

NGVAMERICA

Natural Gas Vehicles for America

NGVAmerica Volkswagen Settlement Webinar

July 19, 2018



Agenda

- ✓ **Welcome from NGV America President, Dan Gage**
- ✓ **Update on state activities related to VW Settlement**
- ✓ **State VW grant programs and sample project**
- ✓ **Argonne National Laboratory's HDVEC tool and its use for VW projects**
- ✓ **Q&A**

About NGV America

NGV America is the national organization dedicated to the development of a growing, profitable, and sustainable marketplace for vehicles powered by natural gas and biomethane and for promoting the use of more natural gas in transportation... trucks, trash, transit, and even off-road uses like HHP marine, rail, and construction/mining applications.

200+

NGV America represents 200+ companies, LDCs, fleets, OEMs, environmental and government organizations.



NGVAMERICA

NGV America Members



Shell
LNG



Clean Energy



Southern Company
Gas

AGA
American Gas Association



SPECTRUM LNG



MOMENTUM
FUEL TECHNOLOGIES



Energy to do more

noble
energy

SOUTHWEST GAS



DTE Energy



NW Natural

Sempra Energy
for every day life!



BLUE BIRD

CHART
Innovation. Experience. Performance.™



FORTIS BC

Piedmont
Natural Gas

Westport
Fuel Systems

TEGO
ENERGY

WM
WASTE MANAGEMENT

BLUE BIRD

DAIMLER TRUCKS

ANG
AMERICAN
NATURAL
GAS



FCA
FIAT CHRYSLER AUTOMOBILES

Frito Lay
Good fun!

Luxfer
Gas Cylinders

HEXAGON
LINCOLN

Agility
fuel solutions

PSE
PUGET SOUND
ENERGY

VECTREN
Live Smart

METROPOLITAN
UTILITIES DISTRICT

spire
formerly The Laclede Group

ampCNG
Fueling the Future of Trucking

Cummins
Westport



WORTHINGTON
INDUSTRIES

GAIN
CLEAN FUEL

ANGI

CenterPoint
Energy

Trillium CNG
A Trillium Company

BH
Black Hills Energy
Improving life with energy

Net Lease Capital Advisors

AN INVESTMENT BANKING APPROACH TO REAL ESTATE TRANSACTIONS

Value for NGV America Members

- **Advocacy on policy and regulations that impact NGVs & NG in transport**
 - Federal & state – legislation, regulations, various government agencies
- **Leadership on key technology & safety issues**
 - Modernization of codes & standards, safety/best practices & technical barriers
 - Collaboration with government & industry
 - Incident investigations & cause analysis
 - Ten work groups led by members to address industry priorities
- **Voice of a strong industry**
 - Communicating the value of NGVs
 - Analysis, credible data & case studies
 - Convening industry leaders
 - One-on-one member support



Replacing one traditional diesel HD truck with one, new Ultra Low-NOx natural gas HD truck is the emissions equivalent of removing 79 traditional gas cars from the road

NGVAMERICA
Natural Gas Vehicles for America



If we want cleaner air, we need cleaner vehicles.



Natural Gas Vehicles are 90% cleaner than the EPA's and CARB's current NOx standard. And when fueled by Renewable Natural Gas captured from agricultural, food, landfill or wastewater waste, results can be carbon-neutral or even carbon-negative.



Most Cost-Effective NOx Emissions Reductions for Medium- and Heavy-Duty Applications

World's Cleanest Heavy-Duty Truck Engine Runs on Natural Gas

Proven, Affordable, Commercially Available, Ready-Right-Now Technology

Extensive domestically-sourced CNG, LNG & RNG production and distribution infrastructure



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Join us as a Member!
Visit: www.ngvamerica.org/sign-up/

