



Volkswagen Settlement – State Implementation, and ZEV Investment Opportunities

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+ Agenda

- Overview of NASEO and State Energy Offices
- State opportunities under the Environmental Mitigation Trust
- Electric vehicle market overview
- Zero Emission Vehicle (ZEV) Investment Program
- Considerations and additional resources



+ About NASEO

- Formed by the states in 1986
- Membership includes the 56 Governor-designated energy policy officials from each state and territory, as well as private sector affiliates
- Facilitates peer learning across states to improve the effectiveness of energy programs and policies
- Serves as a resource for and about State and Territory Energy Offices
- Advocates on behalf of the State Energy Offices with Congress, federal agencies, and private-sector organizations
- Works through topical committees to facilitate peer learning across states to improve the effectiveness of energy policies and programs
- Visit www.naseo.org for more information



+ Environmental Mitigation Trust

- \$2.7 billion will be placed in an Environmental Mitigation Trust, and will be allocated to beneficiaries (states, tribes, and certain territories) based on the number of impacted VW vehicles in their jurisdictions
- The Trust will support projects that reduce NOx emissions where the VW vehicles were, are, or will be operated

This table reflects the amount of funds included in the 2.0 liter settlement. An additional \$225 million was added to the Environmental Mitigation Trust from the 3.0 liter settlement and allocated to states using the same formula as the 2.0 liter settlement.

Eligible Beneficiary	Initial Allocations	Eligible Beneficiary	Initial Allocations	Eligible Beneficiary	Initial Allocations
Puerto Rico	\$ 7,500,000	Louisiana	\$ 18,009,993	Colorado	\$ 61,307,576
North Dakota	\$ 7,500,000	Kentucky	\$ 19,048,080	Wisconsin	\$ 63,554,019
Hawaii	\$ 7,500,000	Oklahoma	\$ 19,086,528	New Jersey	\$ 65,328,105
South Dakota	\$ 7,500,000	Iowa	\$ 20,179,540	Oregon	\$ 68,239,143
Alaska	\$ 7,500,000	Maine	\$ 20,256,436	Massachusetts	\$ 69,074,007
Wyoming	\$ 7,500,000	Nevada	\$ 22,255,715	Maryland	\$ 71,045,824
District of Columbia	\$ 7,500,000	Alabama	\$ 24,084,726	Ohio	\$ 71,419,316
Delaware	\$ 9,051,682	New Hampshire	\$ 29,544,297	North Carolina	\$ 87,177,373
Mississippi	\$ 9,249,413	South Carolina	\$ 21,636,950	Virginia	\$ 87,589,313
West Virginia	\$ 11,506,842	Utah	\$ 32,356,471	Illinois	\$ 97,701,053
Nebraska	\$ 11,528,812	Indiana	\$ 38,920,039	Washington	\$ 103,957,041
Montana	\$ 11,600,215	Missouri	\$ 39,084,815	Pennsylvania	\$ 110,740,310
Rhode Island	\$ 13,495,136	Tennessee	\$ 42,407,793	New York	\$ 117,402,744
Arkansas	\$ 13,951,016	Minnesota	\$ 43,638,119	Florida	\$ 152,379,150
Kansas	\$ 14,791,372	Connecticut	\$ 51,635,237	Texas	\$ 191,941,816
Idaho	\$ 16,246,892	Arizona	\$ 53,013,861	California	\$ 381,280,175
New Mexico	\$ 16,900,502	Georgia	\$ 58,105,433	Tribal Subaccount	\$ 49,652,857
Vermont	\$ 17,801,277	Michigan	\$ 60,329,906	Trust Cost Subaccount	\$ 27,000,000
				Tribal Cost Subaccount	\$ 993,057
				Total	\$ 2,700,000,000

