The Volkswagen Settlement and Development of the Massachusetts Beneficiary Mitigation Plan

Massachusetts Department of Environmental Protection

February 2018

Agenda

- Background
- NOx Impact and MA Emission Inventory
- Beneficiary Mitigation Plan (BMP)
- Eligible Mitigation Actions (EMAs)
- Inventory of MA Diesel Engines & MassDEP Projects
- Massachusetts' Interests
- Stakeholder Input
- Next Steps

VW's Violations

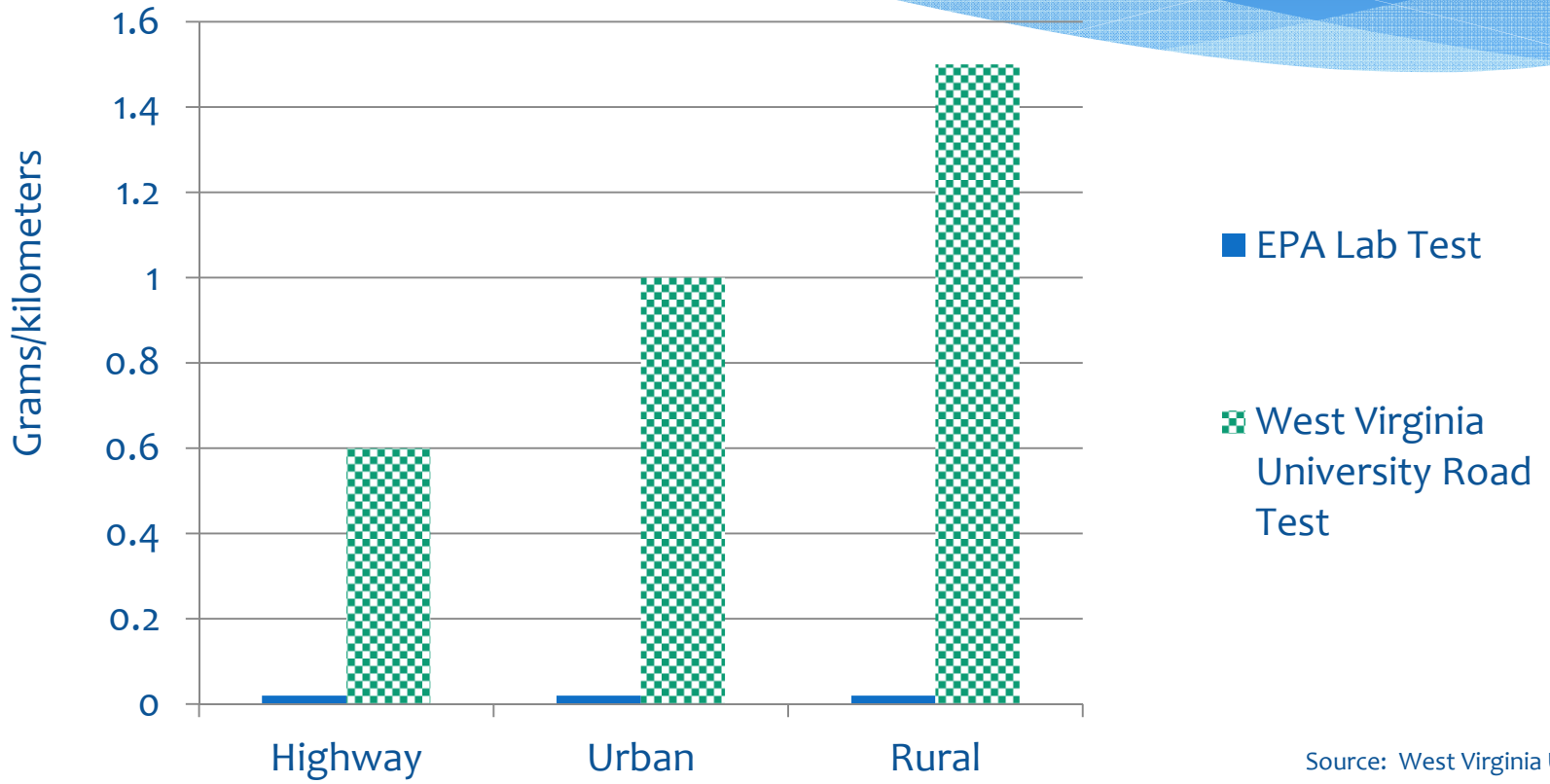
2004 Phase in of stronger emission standards for nitrogen oxides (NOx) begins