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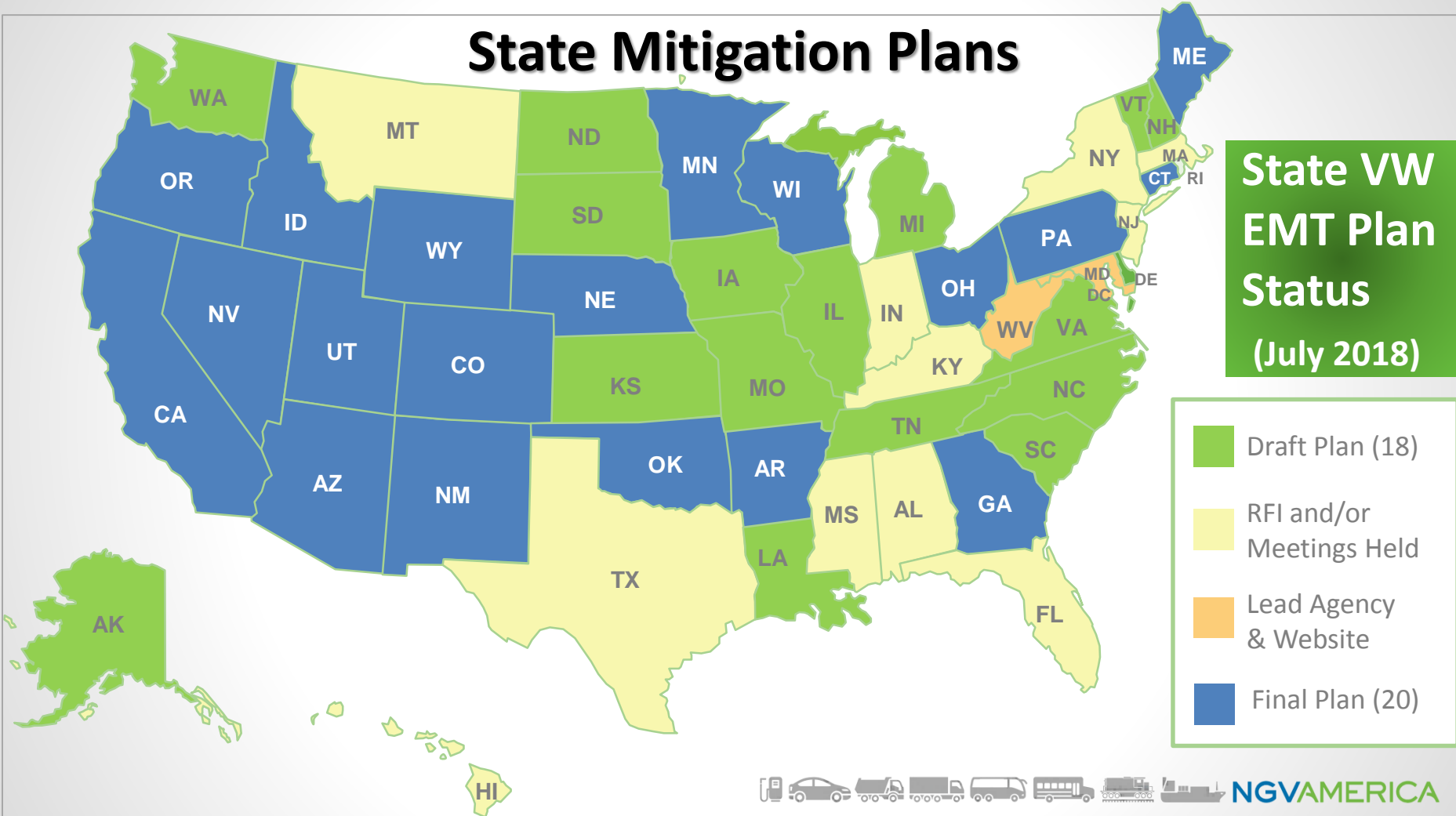
Status of State VW Plans



- ✓ Fund **alternative fuel** vehicle projects that focus on maximizing NOx reduction for the funds spent
- ✓ Provide larger incentives for engines that **deliver greater NOx reductions than currently required**
- ✓ Target funding for technologies that deliver **lower in-use emissions**
- ✓ Fund **commercially available** products that are ready for use
- ✓ Prioritize funding for **clean vehicles rather than fueling infrastructure**
- ✓ **Scale funding** to incentivize the cleanest engines available
- ✓ Incentivize adoption by both **public and private fleets**
- ✓ Prioritize projects that **provide a match**
- ✓ **Accelerate the funding** to maximize the NOx reduction benefits
- ✓ Use vehicles emissions measurement tools that reflect current technologies & actual performance – **AFLEET and HDVEC tools**

NGV America VW Plan Priorities

State Mitigation Plans



State VW Plan Trends

- ✓ Most states have high-level goal of funding the projects that **reduce the most NOx for the funds spent**
- ✓ Most states allow all approved **alternative fuel vehicles**
- ✓ Many states have not designated the **percentages for vehicle funding** – will decide based on the project description, match, leveraged aspects, etc.
- ✓ Several states are prioritizing funding for **government vehicles**
- ✓ Most states will at least match their normal **DERA funding**
- ✓ Some states are beginning to recognize that they need to use the Argonne Lab **Heavy Duty Vehicle Emissions Calculator** (HDVEC – based on the revised AFLEET tool) instead of the outdated EPA Diesel Emission Quantifier (DEQ) tool
- ✓ Most States have opted to fund the 15% EV **Light Duty Charging Option**

