NATURAL GAS
REFUSE FLEETS

From the largest refuse company in the U.S. to some of smallest independent operators, refuse companies are increasingly investing in natural gas vehicles.

Most Cost Effective NOx Emissions Reductions

When comparing the cost of NOx reduction, natural gas refuse trucks are:

26% more cost effective than diesel

65% more cost effective than electric

$140 per lb of NOx

Natural Gas
Technology Cost $300,000
☑ **NOx Reduced 2,141 lbs**

$190 per lb of NOx

Diesel
Technology Cost $270,000
NOx Reduced   1,417 lbs

$313 per lb of NOx
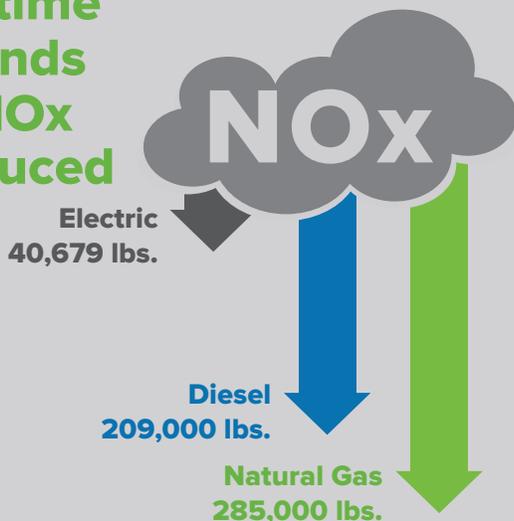
Electric
Technology Cost $670,000
NOx Reduced   2,141 lbs

In 2015, a revolutionary natural gas engine was certified by the U.S. EPA and CARB to a level 90% below the EPA's current exhaust standard. These calculations assume the full cost to acquire the cleanest commercially available trucks for each fuel type.

What would $10 million in VW Settlement Funds buy?

The VW Settlement's Environmental Mitigation Trust (EMT) Fund provides millions in funding for states to replace older diesel vehicles with new cleaner trucks and buses. Funds may be used to offset 25% of the each new natural gas ($75,000) and diesel ($67,500) refuse truck and 75% of the cost of a new electric ($502,500) truck. NGVAmerica urges states to prioritize funding for the purchase of natural gas refuse trucks because they deliver the greatest amount of emission reductions and air quality benefit for each dollar spent. Figures below represent benefit of using $10 million to purchase new cleaner trucks and include emission reductions associated with replacing older diesel trucks and comparing lifetime emissions of new cleaner trucks.

Lifetime Pounds of NOx Reduced

Electric 40,679 lbs.

Diesel 209,000 lbs.

Natural Gas 285,000 lbs.

Total Gallons of Diesel Displaced

Natural Gas >16 Million Gallons

Electric >2 Million Gallons

NGVAMERICA
Natural Gas Vehicles for America

For more information visit: **www.ngvamerica.org/vwsettlement**

Natural Gas Refuse Trucks are
Road-Tested and Ready to Deploy

Refuse trucks are the fastest growing segment of natural gas vehicles in the U.S., with thousands of fleet trucks that have been in operation for more than a decade. Natural gas refuse trucks are available from OEMs with established sales and service networks, including:

- Peterbilt
- Autocar
- Freightliner
- Mack
- Crane Carrier
- McNeilus

New Trucks

>50% of new collection trucks purchased in the U.S. are powered by natural gas

17,000+ natural gas refuse and recycling trucks operate in the U.S

Fast Return-on-Investment Due to Low Fuel and Maintenance Costs

$120,000 fuel savings per truck

Even with today's oil prices, natural gas prices can be $0.75 to $1 or more lower than diesel at the pump. The price differential quickly translates into substantial fuel savings for refuse trucks, which typically consume 8,000 diesel gallon equivalents (DGE) per year, and have tough-duty cycles, low miles per gallon, and high engine hours.

Natural gas trucks/buses are easier to maintain than diesel trucks/buses. Advantages include:

- No diesel particulate filter regeneration or waste
- No selective catalytic reduction
- No diesel emission fluid

Natural Gas Refuse Fleet Success Stories:

WASTE MANAGEMENT

WM has the largest private vocational heavy-duty fleet of natural gas vehicles in North America with more than 6,000 natural gas recycling and waste collection trucks in operation. The company will displace more than 720 million diesel gallons over the useful lifespan of these trucks. To fuel its fleet, WM operates 95 natural gas stations that supply trucks with more than 40 million gallons of natural gas. More than 16 million gallons of this natural gas fuel is renewable, largely created by harnessing the methane in WM's landfills.

DEKALB COUNTY

DeKalb County Department of Sanitation, which serves >170,000 customers, operates 120 CNG refuse trucks that are fueled 100% with renewable natural gas produced from the Seminole Landfill and dispensed at two CNG fueling stations. By using natural gas vehicles throughout its operations, the Department has already reduced its diesel usage by 50%. Over the next five years, DeKalb will make CNG the primary fuel for its Solid Waste Operations.

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