

Clean Air Caucus Excerpts

November 13, 2018

Dominion Energy



Heavy-Duty = Big Impact

Replacing 1 traditional diesel-burning heavy-duty truck with 1 new Ultra Low-NOx natural gas heavy-duty truck is the emissions equivalent of removing 119 traditional combustion engine cars from our roads.

Source: https://great.esa.nh.gov/gflee_tool

Cummins Innovation

CUMMINS ISX12N
NEAR ZERO
SPECIFICATIONS
USED IN REFUSE,
VOCATIONAL AND
DELIVERY CLASS 6-7-8
TRUCKS

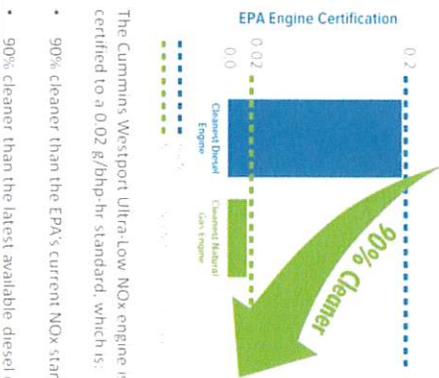


NOx Emission	0.02 g / bhp-hr (90% below EPA)
Maximum Horsepower	400 HP 278 kW
Peak Torque	1,450 LB-FT 1,966 Nm
Governed Speed	2100 RPM
Type	4-cycle, spark-ignited, in-line 6-cylinder, turbocharged, CAC
Engine Displacement	752.2 CU IN 11.9 LITERS
Number of Cylinders	6
Operating Cycles	4
Net Weight (dry)	2,650 lb 1,202 KG
Fuel Type	CNG / LNG / RNG
Aftreatment	Three-Way Catalyst

Exceeding Expectations

The cleanest heavy-duty truck engine in the world is powered by natural gas

- Certified in 2018 by the U.S. Environmental Protection Agency and California Air Resources Board



What do the following images have in common?

Pig Farm

Landfill

Wastewater Treatment

Food Waste

They are all sources of ENERGY!

CH4

Renewable Natural Gas Benefits

Customer Use

Clean Up

Farms

Landfills

Injecting into a pipeline eliminates this emission

1 ton of Methane = **>25X** Global Warming Potential of CO2

"Net Negative" Carbon
When Burned, result is: **H2O, CO2**

Can result in "net-negative" carbon process from source to use

Injecting into a pipeline eliminates this emission

"Net Negative" NOx
When Burned, result is: **.02g per bhp-hr**

Can result in "net-negative" NOx process from source to use

Methane flaring results in **Wide Range** NOx Emissions