Sample State Plan Components

	AR	CO	CT	DC	DE	GA	ID	ME	MI	NE	NV	OH	OR	PA	VT	VA	WA
Project Type	\$14.6M	\$68.7M	\$55.7M	\$8.1M	\$9.6M	\$63.6M	\$17.3M	\$21M	\$64.8M	\$12.2M	\$24.8M	\$75.3M	\$72.9M	\$118.5M	\$18.7M	\$93.6M	\$112.7M
On-Road	85%	52.50%		53%		100% EV/D Transit	35%	25%		35%		45-50%	25% School Bus	20-40%	43%		≤ 45%
Non-Road							20%	40%				25-25%		35-55%	31% Includes DERA		≤ 5% Equip ≤ 5% RR ≤ 45% Mar
DERA		7.50%		38% D-Freight Switchers			15%	20%	4%	25%	5%			0-20%	11% (RR / Mar)		≤ 5%
Flex Funds		17.50%	85%		85%				72% DERA Type	25%	80%		75%				85%
EV Light Duty Charging	15%	15%	15%		15%		15%	15%	14%	10%	15%	20-22% Includes Shore Power		15%	15%	15%	15%
Administration		7.50%		9%			15%		10%	5%		6-8%		15%			

State VW Settlement Grant Programs

✓ **CONNECTICUT** (Funding Opportunity Deadline – July 31, 2018)

DEEP Announces \$7.5M in VW Environmental Mitigation Funding: Grants to fund the replacement or repower of older, dirtier diesel vehicles and engines as described in the VW Trust. Grants are eligible to both non-government and government entities.

✓ **MINNESOTA** (Funding Opportunity Deadline – July 19, 2018)

MPCA Funding Announcement \$2.1 Million Grant Opportunity: The Minnesota VW Settlement Diesel Replacement Program RFP provides grants of \$15,000 or \$20,000 to school bus owners or their representatives around the state to replace old diesel school buses with new diesel, natural gas, propane or electric school buses. Grants will be awarded based on selection criteria that include emissions reduction, cost effectiveness, health effects, and environmental justice ramifications.

✓ **NEVADA** (Funding Opportunity Deadline – July 31, 2018)

Funding Announcement up to \$11 Million Grant Opportunity: The DEP has indicated that fleets seeking Volkswagen Environmental Mitigation Trust Fund monies from Nevada will need to complete and submit the application form. Applicable vehicles and engines generally follow the VW Trust designations.

State VW Settlement Grant Programs

✓ **NEW MEXICO** – (Funding Opportunity Deadline – September 14, 2018)

Funding Opportunity: The NMED has announced that it is now accepting applications for projects relating to the Volkswagen Settlement Agreement. Qualifying projects must demonstrate a reduction in NOx, and meet the criteria outlined in the Settlement Agreement. The NMED requires that all applicants use the Argonne National Laboratory's Heavy-Duty Vehicle Emissions Calculator found at: <https://afleet-web.es.anl.gov/hdv-emissions-calculator/>.

✓ **OHIO** (Funding Opportunity Deadline – August 3, 2018)

EPA Funding Opportunity - \$15M: Applications are open for funding from the new Diesel Mitigation Trust Fund (DMTF) for replacement or repower of medium and heavy duty on-road and off-road vehicles. The EPA website indicates that owners of eligible medium and heavy diesel fleets in 26 Ohio priority counties are invited to apply for grants to repower or replace diesel vehicles and equipment with new clean diesel or alternative fuel (CNG, LNG, propane, diesel electric hybrid) or all-electric vehicles and equipment. A total of \$15 million is available for grant awards between \$50,000 and \$2 million. All projects require a minimum match of 25 percent, with larger matches required for some project categories.

✓ **PENNSYLVANIA** (Funding Opportunity Deadline – July 19, 2018)

VW Funding Notice/Opportunity: A new initiative undertaken by the state named, *Driving PA Forward*, provides information on the timing of future funding announcements and indicates that the first projects to be awarded funding will be eligible actions under the \$8.9 million DERA Program.

Sample Project



Typical Project Application Data

✓ Recipient Information

Organization

Name / Title

Address / Email / Phone

✓ Project Information

Target Fleet / # of Vehicles

Location of Vehicles

Funding Amount Requested

Additional Funding Source/Amount

Project Leverage

(station availability, etc.)

Estimated Emissions Reductions

Other Benefits from Project

✓ Current Vehicle Information

Eligible Mitigation Action

Class/Equipment

Make, Model Year

Fuel Type / MPG

Annual Miles/Vehicle

Operation Hours/Vehicle

✓ New Vehicle/Technology Information

Year of Action

Class/Equipment Make, MY, Fuel Type

Serial or VIN Number

Emissions Reductions per Vehicle or Engine

Cost per Vehicle or Engine

Short/Regional Haul Truck Comparison – 100% Funding Scenario



Natural Gas



Technology Cost \$150,000

NOx Reduced 5,582 lbs



Electric

Technology Cost \$290,000

NOx Reduced 5,715 lbs



Diesel

Technology Cost \$100,000

NOx Reduced 1,716 lbs

Data Source: Emission comparisons based on ANL - HDVEC tool with low-NOx engines and higher in-use diesel emissions taken into account. Useful life, cost and mileage vary by applications. Additional details available from NGVA upon request.