2009 VW begins installing defeat devices on diesel vehicles for next seven model years

2014 Researchers find "**significantly higher** in-use emissions" than certified levels for 2012 Jetta TDI

2015 VW admits altering vehicles

2014 VW Jetta Test Results (NOx Emissions)



Source: West Virginia University

Affected Vehicles

- **11 million vehicles worldwide**
- 590,000 2.0 & 3.0 liter engines in US
- MY 2009 – 2016
- Owned and leased
- **14,000+ in MA**

Audi

PORSCHE

VW Settlement Terms

Dollars (In Billions)

MA's Share & Obligations

- ✓ **$75 million from VW Settlement held in Trust**
- ✓ **Spend $ on variety of projects that reduce NOx**
- ✓ **Develop Beneficiary Mitigation Plan (BMP)**

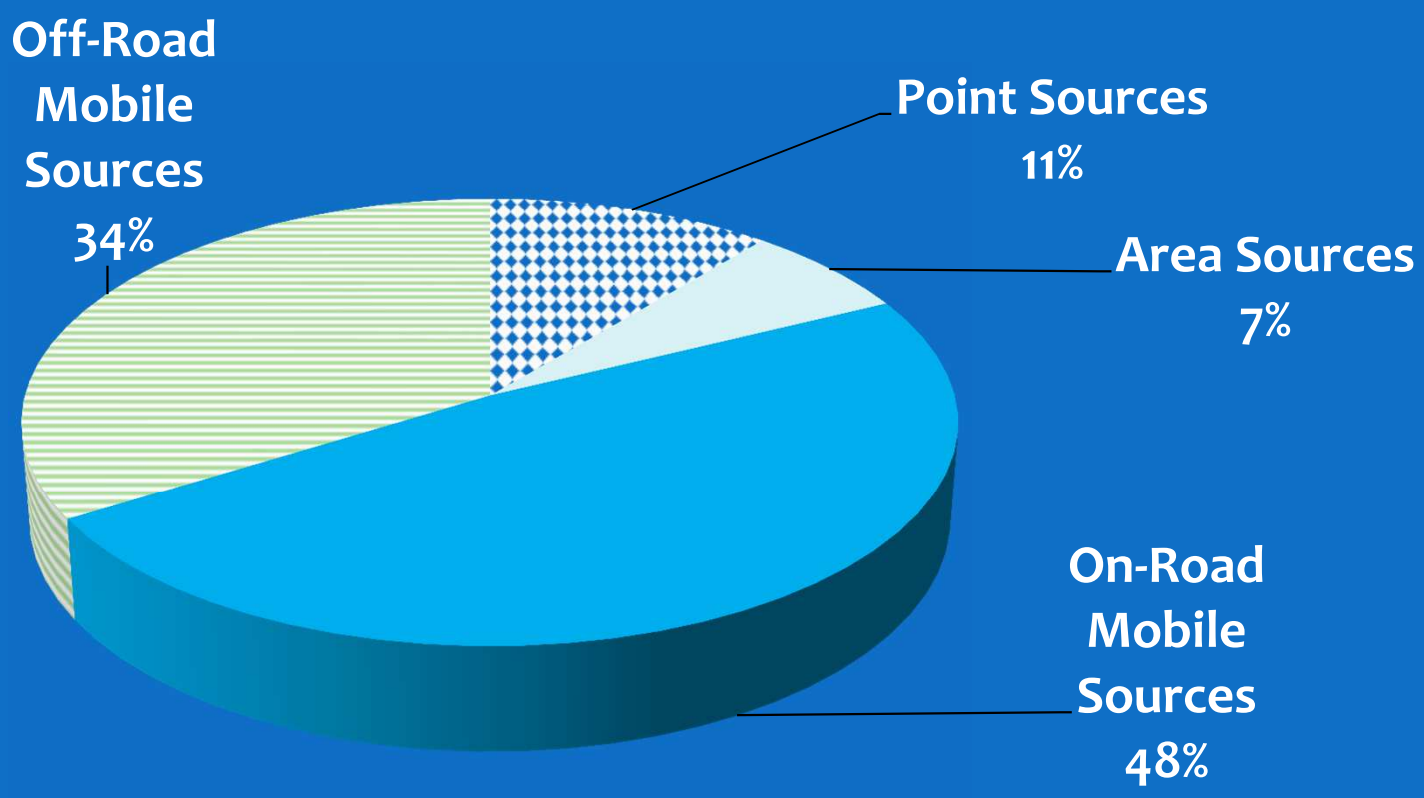
BMP

Effects of Excess NOx Emissions

NOx—

* Helps form ground level ozone and fine particulate matter (PM) – linked to **respiratory & cardiovascular problems**
* Aggravates respiratory diseases
* Contributes to **global warming, acid rain & nutrient overloading** in waterways

MA NOx 2011 Summer Day Emissions (385 Tons Per Day)



