**Why Wait?**

“If we want healthier air today… if we want cleaner air now… we need cleaner cars, trucks, buses and ships fueled by natural gas.”

Dan Gage
NGVAmerica President

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**Cleaner Air Starts with Cleaner Trucks**

Heavy-duty trucks and buses are the 1% sources of urban emissions.

74%

3 out of 4 heavy-duty trucks on our roads today are not certified to EPA’s latest NOx standard. Source: ODP Analysis of Ind Vehicles in Operation Data, December 2011.

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**Heavy-Duty = Heavy 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 off our roads. Source: https://www.cleanvehiclefacts.org

Unlike trucks and buses, passenger vehicles sit idle 95% of the time.

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**The Cleanest Heavy-Duty Truck Engine in the World is Powered by Natural Gas**

90% cleaner than EPA’s current NOx emissions requirement.
90% cleaner than the cleanest diesel engine. Source: US Environmental Protection Agency and California Air Resources Board, 2018.

In real-life study, natural gas engines emitted lower NOx emissions than certified, diesel engines emitted 5x more than their EPA certification. Source: University of California, Irvine testing of heavy-duty trucks in port applications, November 2016.

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**RNG Use is Growing Rapidly**

32% of natural gas used in on-road transportation in 2018 was RNG. A 577% increase since 2014. Source: Total Natural Gas in Transportation figure derived from US EIA Annual Energy Outlook (AEO). RNG numbers derived from US EPA, NES Reporting.

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**Natural Gas Makes Sense**

Compared to expensive electric or fuel cell technologies still in development, investing in natural gas vehicles is the most cost-efficient solution... delivering more new vehicles and far more emission reductions than any other available alternative, right here, right now, today.

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**Most Impactful and Cost-Effective**

- More new vehicles and far greater emission benefits for the investment than any other alternative
- No other transportation fuel is as sustainable, adaptive, and competitive across all applications and vehicle classes

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**Ready-Right-Now**

- Road-tested, proven, commercially-available technology
- Established refueling infrastructure of over 2,000 stations
- Mature network of manufacturers, services, and suppliers coast-to-coast
- Unmatched system resiliency and redundancy in times of storms and disasters

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**Join NGVAmerica’s Contract for Clean Air and Climate**

- Advance clean natural gas transportation infrastructure investments
- Support tax incentives encouraging NGV adoption, including the $5.50/gallon federal Alternative Fuel Tax Credit
- Eliminate barriers to NGV entry; fund NGV R&D
- Incentivize market build-out; guarantee NG fuel savings

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**An American Fuel Sourced by American Labor using American Technology**

- 50
  - Renewable natural gas is produced in every U.S. state; 34 states produce geologic natural gas

- 4.1 million
  - 4.1 million natural gas industry jobs nationwide

- #1
  - America is the world’s leader in natural gas production and technology

- $$$$$$ Natural gas fueling pays into the federal highway trust fund

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**NGVAMERICA**

Natural Gas Vehicles for America

Champion clean air, Combat climate change, Natural gas vehicles can help. More at www.ngvamerica.org

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**NGVAMERICA**

Natural Gas Vehicles for America

Our Air is Killing Our Kids
4 out of every 10 Americans live in areas with air that is unhealthy to breathe...
134 million Americans,
Source: American Lung Association, 2018
25 million Americans suffer from asthma...
1 in 12 people, Every day in the United States, due to asthma:
- 30,000 people have an asthma attack
- 5,000 people visit the emergency room
- 1,000 people are admitted to the hospital
- 11 people die
Source: Centers for Disease Control and Prevention
From 2000-2009, the greatest rise in asthma rates was among black children – a 50% increase.
- 1 in 6 black children had asthma in 2008
- $16 billion annually, in medical costs, lost work and school days, and early deaths
Source: Centers for Disease Control and Prevention, May 2011
71% of African Americans live in counties in violation of federal air pollution standards.
- Black children are 2x as likely to be hospitalized for asthma and 4x as likely to die from asthma as white children
Source: U.S.A, July 2013

Why Natural Gas?

Most Responsible Investment to Clean Air and Combat Climate Change
Natural gas provides the largest and most cost-effective reductions in transportation-related pollutants than any other powertrain option commercially-available today.

Solutions for Every Vehicle Class
Natural gas is impacting vehicles in every class and application...at airports and ports, with short- and long-haul freight delivery, in public transit and school transportation, and through municipal services and refuse and recycling collection.
Off-road applications in marine, rail and construction are also impacting our air and climate.
See more at www.ngvamerica.org/vehicles/.

A Sustainable Alternative
Natural gas is a naturally-occurring, plentiful and odorless substance composed mainly of methane.
- Geologic natural gas reserves come from large quantities of decaying organic materials that have accumulated over millions of years beneath the earth’s surface.
- Renewable natural gas is biogas that is captured above ground as organic waste breaks down, harnessed directly from decaying food waste, wastewater, agricultural waste and landfill.

Both are smart, ultra-low-emission, affordable alternatives to traditional transportation fuels like gasoline and diesel.

It’s More Than Just the Tailpipe
Total life-cycle counts Component sourcing matters
According to the Union of Concerned Scientists, it takes so much energy to make batteries that HEVs with a 250-mile range start out life with a carbon footprint 68% higher than a piston-engine car.
Source: *The Environmental Overhead of HEVs,* Ward's Auto, October 27, 2017

NGVAMERICA
Natural Gas Vehicles for America

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Emission comparisons are based on results using Argonne National Laboratory’s HREV tool (https://aegis-webapp.ans.lbl.gov/hrev-emissions-calculator/) and include modeling of new low-Nox natural gas engines and the diesel-mute emissions option.

Total life-cycle counts

Component sourcing matters

According to the Union of Concerned Scientists, it takes so much energy to make batteries that EVs with a 250-mile range start out life with a carbon footprint 68% higher than a piston-engine car.

Source: "The Environmental Overhead of EVs," Ward’s Auto, October 27, 2017

It’s More Than Just the Tailpipe


Find out more how NGVs champion clean air and combat climate change at www.ngvamerica.org.

NGV America
Natural Gas Vehicles for America
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Source: DTP Analysis on IRS Vehicles in Operation Data, December 2015

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Source: https://great.es.anl.gov/p/effect_tool

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The Cleanest Heavy-Duty Truck Engine in the World is Powered by Natural Gas

90% cleaner than EPA’s current NOx emissions requirement.

90% cleaner than the cleanest diesel engine.

Source: U.S. Environmental Protection Agency and California Air Resources Board, 2018

In real-life study, natural gas engines emitted lower NOx emissions than certified; diesel engines emitted 5x more than their EPA certification.

Source: University of California, in-use testing of heavy-duty trucks in port applications, November 2016

RNG Use is Growing Rapidly

35% of natural gas used in on-road transportation in 2018 was RNG.

An 840% increase since 2014.

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Natural Gas Vehicles for America

Natural Gas is NOW

NGV-America.org