Dollar-for-Dollar, NGVs Deliver the Largest & Most Cost-Effective NOx Emissions Reductions



Class 8 Truck Sample Project

Target Fleet / # of Vehicles

Vehicle Class, Make, Model Year

Fuel Type / MPG / Annual Miles

Location of Vehicles

Funding Amount Requested

Additional Funding Source/Amount

Project Leverage

(station availability, etc.)

Estimated Emissions Reductions

Cost per Vehicle

Other Benefits from Project

Regional goods hauling / 10 trucks

Class 8 / Cummins Westport Inc. / 2018 MY

CNG / 6.7 mpg / 80,000 annual miles

In the state / non-attainment? disadvantaged? sensitive?

\$375,000

Fleet 2018 Budget / \$1,125,000

CNG station on route / CNG station to be built

station will provide fueling for other vehicles?

Reduces: 27.9 tons NOx / 1,804 tons CO2e / 49.4 PM

NG Truck Cost: \$150,000

Quieter / American fuel / economic (lower price of fuel) /

creates jobs (producing fuel and for the NGV industry /
other local benefits



Refuse Comparison – 100% Funding Scenario

\$69

per lb of NOx



Natural Gas

Technology Cost \$300,000

NOx Reduced 4,375 lbs

\$151

per lb of NOx



Electric

Technology Cost \$670,000

NOx Reduced 4,423 lbs

\$496

per lb of NOx



Diesel

Technology Cost \$270,000

NOx Reduced 544 lbs

Data Source: Emission comparisons based on ANL - HDVEC tool with low-NOx engines and higher in-use diesel emissions taken into account. Useful life, cost and mileage vary by applications. Additional details available from NGVA upon request.

Dollar-for-Dollar, NGVs Deliver the Largest & Most Cost-Effective NOx Emissions Reductions



Transit Comparison – 100% Funding Scenario

\$129

per lb of NOx



Natural Gas

Technology Cost \$526,500

NOx Reduced 4,078 lbs

\$203

per lb of NOx



Electric

Technology Cost \$836,330

NOx Reduced 4,128 lbs

\$3,559

per lb of NOx



Diesel

Technology Cost \$477,775

NOx Reduced 134 lbs

Data Source: Emission comparisons based on ANL - HDVEC tool with low-NOx engines and higher in-use diesel emissions taken into account. Useful life, cost and mileage vary by applications. Additional details available from NGVA upon request.

Dollar-for-Dollar, NGVs Deliver the Largest & Most Cost-Effective NOx Emissions Reductions



Type-C Bus Comparison – 100% Funding Scenario

\$90

per lb of NOx



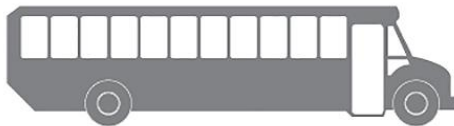
Natural Gas

Technology Cost \$125,000

NOx Reduced 1,391 lbs

\$190

per lb of NOx



Electric

Technology Cost \$300,000

NOx Reduced 1,583 lbs

\$1,764

per lb of NOx



Diesel

Technology Cost \$100,000

NOx Reduced 57 lbs

Data Source: Emission comparisons based on ANL - HDVEC tool with low-NOx engines and higher in-use diesel emissions taken into account. Useful life, cost and mileage vary by applications. Additional details available from NGVA upon request.

Dollar-for-Dollar, NGVs Deliver the Largest & Most Cost-Effective NOx Emissions Reductions



Colorado



Lead Agency

Department of Public Health and Environment

EMT Fund

\$66.7 million

Action Deadline(s)

Final Plan - Summary Details

In March 2016, the CDPE submitted a final Beneficiary Mitigation Plan to the Trust. The SIF provides the following funding allocation:

- \$12M Air Fuel Trucks/Buses (clean diesel only allowed for model years 1990-2001)
- \$12M NGV/EV Transit Buses
- \$12M Flex Funds (for projects that do not fit into funding categories)
- \$5M DERA option
- \$10M EV Chargers/Infrastructure
- \$5M Admin Costs (RA/QC to manage using Air Fuel CO Program)

Funds will likely flow to areas of non-attainment, location of VTRs and environmental justice, but location is not a specific criteria.

Final Plan

Colorado Mitigation Fund Plan



Where to Send Comments

Please send any comments about Colorado's implementation of the settlement to cdpe.comments@state.co.us. CDPE and other agencies are currently developing a stakeholder outreach process to inform the public about the settlement and gather information and ideas.