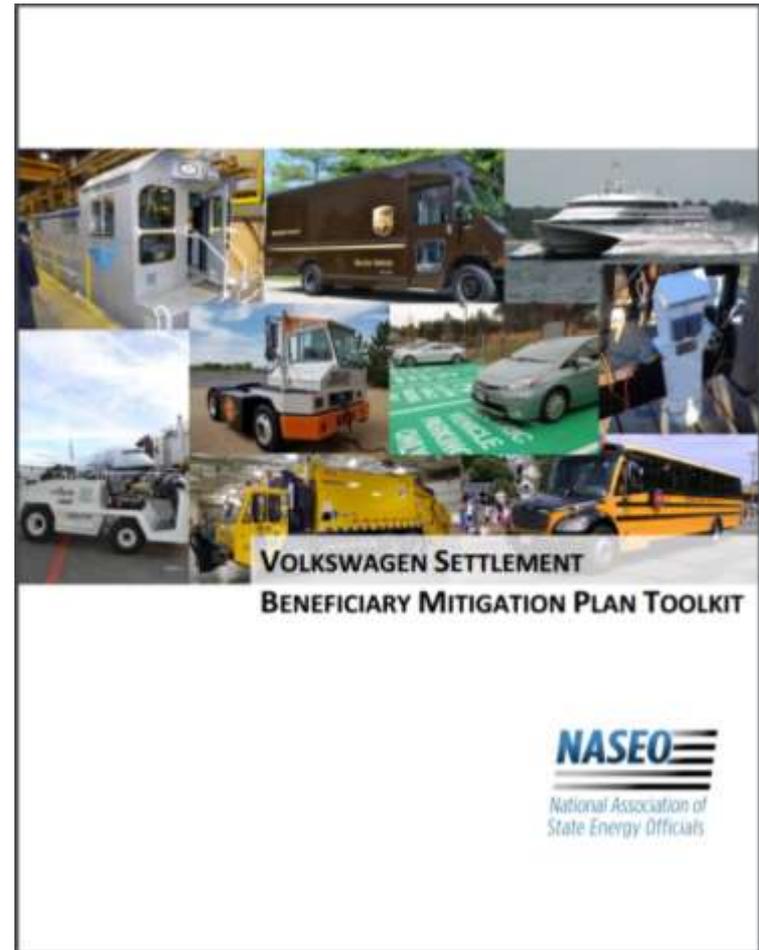
+ Environmental Mitigation Trust: State Beneficiary Mitigation Plan

- States must submit a high-level Beneficiary Mitigation Plan that summarizes how the funds will be spent. Plans should address:
 - Overall goal for the use of the funds;
 - Categories of anticipated eligible mitigation actions, and preliminary assessment of the percentages of funds anticipated to be used for each type of action;
 - How the proposed actions will impact air quality in areas that bear a disproportionate share of the air pollution burden within its jurisdiction;
 - Expected ranged of emissions benefits.
- Beneficiaries may adjust their goals and spending plans at their discretion and will provide the Trustee with updates to their Beneficiary Mitigation Plan
- Beneficiaries may use their Final Approved DERA Workplan if they intend to avail themselves of the DERA option



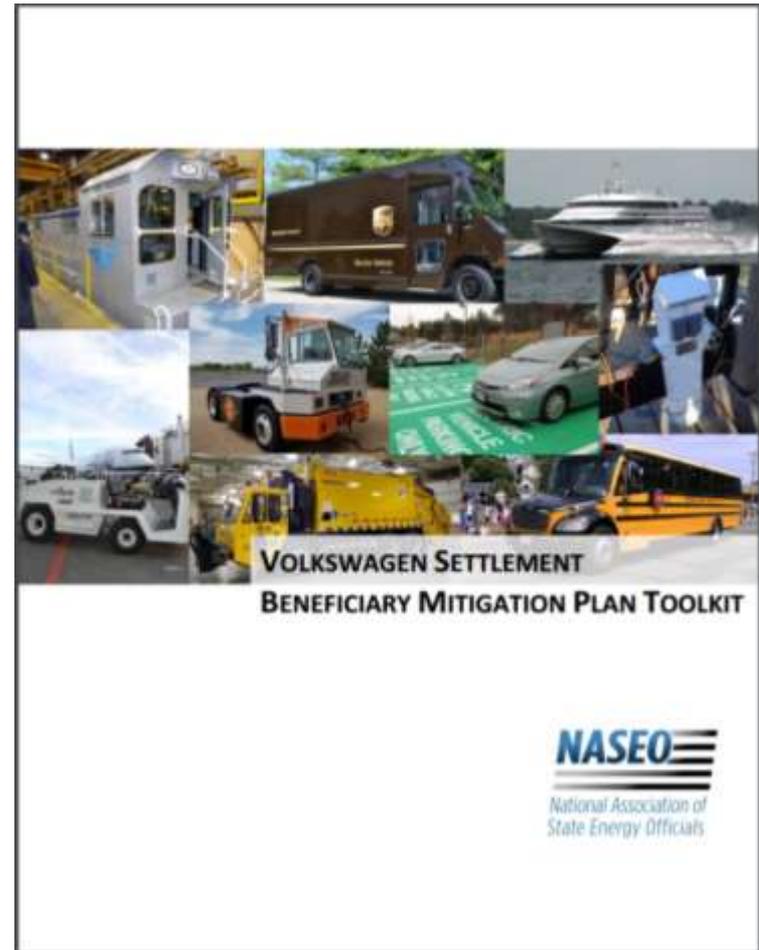
+ NASEO's VW Beneficiary Mitigation Plan Toolkit