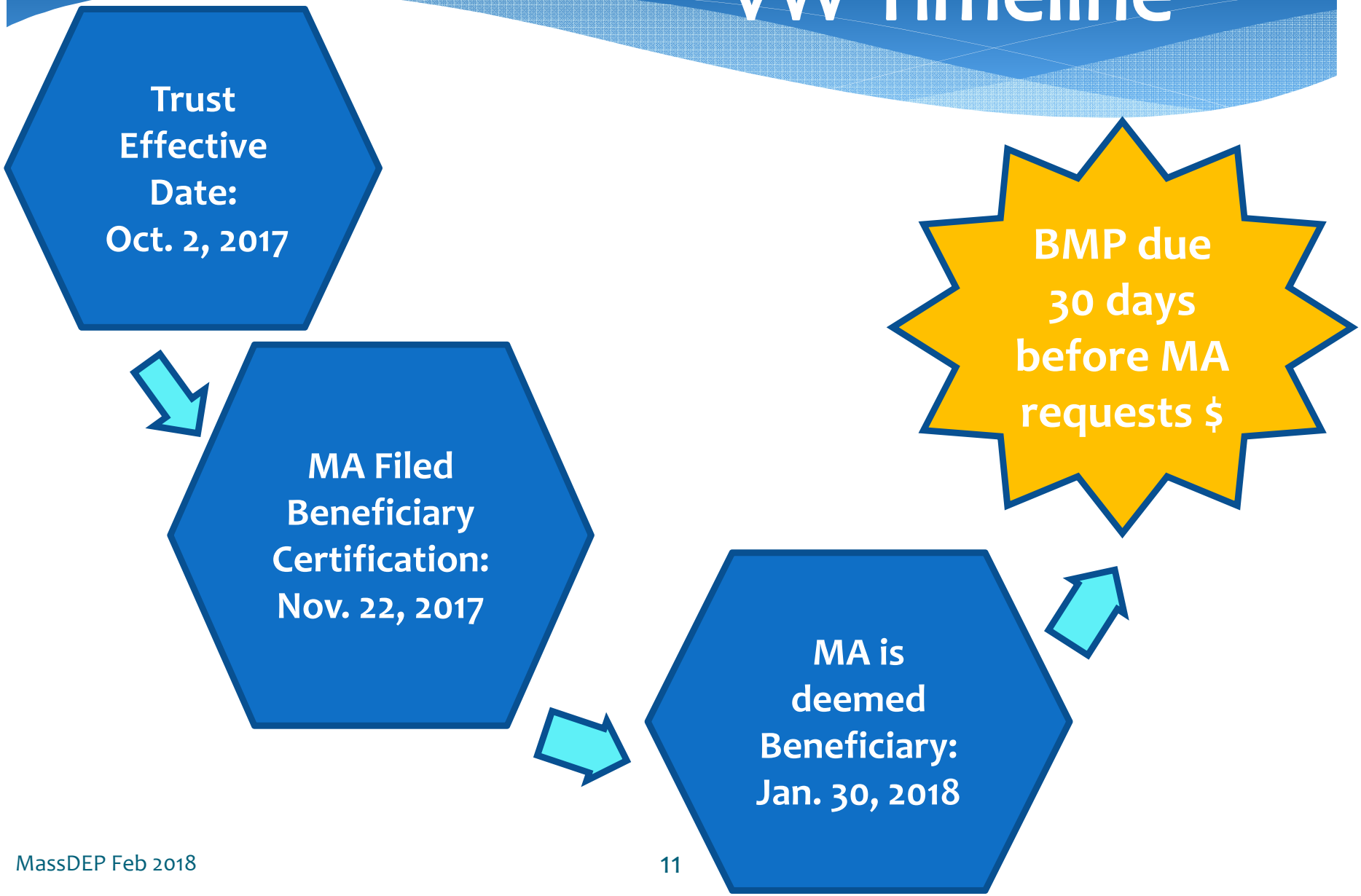
Source: MassDEP

Beneficiary Mitigation Plan

MA BMP must cover:

- ✓ Overall goal for use of funds
- ✓ Categories of planned Eligible Mitigation Actions (EMAs) (see Appendix D-2)
- ✓ Range of expected NOx emissions reductions
- ✓ Impact of EMAs on air quality in MA areas bearing disproportionate share of air pollution
- ✓ Public input process

VW Timeline


Trust Effective Date: Oct. 2, 2017
MA Filed Beneficiary Certification: Nov. 22, 2017
MA is deemed Beneficiary: Jan. 30, 2018
BMP due 30 days before MA requests $

Funding Timeline Possibilities

- ✓ 10 years to spend 80% of funding ($60 m) + another five years to spend remaining 20% ($15 m)
- ✓ Option to spend 1/3 of funding ($25 million) in 1st year & up to 2/3 in first two years ($50 million)

Eligible Mitigation Actions (EMAs)

1. Large Freight & Port Drayage Trucks
2. School/Shuttle/Transit Buses
3. Freight Switchers
4. Ferries/Tugboats
5. Shore Power for Ocean Going Vessels (OGV)
6. Medium Local Freight Trucks
7. Airport Ground Support Equipment (GSE)
8. Forklifts & Port Cargo Handling Equipment (CHE)
9. Light Duty Zero Emission Vehicle Supply Equipment (EVSE)
10. Diesel Emissions Reduction Act (DERA) Option

Appendix D-2: https://www.vwcourtsettlement.com/wp-content/uploads/documents/DOJ/Approved%20Appendix%20D-2.pdf

Technology Options

* Repower w/new diesel, alternate fueled (AF) or electric engine
* Replace w/new diesel, AF or all electric vehicle/equipment
* Shore power alone (for ocean going vessels only)