NGVAmerica
Comment Letter



Member Support
Letter



Webinars, Meetings,
Workshops



Colorado has one public meeting scheduled: September 18, 2017, 2:00 - 5:00 pm COOT HQ & Auditorium 4201 E. Arkansas Ave., Denver, CO 80222 - Map
[Register Here](#)

Informational
Website



NGVAmerica VW Trust Action Center

(NGVAmerica.org/vw-trust-action-center)

- ✓ Consent Decrees
- ✓ Presentations
- ✓ Fact Sheets
- ✓ HDVEC Tool Access
- ✓ State Details
 - Lead Agency / Actions
 - Plans & Summaries
 - NGVA Submissions

Argonne National Laboratory (ANL)

HDVEC Tool

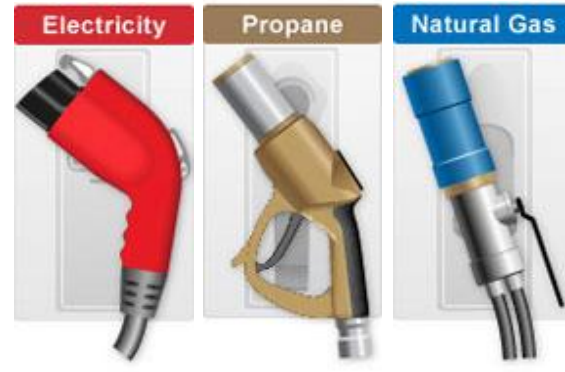


**HEAVY-DUTY VEHICLE
EMISSIONS CALCULATOR**

Heavy-Duty Vehicle Emissions Calculator

- Simple online tool based on AFLEET to help analyze AFVs for funding opportunities
- Examines medium-duty & heavy-duty vehicle:
 - Vehicle operation NO_x & $\text{PM}_{2.5}$
 - WTW GHGs
 - Emission reduction cost effectiveness
- Contains 4 fuel/vehicle technologies:
 - Diesel
 - Electric vehicle
 - Propane
 - Natural Gas
- HDVEC available at:

afleet-web.es.anl.gov/hdv-emissions-calculator/

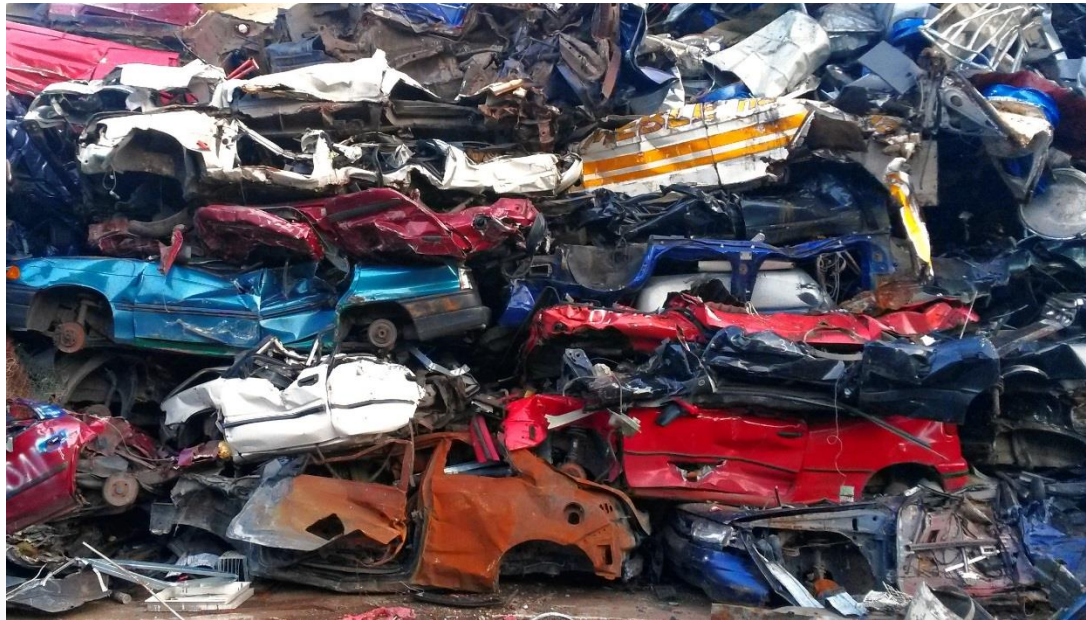


HDVEC's Calculation Methods

- Tool has 3 calculation methods & which to use depends on project type
- Environmental Mitigation w/ Scrappage
 - New AFV vs. new diesel, plus additional benefit from early retirement of scrapped vehicle
- Environmental Mitigation w/ Repower
 - Vehicle after repower vs. diesel vehicle before repower
- Clean Vehicle Replacement
 - New AFV vs. new diesel



HDVEC Tutorial - Demo #1 - Environmental Mitigation w/ Scrappage



HDVEC Tutorial - Environmental Mitigation w/ Scrappage

- 3 tabs: About, Vehicle Options, & Results



About

Vehicle Options

Results

HEAVY-DUTY VEHICLE EMISSIONS CALCULATOR

The Heavy-Duty Vehicle Emissions Calculator was developed to estimate the vehicle operation nitrogen oxide (NO_x) and particulate matter (PM_{2.5}), as well as the well-to-wheel greenhouse gas emissions (GHGs) of commercially available alternative fuel medium- and heavy-duty vehicles. This tool is ideally suited to aid fleets and decision makers compare vehicle technologies for emission reductions and consider allocation of funding.

