150 School Districts Rely on NGV Buses

Every day, 25 million children in the U.S. spend an average of an hour and a half on public school buses. School districts and health advocates have recognized the importance of reducing students' exposure to harmful diesel exhaust emissions.

There are now more than 150 school districts operating approximately 5,500 natural gas powered school buses to safely transport and to help improve their air quality.

Formulate a New Emission Statement for Your School District

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 including Type C & D school buses. For government fleets, state authorities may fund up to 100 percent of the cost of new school buses.

Natural Gas Achieves the Most Cost-Effective NOx Emissions Reductions

Prioritize funding by replacing older diesel buses with new cleaner natural gas buses to achieve the greatest amount of emissions reduction and air quality benefit for each dollar spent. When comparing the cost of NOx reduction, natural gas buses are **95 percent more cost effective than diesel alternatives and more than 50 percent more cost effective than limited and unproven electric options.**

$90 per lb. of NOx

Natural Gas

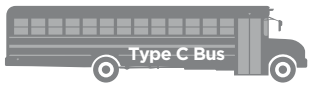
Technology Cost	$125,000
NOx Reduced	1,391 lbs

$1,764 per lb. of NOx

Diesel

Technology Cost	$100,000
NOx Reduced	57 lbs

$190 per lb. of NOx



Electric

Technology Cost	$300,000
NOx Reduced	1,583 lbs

$106 per lb. of NOx

Natural Gas

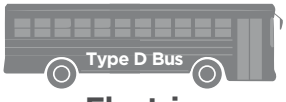
Technology Cost	$148,000
NOx Reduced	1,391 lbs

$2,029 per lb. of NOx

Diesel

Technology Cost	$115,000
NOx Reduced	57 lbs

$221 per lb. of NOx



Electric

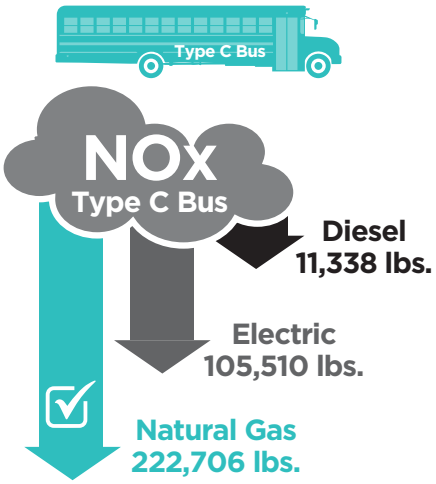
Technology Cost	$350,000
NOx Reduced	1,583 lbs

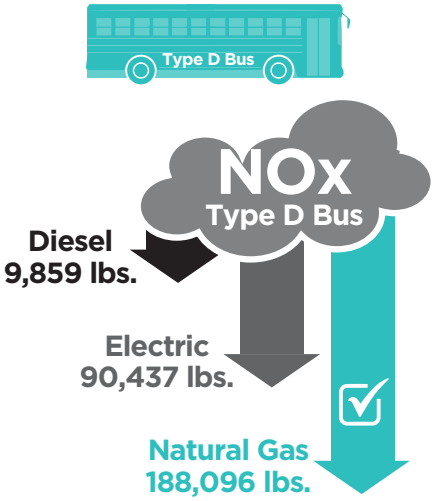
**Emission comparisons are based on results using Argonne National Laboratory's HDVEC tool (https//afleet-web.ex.anl.gov/hdv-emissions-calculator/) and include modeling of new low-NOx natural gas engines and the diesel in-use emission option.*

Find out more about championing reduced bus emissions for your students at **www.ngvamerica.org**.

NGVAMERICA
Natural Gas Vehicles for America

Lifetime Pounds of NOx Reduced





Figures above represent the lifetime emission reduction benefits of using $10 million to replace older diesel buses with new, cleaner Type C and D buses. For purposes of the calculations here, it is assumed that VW Settlement Funds are used to offset 50 percent of the cost of each new bus. For Type C, that amounts to $62,500 for natural gas, $50,000 for diesel, and $150,000 for electric. For Type D, that amounts to $74,500 for natural gas, $57,500 for diesel, and $175,000 for electric.

Lower Fuel and Maintenance Costs

Natural gas buses are easier to maintain than diesel counterparts:
- No diesel particulate matter filter regeneration or waste
- No selective catalytic reduction • No diesel emissions fluid

Clearing the Air Doesn't Have to Break the Bank

Natural gas buses offer a fast return-on-investment (ROI) due to low fuel and maintenance costs.

With today's oil prices, natural gas prices can be $.75 to $1.50 or more lower than diesel at the pump. This price differential quickly translates into substantial fuel savings for school buses, which typically consume around 2,300 diesel gallon equivalents (DGEs) per year, and have tough-duty cycles, low miles per gallon, and high engine hours.

$35,000
fuel savings per bus

(for anticipated 15 year vehicle life)

Calculate Natural Gas Emissions Benefits Yourself

Compare emissions of commercially-available alternative fuel medium- and heavy-duty vehicles with the Heavy-Duty Vehicle Emissions Calculator (HDVEC) tool.

Developed by the U.S. Department of Energy's Argonne National Laboratory using its AFLEET Tool 2017, this online resource aids school bus fleet managers and decision makers in comparing vehicle emission reduction options to assist inmaximizing their new vehicle funding investment.

Accessible online at: http://afleet-web.es.anl.gov/hdv-emissions-calculator/ or http://www.ngvamerica.org/vwactioncenter/.

Find out more about championing reduced bus emissions for your students at **www.ngvamerica.org**.

NGVAMERICA
Natural Gas Vehicles for America