



**Department of  
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Conservation**

# **Volkswagen Diesels**

## **New York State's Volkswagen Settlement NOx Mitigation Trust**

**New York City Metro Area Energy and Air Quality Data Gaps Workshop  
May 25, 2017  
Robert Waterfall P.E., NYSDEC**

# Overview

- What VW did with their diesel vehicles
- Partial Consent Decree
- Eligible NOx mitigation projects
- Funding timeline
- Outreach



# How it is supposed to work

- Manufacturers test emissions and fuel efficiency on dynamometer
- Submit results to EPA and CARB for certification
- High emissions should turn check engine light on



# First Data Gap

- EPA/CARB perform dynamometer testing on a small portion
- No formal on-road tests by mfgs or EPA
- Intl. Council on Clean Transportation hired West Virginia Univ. to test some diesel cars on-road using Portable Emission Monitoring System (PEMS)
- WVU found much higher than certified levels





West Virginia University Center For Alternative Fuels, Engines and Emissions

# EPA/CARB/USDOJ Action

- Investigation found emission controls turned on or up only during dynamometer tests
  - Based on time, distance and steering wheel position
- September 2015, VW admitted using illegal defeat device
- First partial consent decree entered October 25, 2016
- Second partial consent decree entered May 17, 2017



# Which Vehicles Are Involved?

## 2009 – 2015 VW vehicles with 2.0 Liter and 3.0 Liter Diesel Engines

- VW, Audi, Porsche
- Over 25,000 Registered in NYS

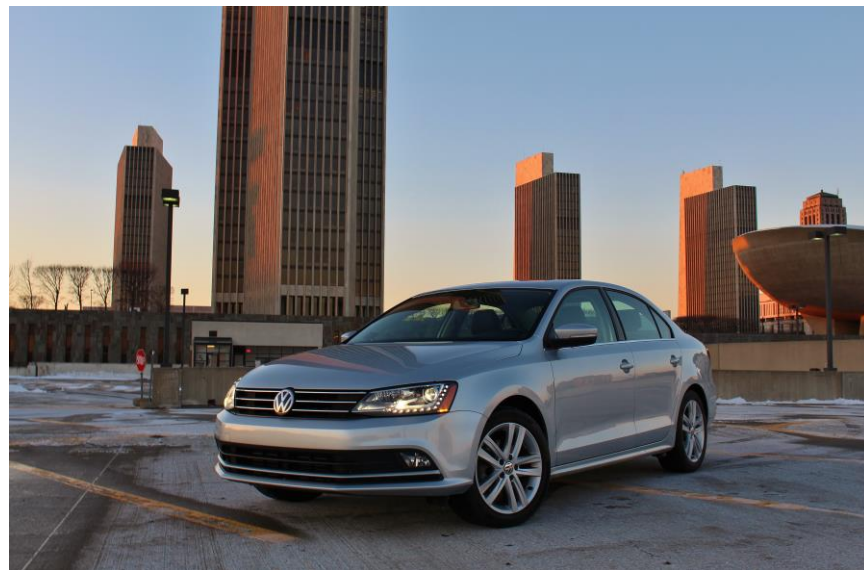


Photo: [limitedslipblog.files.wordpress.com](http://limitedslipblog.files.wordpress.com)



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# First Partial Consent Decree

Covers 2.0L only

- Buyback, lease termination, or modification recall
- 80% vehicles returned

Appendix C

- VW ZEV investment

Appendix D

- NOx mitigation trust fund





# NOx Mitigation Trust Agreement

Over \$2.9 billion to be spent nationwide over 10 years

- \$117 million allotted to New York State under first partial CD
- Went up to \$127.7 million with second partial CD approval
- Mostly Repower/Replace older diesel powered vehicles
- Up to 15% can be used for light duty electric and hydrogen vehicle infrastructure