The tool can calculate results for 3 project types:

- **Environmental Mitigation w/ Scrappage**
 - New alternative fuel versus new diesel, plus additional benefit from early retirement of scrapped vehicle.
- **Environmental Mitigation w/ Repower**
 - Vehicle after repower versus diesel vehicle before repower.
- **Clean Vehicle Replacement**
 - New alternative fuel versus new diesel.

The first two are specifically for environmental mitigation projects such as those funded under the *Clean Diesel Settlement* or the *Diesel Emission Reduction Program*, while the third provides results without the scrappage benefit. The Heavy-Duty Vehicle Emissions Calculator was developed using the AFLEET Tool 2017, available at: <https://greet.es.anl.gov/afleet>. AFLEET Tool 2017 uses emissions data from both the EPA's MOVES and Argonne's GREET models.

Get Started



HDVEC Tutorial - Environmental Mitigation w/ Scrappage

- 1st step: on “Vehicle Options” enter project type and state

About **Vehicle Options** Results

Project Options

Load Previously Saved Project?

Save Project?

Project Type ?

Environmental Mitigation with Scrappage

State

MICHIGAN

HDVEC Tutorial - Environmental Mitigation w/ Scrappage

- 2nd step: enter vehicle type, # of vehicles, MY of scrapped vehicle, years of early retirement, new vehicle lifetime, and VMT

Vehicle Options

Vehicle Type ?

Combination Short-Haul Truck

Number of Vehicles

1

Model Year of Scrapped Vehicle

2007

Estimate Years for Early Retirement of Scrapped Vehicle

2

Estimate Lifetime of New Vehicle (Years)

12

Annual Miles of Scrapped Vehicle

80,000

Annual Miles of New Vehicle

80,000

HDVEC Tutorial - Environmental Mitigation w/ Scrappage

- Optional: use diesel in-use multiplier, low NO_x engines, custom fuel economy data

Use Diesel In-Use Multiplier? [?](#)

Use Low NO_x Engines? [?](#)

Input Custom Fuel Economy?

Old Diesel (MPDGE)

7.4

New Diesel (MPDGE)

7.4

Natural Gas (MPDGE)

6.7

Electric (MPDGE)

18.9

HDVEC Tutorial - Environmental Mitigation w/ Scrappage

- 4th step: enter funding requested (for cost effectiveness)

Funding Options

Diesel Funding Requested

\$ 100,000

Electric Funding Requested

\$ 290,000

Natural Gas Funding Requested

\$ 150,000

HDVEC Tutorial - Environmental Mitigation w/ Scrappage

- 5th step: enter NG feedstock and EV source (default = state selected) and click “Calculate Results”

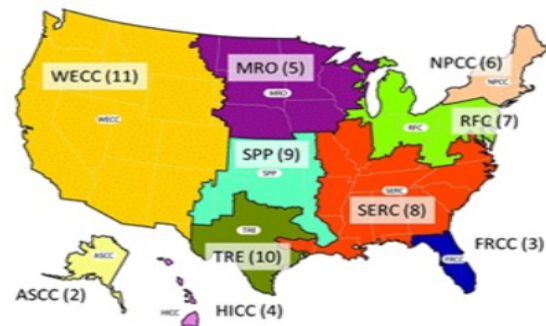
Fuel Options

Natural Gas (NG) Feedstock Source

North American NG

Source of Electricity - Electric Vehicles (EV)