Alternate Fueled Vehicle

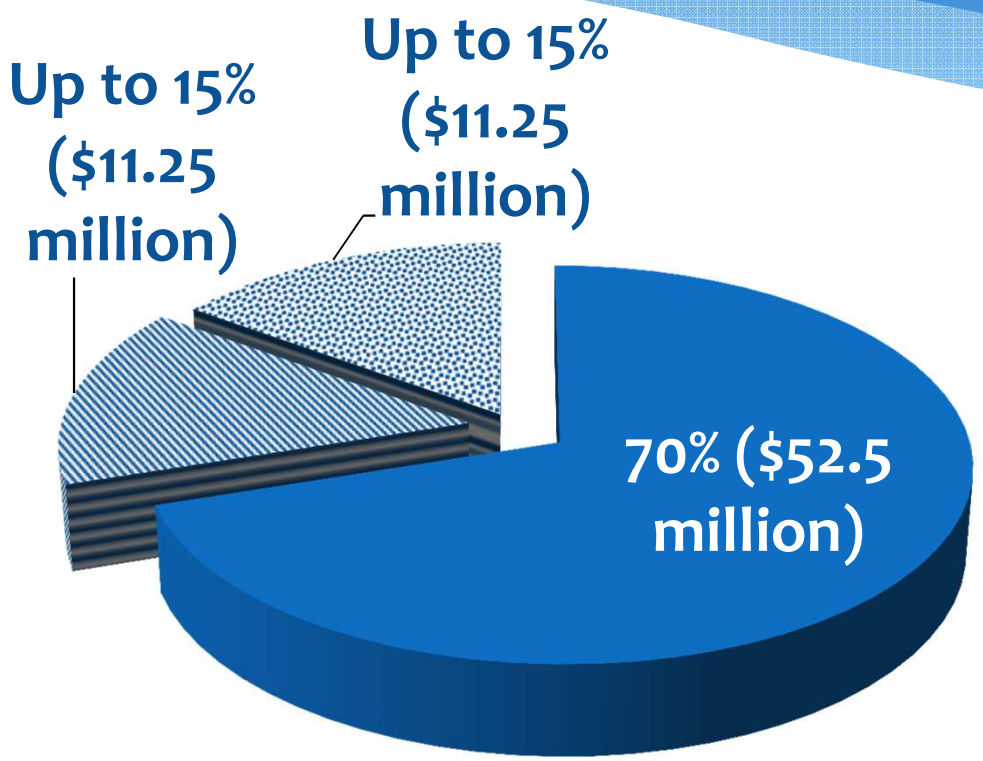
Vehicle that uses fuel different from or <u>in addition to</u> gas or diesel

Examples: CNG, propane, diesel electric hybrid

Funding

- Government owned: **up to** 100% funded
- Non-government owned: varies
- Agency discretion
- Repower or replace w/new diesel or AF engine/vehicle/ equipment: $ covers purchase & installation of engine
- Repower or replace w/all-electric engine/vehicle/ equipment: $ covers purchase & install of engine **and** charging infrastructure (CI)

Funding Categories



- Nine Diesel Engine/Vehicle EMAs
- Administrative Costs
- Electric Vehicle Supply Equipment

Source: MassDEP

Scrappage Requirements

* All EMAs except OGV shore power & EVSE
* Drill 3-inch hole in engine block
* Dispose of hazardous liquids in compliance w/ local, state, federal regulations
* If replacing vehicle or equipment, disable chassis

Source: MassDEP

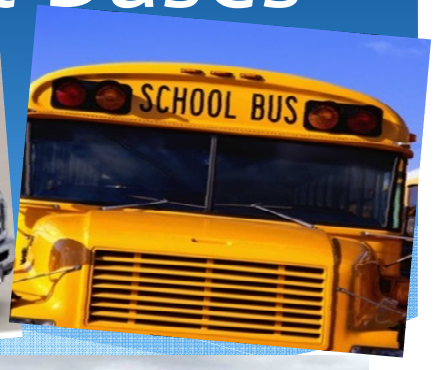
#1. Large Local Freight & Port Drayage Trucks

Eligible Engines/Vehicles:

- ✓ MY 1992-2009 engines
- ✓ 33,001 lbs. or more GVWR (Class 8)
- ✓ Operate in MA

Technology Options	Maximum Funding %	
	Gov't	*Non-Gov't*
Repower w/new diesel or AF engine	100%	40%
Replace w/new diesel or AF vehicle	100%	25% (50% for drayage)
Repower w/new all-electric engine & CI	100%	75%
Replace w/new all-electric vehicle & CI	100%	75%

#2. School, Shuttle and Transit Buses



Eligible Engines/Vehicles:

- ✓ MY 2009 or older engines
- ✓ 14,001 lbs.+ (Class 4-8)
- ✓ Gov't. includes school buses contracting w/public school district