- Reference for state agencies
- Provides overview of the settlement
- Highlights plan considerations for beneficiaries
- Highlights repower and replacement options, and tools states can use to calculate NOx emissions
- Summarizes each eligible mitigation action and ranges of expected NOx reductions
- Showcases successful implementation of technologies
- *Authored by NASEO and Vermont Energy Investment Corporation*



+ Plan Considerations for Beneficiaries: Supporting Broader Goals

- Projects must result in NOx reductions. But projects can also help beneficiaries achieve broader goals, such as:
 - Greenhouse gas emissions reductions and Renewable Portfolio Standards
 - Enhanced fuel security, energy assurance, and economic development
 - Improved community health
 - Reduced impacts on disproportionately affected communities



+ Repower and Replacement Options, Emissions Tools

- Alternative fuel vehicles will decrease NOx and other emissions. Fuel choices include:
 - Natural Gas
 - Propane
 - Electric
 - Clean Diesel
- Variety of emissions tools available:
 - Diesel Emissions Quantifier
 - AFLEET
 - eGRID
 - Shore Power Emissions Calculator
- *Webinar with overview of DEQ and AFLEET available at www.naseo.org/volkswagen-settlement*



+ Example from Toolkit: Eligible Mitigation Action 1 – *Eligible Large Trucks*



- For each action, Toolkit provides summary of eligible vehicles;
- Illustration of typical emissions impact of repower or replacement of eligible vehicles;
- Summary of the percentage of project that can be funded through the trust;
- Case study highlighting successful implementation of project.

Table 1: Typical Emissions Impact of a Port Drayage Truck per Year - NO_x pounds⁵⁷

Old Vehicle Year	Port Drayage Truck	Repower or Replacement Equipment – Port Drayage Truck				
		New Diesel	CNG/LNG	Hybrid	Plug-In Hybrid	All-Electric
Pre-1991		-1,282	-1,298	-1,298	-1,301	-1,326
1991-1993		-1,061	-1,077	-1,077	-1,080	-1,105
1994-1997		-1,061	-1,077	-1,077	-1,080	-1,105
1998-2003		-840	-856	-856	-859	-884
2004-2006		-398	-413	-414	-417	-442
2007-2009		-221	-237	-237	-240	-265
2010+			-15	-16	-19	-44

Table 2: Percentage of Project that can be funded through Trust – Class 8 Local Freight Trucks and Port Drayage 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% (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%

+ Electric Vehicles: Market Snapshot

Monthly Sales - March 2017



Market Growth



On the Road



Infrastructure



+ Electric Vehicles and EV Charging

- “EVs” mean battery-electric vehicles (like the Nissan Leaf or Tesla), and plug-in hybrid electric vehicles (like the Chevy Volt)
- Passenger EVs use Level 1, Level 2 and DC fast charge stations

Charging Systems

Plug-in hybrid and all-electric vehicles need to be connected to a power source to charge their batteries. There are three main types of electric vehicle chargers:



Level One uses the same 120 volt current found in standard household outlets. Enabling charging can be simple as installing dedicated 120 volt outlets. The disadvantage with this type of charger is it is slow and typically provides 3-5 miles of range per hour.



Level Two uses 240 volt power to speed up vehicle charging. This type of system requires dedicated charging equipment and electrical wiring capable of handling higher voltage power. Charge times are 10-20 miles of range per hour.



DC Fast Charger allows vehicle to charge their battery (up to 80 percent of battery capacity) in 20-30 minutes. Requires more expensive charging equipment as well as high voltage 3 phase power connections.