RFC



Calculate Results

HDVEC Tutorial - Environmental Mitigation w/ Scrappage

- Optional: enter custom electricity mix or NG Feedstock Sources

Fuel Options

Natural Gas (NG) Feedstock Source

North American NG

North American NG

Landfill Gas

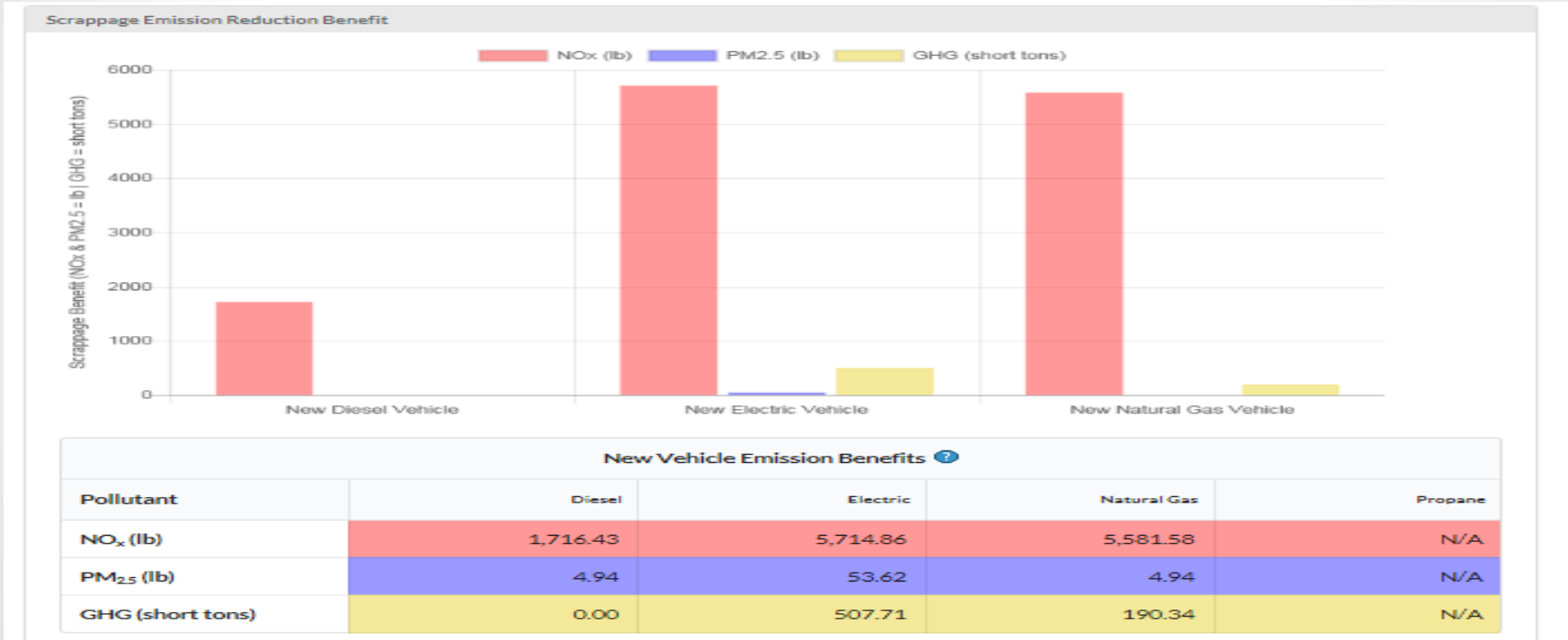
Anaerobic Digester (AD) Gas of Animal Waste

AD Gas of Wastewater Sludge

AD Gas of Municipal Solid Waste

HDVEC Tutorial - Environmental Mitigation w/ Scrappage

- Results: emission benefits (higher value = more reduction)



HDVEC Tutorial - Environmental Mitigation w/ Scrappage

- Results: cost effectiveness (lower value = more cost effective) & Optional: export results to Excel

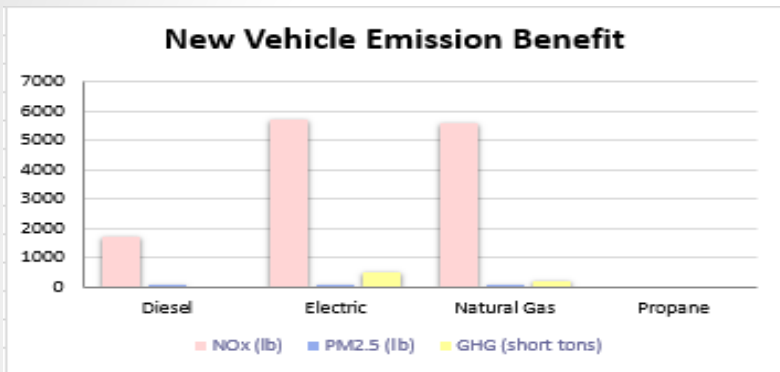
New Vehicle Cost Effectiveness ?