Technology Options	Maximum Funding %	
	Gov't	*Non-Gov't*
Repower w/new diesel or AF engine	100%	40%
Replace w/new diesel or AF vehicle	100%	25%
Repower w/new all-electric engine & CI	100%	75%
Replace w/new all-electric vehicle & CI	100%	75%

#3. Freight Switchers

Eligible Switchers:

- ✓ Pre-Tier 4 engines (MY 2014 & older)
- ✓ Operate ≥1,000 hrs./year

Technology Options	Maximum Funding %	
	Gov't	*Non-Gov't*
Repower w/new diesel or AF engine or Gen Set	100%	40%
Replace w/new diesel or AF switcher or Gen Set	100%	25%
Repower w/new all-electric engine or Gen Set, & CI	100%	75%
Replace w/new all-electric switcher, including Gen Set, & CI	100%	75%

#4. Ferries and Tugs

Eligible Engines:

√ Unregulated, Tier 1 and Tier 2 marine engines

Technology Options	Maximum Funding %	
	Gov't	*Non-Gov't*
Repower w/new Tier 3 or 4 diesel or AF engine	100%	40%
Repower w/new all-electric engine & CI	100%	75%

#5. Shore Power for Ocean Going Vessels

Eligible Systems Must:

- ✓ Comply w/international shore power design standards
- ✓ Source power from local grid

Technology Option	Maximum Funding %	
	Gov't	*Non-Gov't*
Shore-side power system	100%	25%

#6. Medium Local Freight Trucks

Eligible Engines/Vehicles:

- ✓ MY 1992-2009 engines
- ✓ 14,001 – 33,000 lbs. (Classes 4-7)
- ✓ Operate in MA

Technology Options	Maximum Funding %	
	Gov't	*Non-Gov't*
Repower w/new diesel or AF engine	100%	40%
Replace w/new diesel or AF vehicle	100%	25%
Repower w/new all-electric engine & CI	100%	75%
Replace w/new all-electric vehicle & CI	100%	75%

#7. Airport Ground Support Equipment (GSE)

Eligible Engines/Equipment:

- ✓ Tier O, Tier, 1 or Tier 2 diesel engines
- ✓ Uncertified, or certified to ≥3 g/bhp-hr, spark ignition engines

Technology Options	Maximum Funding %	
	Gov't	*Non-Gov't*
Repower w/new all-electric engine & CI	100%	75%
Replace w/new all-electric equipment & CI	100%	75%

#8. Forklifts and Port Cargo Handling Equipment (CHE)

Eligible Engines/Equipment:

- ✓ >8,000 lb. lift capacity forklifts and CHE
- ✓ CHE operate at ports

Technology Options	Maximum Funding %	
	Gov't	*Non-Gov't*
Repower w/new all-electric engine & CI	100%	75%
Replace w/new all-electric equipment & CI	100%	75%