# Eligible Mitigation Actions

1. Class 8 Local Freight Trucks and Port Drayage Trucks (Eligible Large Trucks)
2. Class 4-8 School Bus, Shuttle Bus, or Transit Bus (Eligible Buses)
3. Railroad Freight Switchers
4. Ferries/Tugs – Repower Only
5. Ocean going Vessels (OGV) Shorepower
6. Class 4-7 Local Freight Trucks (Eligible Medium Trucks)
7. Airport Ground Support Equipment Electrification
8. Forklifts and Port Cargo Handling Equipment Electrification
9. Light Duty Zero Emission Vehicle Supply Equipment
10. Voluntary matching funds for projects eligible under the DERA



# Vehicle/Engine Scrappage Programs

- Options 1-4 and 6-8
- Repower (Engine Replacement) – 3 inch hole cut in old engine
- Vehicle Replacement – Chassis cut, 3 inch hole cut in old engine
- No keeping or reselling old vehicle
- No fleet expansion
- Get rid of old diesel engine/vehicle



## 9. Light Duty Zero Emission Vehicle Supply Equipment

Level 1, Level 2, or fast charging equipment	Funding
Available to public at government owned property	Up to 100%
Available to public at non-government owned property	Up to 80%
Available to workplace but not the general public	Up to 60%
Available at a multi-unit dwelling but not the general public	Up to 60%
Hydrogen fuel cell vehicle supply equipment (70 MPa)	Funding
Available to public and capable of dispensing 250kg/day	Up to 33%
Available to public and capable of dispensing 100kg/day	Up to 25%

Purchase, install, and maintain  
Up to 15% of mitigation fund total



## 10. Diesel Emission Reduction Act (DERA) Option

- EPA funding must be approved by Congress each year
- DERA funds for incremental costs for propane vehicles when paired with repower/replacement
- VW funds for voluntary non-federal matching funds
- Past projects included
  - Incremental cost for propane school buses
  - Locomotive anti-idling devices



# Typical DERA Funding Levels

	Typical DERA Funding Levels	DERA Funding	Required Match
Scrappage Programs No fleet expansion	Repower Locomotive, Marine, Non-road	40%	60%
	Repower Highway Diesel	40%	60%
	Replace Locomotive, Marine, Non-road	25%	75%
	Replace Highway Diesel	25%	75%
Retrofit Programs	Exhaust Control Retrofits	100%	0%
	Verified Locomotive Idle Reduction	40%	60%



# DERA Math - Highway Diesel Replacement

**Example** – Highway diesel vehicle replacement

Funding level limit - 25% DERA, 75% non-federal Cost Share

\$100,000 Federal DERA funds

\$100,000 Match (VW funds)

+\$50,000 Federal bonus

\$250,000 Total DERA available

\$250,000 DERA funds → Need \$750,000 non-federal funds, non-VW Cost Share

If we add optional VW Overmatch of \$1,000,000:

\$1,250,000 DERA Funds → Need \$3,750,000 non-federal, non-VW Cost Share



## VW Environmental Mitigation Trust Timing

Timing	Estimated Date	Consent Decree Milestone
Settlement Effective Date (SED)	October 25, 2016	Consent Decree entered into court
Trust Effective Date (TED)	Spring-Summer, 2017	Finalize Trustee agreement
TED + 15 days	?	Trustee establishes trust account
TED + 60 days	?	Government entities file Certification Forms
TED + 120 days (note: consent decree says "no later than")	?	Trustee approves/denies state's Beneficiary status
TED + 210 days (not later than 90 days after being deemed a Beneficiary)	?	Submit Beneficiary Mitigation Plan