Pollutant	Diesel	Electric	Natural Gas	Propane
NO _x (\$/lb)	\$58	\$51	\$27	N/A
PM _{2.5} (\$/lb)	\$20,243	\$5,408	\$30,364	N/A
GHG (\$/ton)	N/A	\$571	\$788	N/A

Export Results

HDVEC Tutorial - Environmental Mitigation w/ Scrappage

- Optional: export to Excel 3 sheets Results, Inputs, Emissions



New Vehicle Emission Benefits				
Pollutant	Diesel	Electric	Natural Gas	Propane
NOx (lb)	1716.43	5714.86	5581.58	N/A
PM2.5 (lb)	4.94	53.62	4.94	N/A
GHG (short tons)	0	507.71	190.34	N/A

New Vehicle Cost Effectiveness				
Pollutant	Diesel	Electric	Natural Gas	Propane
NOx (lb)	\$58	\$51	\$27	N/A
PM2.5 (lb)	\$20,243	\$5,408	\$30,364	N/A
GHG (short tons)	N/A	\$571	\$788	N/A

Project Options	
State	MI
Project Type	Environmental Mitigation with Scrappage
Vehicle Options	
Type	Combination Short-Haul Truck
Number of Vehicles	1
Model Year of Scrapped Vehicle	2007
Years for Early Retirement of Scrapped Vehicle	2
Lifetime of New Vehicle (Years) After Scrappage	10
Annual Miles of Scrapped Vehicle	80000
Annual Miles of New Vehicle	80000
Use Diesel In-Use Multiplier?	Yes
Use Low NOx Engines?	Yes
Funding Options (\$)	
Diesel Vehicle Funding	\$100,000.00
Electric Vehicle Funding	\$290,000.00
Natural Gas Vehicle Funding	\$150,000.00
Propane Vehicle Funding	\$0.00
Fuel Options	
Natural Gas (NG) Feedstock Source	North American NG
Source of Electricity	RFC

HDVEC Tutorial - Environmental Mitigation w/ Scrappage

- Optional: export to Excel 3 sheets Results, Inputs, Emissions

NOx Emissions				
Fuel	Year	Remaining Years	Scrappage Years	Emission Rate (g/mi)
Diesel	2007	N/A	2	6.438
Diesel	2017	N/A	2	1.572
Diesel	2017	10	N/A	1.952670588
Electric	2017	N/A	2	0
Electric	2017	10	N/A	0
Natural Gas	2017	N/A	2	0.0524
Natural Gas	2017	10	N/A	0.06508902
Propane	2017	N/A	2	N/A
Propane	2017	10	N/A	N/A

PM2.5 Emissions				
Fuel	Year	Remaining Years	Scrappage Years	Emission Rate (g/mi)
Diesel	2007	N/A	2	0.033
Diesel	2017	N/A	2	0.019
Diesel	2017	10	N/A	0.0238
Electric	2017	N/A	2	0
Electric	2017	10	N/A	0
Natural Gas	2017	N/A	2	0.019
Natural Gas	2017	10	N/A	0.0238
Propane	2017	N/A	2	N/A
Propane	2017	10	N/A	N/A

GHG Emissions				
Fuel	Year	Remaining Years	Scrappage Years	Emission Rate (g/mi)
Diesel	2007	N/A	2	1741.829136
Diesel	2017	N/A	2	1741.829136
Diesel	2017	10	N/A	1741.829136
Electric	2017	N/A	2	1262.052863
Electric	2017	10	N/A	1262.052863
Natural Gas	2017	N/A	2	1561.964372
Natural Gas	2017	10	N/A	1561.964372
Propane	2017	N/A	2	N/A
Propane	2017	10	N/A	N/A

HDVEC Tutorial - Environmental Mitigation w/ Scrappage

- Short-Haul Truck: diesel in-use or low-NOx options not selected

New Vehicle Emission Benefits ?				
Pollutant	Diesel	Electric	Natural Gas	Propane
NO _x (lb)	1,901.27	4,566.89	4,167.04	N/A
NO _x (\$/lb)	\$53	\$64	\$36	N/A

- Short-Haul Truck: diesel in-use or low-NOx options selected

New Vehicle Emission Benefits ?				
Pollutant	Diesel	Electric	Natural Gas	Propane
NO _x (lb)	1,716.43	5,714.86	5,581.58	N/A
NO _x (\$/lb)	\$58	\$51	\$27	N/A

HDVEC Tutorial - Environmental Mitigation w/ Scrappage

- Transit: diesel in-use or low-NOx options not selected

New Vehicle Emission Benefits ⓘ				
Pollutant	Diesel	Electric	Natural Gas	Propane
NO _x (lb)	567.60	1,566.06	1,066.83	N/A
Pollutant	Diesel	Electric	Natural Gas	Propane
NO _x (\$/lb)	\$842	\$534	\$494	N/A

- Transit: diesel in-use or low-NOx options selected

Pollutant	Diesel	Electric	Natural Gas	Propane
NO _x (lb)	134.26	4,128.09	4,078.17	N/A
Pollutant	Diesel	Electric	Natural Gas	Propane
NO _x (\$/lb)	\$3,559	\$203	\$129	N/A

NGVAMERICA

Natural Gas Vehicles for America

Contact Information

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Sherrie Merrow – smerrow@ngvamerica.org

<https://www.ngvamerica.org/vw-trust-action-center/>