#10. Diesel Emissions Reduction Act (DERA) Option

- Use $ for projects not allowed by VW but eligible under DERA

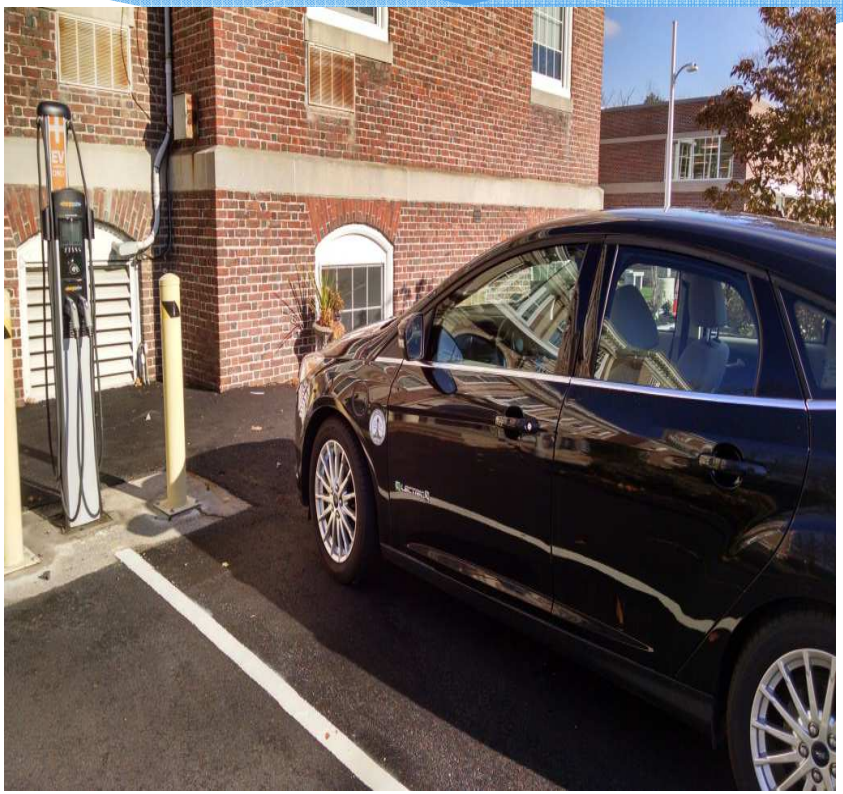
  Examples: Repowers, replacements, retrofits, verified idle reduction, low resistance tires, engine upgrades & other technologies

- See Environmental Protection Agency (EPA) webpage:

  https://www.epa.gov/sites/production/files/2017-01/documents/vw-dera-option-elgble-mitig-compar-2017-01.pdf

#9. Light-Duty Zero Emission Vehicle Supply Equipment (EVSE)

- ✓ Level 1, Level 2 or Fast Charging EVSE in public place, workplace or multi-unit dwelling (MUD)