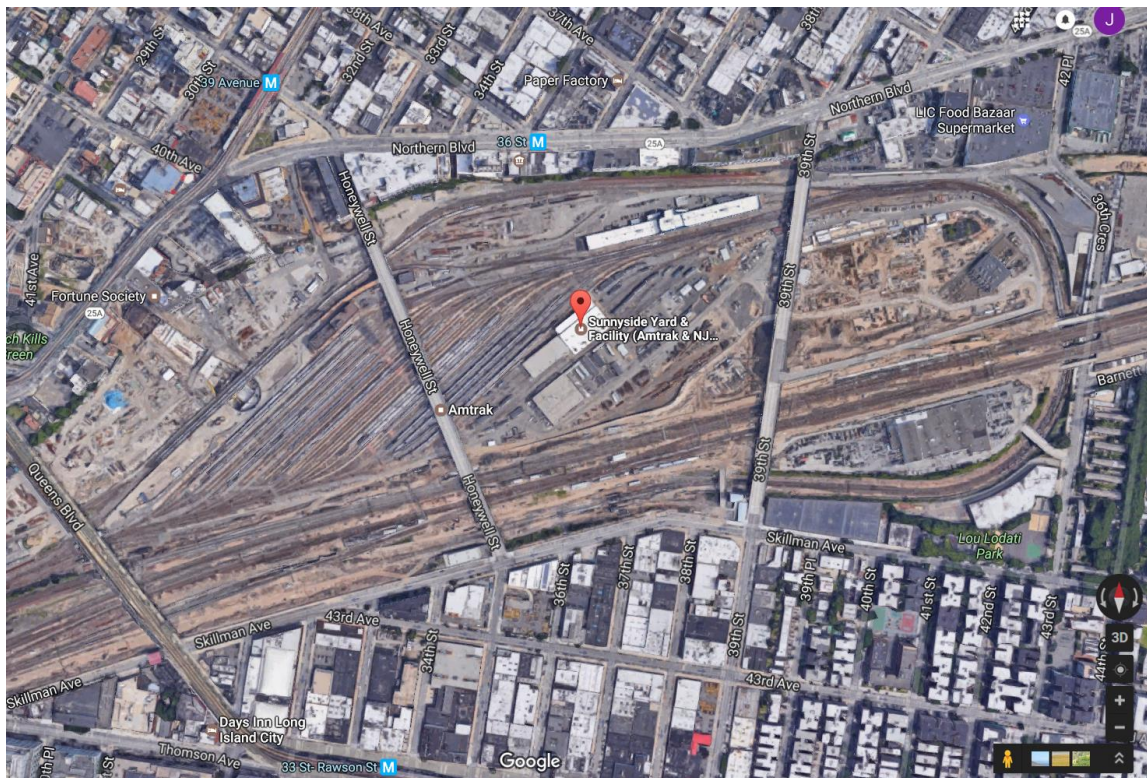
# Funding Availability Timeline

Funding Availability	Funding Released By VW
Year 1	1/3 of Funding
Year 2	2/3 of Funding
Year 3	3/3 of Funding

- Funds disbursed according to individual project funding requests
- 10 years to complete all projects
- Additional 5 years possible for additional time or redistributed.







Locate projects in areas that have received a disproportionate amount of diesel emissions

# Second Data Gap

- Equipment and project costs
- Availability of applicants' cost share funds
- Local issues
- Size of fleets – especially non-road vehicles
- Eventual effects of projects



# Public Outreach For Mitigation Planning

- DEC and other agencies working on outreach
- We are seeking high level ideas for potential projects and costs
  - DEC's VW Settlement website: [www.dec.ny.gov/chemical/109784.html](http://www.dec.ny.gov/chemical/109784.html)
  - EMailbox: VW.AppenD@dec.ny.gov
- They must be eligible actions
- We are seeking feedback on funding emphasis for Mitigation Plan



# Organizing a Proposal?

- No application process yet, but think about:
- Partner with large fleet, specific vehicles
- Project costs, matching costs
- Cost effectiveness of NOx reduction
- Ability to deploy in timely manner
- Support New York State air quality goals
- Take into account neighborhoods receiving disproportionate amount of diesel emissions
- Work with environmental group?



