa Monica have committed to using the fuel in their transit buses.

Santa Monica has also ordered 100 “near zero” natural gas engines for its bus fleet. Recently certified by the Environmental Protection Agency and the California Air Resources Board, these engines steeply cut emissions of greenhouse gases and smog-producing chemicals. The Los Angeles County Metro is inviting bids to run its entire bus fleet on renewable natural gas. Private companies like UPS and Ryder are getting in on the act, too, turning to the renewable fuel to power their trucks.

New York could move in this direction, too. New Yorkers generate nearly two million tons of organic waste a year (about 30 percent of the city's waste stream). This source alone could produce more than enough renewable natural gas to fuel the city's entire heavy-duty fleet — while also helping it meet its “zero waste” goals by diverting organic waste from landfills.

Local production of the gas using anaerobic digesters is ramping up. Digesters are being developed at the Newtown Creek wastewater plant in Brooklyn and at the American Organic Energy facility on Long Island. New York has enough natural gas refueling stations today to supply hundreds of trucks with the renewable fuel, and there are plenty of companies eager to invest in building more.

The Sanitation Department already has 42 natural gas trucks, which have collected garbage and plowed snow for years. In fact, it was the first sanitation agency in the country to purchase natural gas trucks, as well as pioneering other advanced technologies and fuels. The city should show such leadership again by buying more trucks that would run on renewable natural gas instead of diesel.

Equipping all 2,100 trucks in the agency's fleet with near-zero engines using renewable natural gas would cost about \$100 million more than buying new diesels. That may sound like a lot, but it's less than 2 percent of the \$6 billion the city has proposed to spend over the next 20 years to meet clean-fleet goals. This would cut the sanitation fleet's emissions by 80 percent or more, and citywide fleet emissions by almost a quarter.

If the Sanitation Department and other agencies double down on diesel, New York will miss a critical opportunity to meet the mayor's environmental goals. But if it seizes the moment, the greatest city in the world can also become the greenest.

Robert B. Catell is a former chairman of the electricity and natural gas delivery company National Grid, US. Joanna D. Underwood is the chairwoman of the environmental organization Energy Vision.