- ✓ Light-duty hydrogen fuel cell EVSE



Source: MassDEP

Zero Emission EVSE

Technology Options	Maximum Funding %
EVSE	
- Public use at gov't owned property	100%
- Public use at non-gov't property	80%
- At workplace but not for public use	60%
- At multi-unit dwelling but not for public use	60%
Hydrogen Fuel Cell EVSE	
- Public use & dispenses 250 kg/day	33%
- Public use & dispenses 100 kg/day	25%

Current MA EVSE Projects

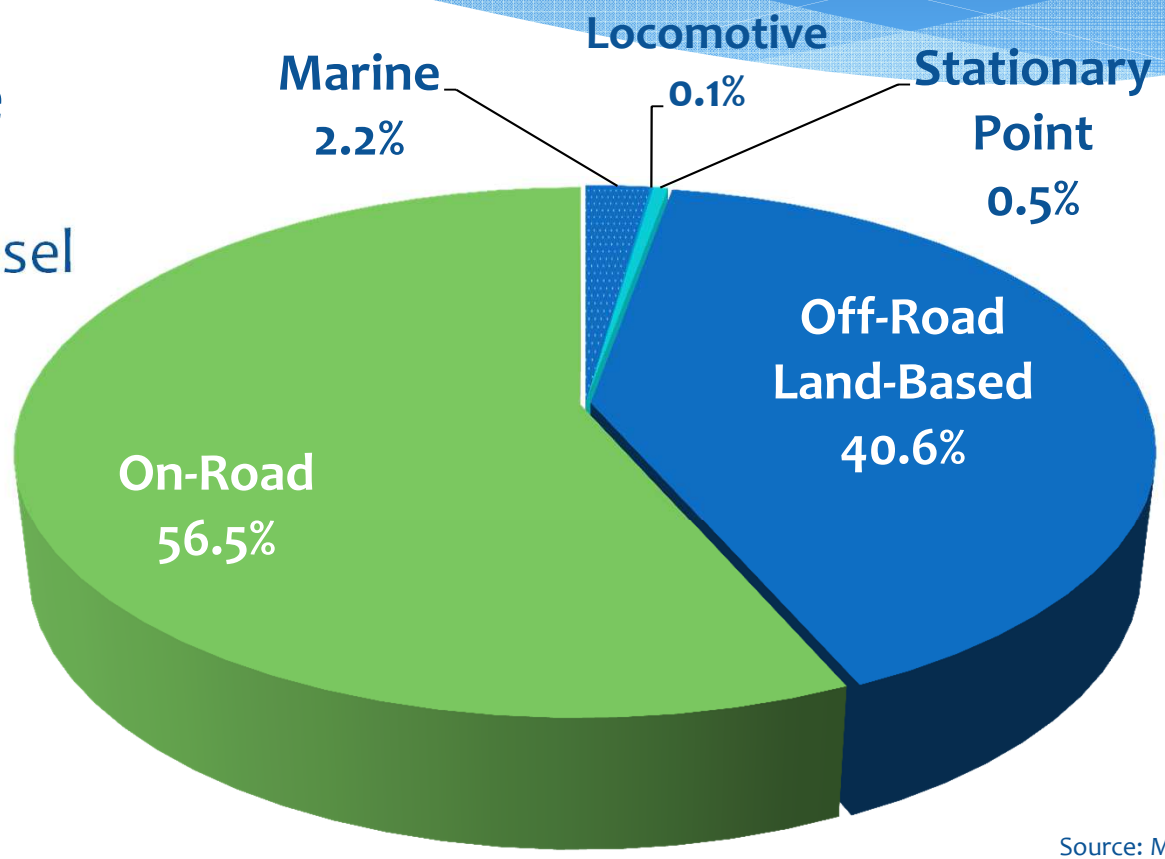
1) MassDEP Electric Vehicle Incentive Program (MassEVIP)
   - 480 private charging stations
   - 82 public charging stations
   - 311 street addresses