# Questions?

## Contact Information

NYSDEC

Bureau of Mobile Sources – App D

625 Broadway

Albany, NY 12233-3255

518-402-8292

Website: [www.dec.ny.gov/chemical/109784.html](http://www.dec.ny.gov/chemical/109784.html)

Email: [VW.AppenD@dec.ny.gov](mailto:VW.AppenD@dec.ny.gov)



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# **Bonus Slides**

## **Eligible Action Type Details**



# 1. Class 8 Local Freight Trucks and Port Drayage Trucks (Eligible Large Trucks)

1992 -2009 engine model year Class 8 truck	Government Owned	Non-Government Owned
Repower with new diesel or alternate fueled engine	Up to 100%	Up to 40%
Replace with new diesel or alternate fueled vehicle	Up to 100%	Up to 25% (local freight) Up to 50% (drayage)
Repower with all-electric engine (includes infrastructure)	Up to 100%	Up to 75%
Purchase new all-electric vehicle (can include infrastructure)	Up to 100%	Up to 75%



Alternate fuels include CNG, propane, hybrid



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## 2. Class 4-8 School Bus, Shuttle Bus, or Transit Bus (Eligible Buses)

Bus with 2009 engine model year and older	Government Owned	Non-Government Owned
Repower with new diesel or alternate fueled engine	Up to 100%	Up to 40%
Replace with new diesel or alternate fueled vehicle	Up to 100%	Up to 25%
Repower with all-electric engine (includes infrastructure)	Up to 100%	Up to 75%
Purchase new all-electric vehicle (can include infrastructure)	Up to 100%	Up to 75%



Government owned includes privately owned school buses under contract with a public school district

Alternate fuels include CNG, propane, hybrid



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### 3. Freight Switchers

Switcher with pre-Tier 4 that operate 1000 hours + a year	Government Owned	Non-Government Owned
Repower with new diesel or alternate fueled engine or generator sets	Up to 100%	Up to 40%
Replace with new diesel or alternate fueled freight switcher certified to meet USEPA emission standards	Up to 100%	Up to 25%
Repower with all-electric engine (includes infrastructure)	Up to 100%	Up to 75%
Purchase new all-electric freight switcher (can include infrastructure)	Up to 100%	Up to 75%

Alternate fuels include CNG, propane, hybrid



## 4. Ferry/Tugs

Ferries/Tugs with unregulated, Tier 1, Tier 2 marine engines	Government Owned	Non-Government Owned
Repower with new diesel or alternate fueled engine or generator sets	Up to 100%	Up to 40%
Repower with all-electric engine (includes infrastructure)	Up to 100%	Up to 75%

Alternate fuels include CNG, propane, hybrid

No funding for replacement ferries/tugs



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## 5. Ocean Going Vessel (OGV) Shorepower

Ocean Going Vessel Shorepower	Government Owned	Non-Government Owned
Shore-side system connected with local utility	Up to 100%	Up to 25%



## 6. Class 4-7 Local Freight (Medium Trucks) (GVWR 14,000 to 33,000 lbs)

1992 - 2009 engine model year medium trucks	Government Owned	Non-Government Owned
Repower with new diesel or alternate fueled engine	Up to 100%	Up to 40%
Replace with new diesel or alternate fueled vehicle	Up to 100%	Up to 25%
Repower with all-electric engine (including infrastructure)	Up to 100%	Up to 75%
Purchase new all-electric vehicle (including infrastructure)	Up to 100%	Up to 75%

Alternate fuels include CNG, propane, hybrid



# 7. Airport Ground Support Equipment

Tier 0, Tier 1, Tier 2 Uncertified, or certified to 3 g/bhp-hr spark ignition	Government Owned	Non-Government Owned
Repower with all-electric engine (including infrastructure)	Up to 100%	Up to 75%
Purchase new all-electric vehicle (including infrastructure)	Up to 100%	Up to 75%

Electrification projects only

No new diesel or alternate fuel projects



## 8. Forklifts and Port Cargo Handling Equipment

Forklifts with greater than 8,000lb lift capacity	Government Owned	Non-Government Owned
Repower with all-electric engine (including infrastructure)	Up to 100%	Up to 75%
Purchase new all-electric vehicle (including infrastructure)	Up to 100%	Up to 75%



Electrification projects only

No new diesel or alternate fuel projects



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