2) Mass Dept. of Transportation (MassDOT)
   - Installed 6 DCFCs on Mass Pike

Source: MassDEP

MA-Registered Diesel Engines in 2016 (258,352)

Based on the most recent MassDEP Diesel Emissions Inventory



Source: MassDEP

Past MassDEP Replacement Projects

Source: MassDEP

- **AF Vehicle Replacements**
- Replaced 11 diesel trucks w/diesel-hybrid trucks for $401K
- Scrapped old vehicles

Past MassDEP Repower Projects

New engines in 18 MBTA Head End Power (HEPs) units for $1.75 m

Source: MassDEP

Repowered 1 construction engine for $21K

Source: MassDEP

Massachusetts' Interests

- Consider all EMAs
- Use up to 15% of $ to develop EV-charging infrastructure to promote electric vehicles
- Use up to 15% for administrative costs if paired w/EMA
- Fund projects that "electrify" transportation system
- Focus on areas serving Environmental Justice (EJ) populations
- Geographic distribution

Next Steps

* Hold additional stakeholder meetings

MassDEP Southeastern Office, Jan. 29, 1-3 pm
Brockton Public Library, Brockton, Jan. 29, 5:30-7:30 pm
Holyoke Community College, Holyoke: Feb. 7, 2-4 pm & 5:30-7:30 pm
DEP Northeast Office, Wilmington: Feb. 12, 2-4 pm
UMass Lowell Recreation Center, Lowell: Feb. 12, 6-8 pm
MassDEP Headquarters, Boston: Feb. 15, 1-3 pm & 6-8 pm
MassDEP Central Office, Worcester: Feb. 27, 1-3 pm & 6-8 pm

Next Steps (Cont.)

- Issue Request for Information (RFI)
- Submit BMP to Wilmington Trust
- **SUBMIT COMMENTS/PROPOSALS TO:**

1) MassDEP's webpage at: https://www.mass.gov/guides/volkswagen-diesel-settlements-environmental-mitigation

OR

2) vw.settlement@state.ma.us

Contacts

Susan Lyon
MassDEP
One Winter St., 6th Floor, Boston, MA 02108
susan.lyon@state.ma.us
617-556-1101

Sharon Weber
MassDEP
One Winter St., 6th Floor, Boston, MA 02108
sharon.weber@state.ma.us
617-556-1190