For more information on charging systems, visit the U.S. Department of Energy's Alternative Fuels Data Center.⁷

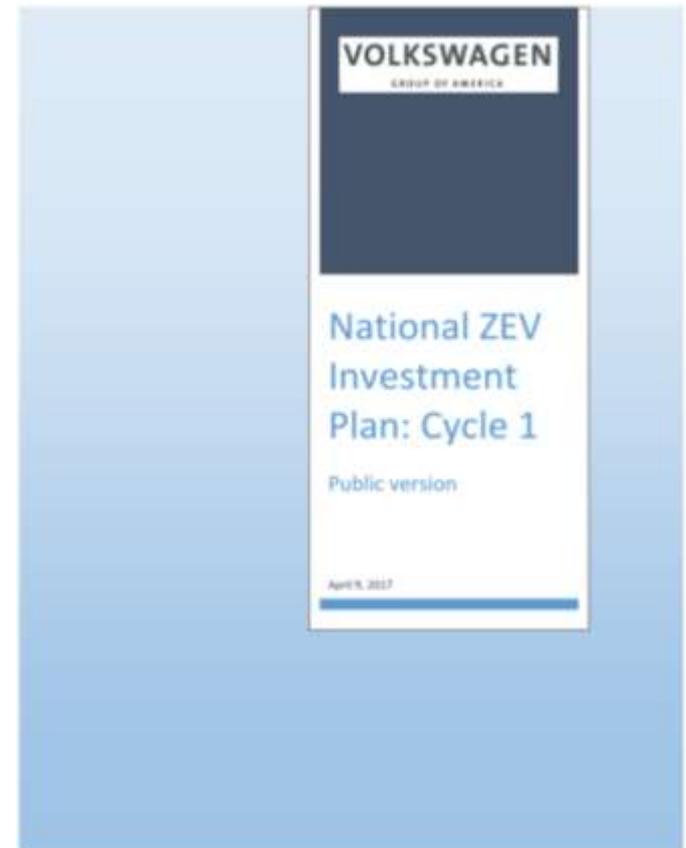
+ Electric Vehicles: Additional Info

- Medium- and heavy-duty vehicles, as well as off-road vehicles can be electrified
- The VW settlement offers two opportunities for electrification: through state and tribal investment via the Environmental Mitigation Trust (supports fleet electrification and EV charging stations); and through Electrify America's ZEV Investment plan



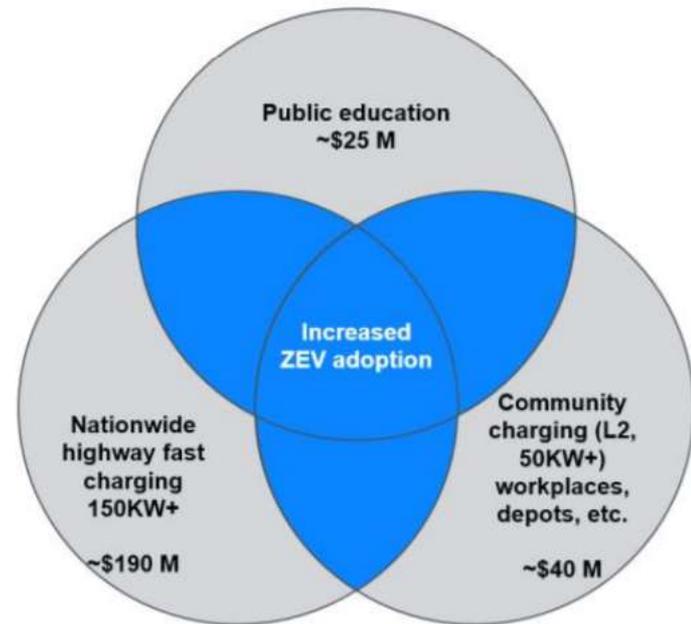
+ Electrify America's National ZEV Investment Plan

- VW – through their new subsidiary, Electrify America – will spend \$2 billion over 10 years on actions that will support increased use of zero emission vehicle (ZEV) technology in the U.S.
- Electrify America (EA) released their National ZEV Investment Plan in April
- The plan describes \$300 million of National ZEV Investments that will be implemented over the first 30 months. Eligible expenses include:
 - Design/planning, construction/installation, and operation and maintenance of ZEV infrastructure
 - Programs or actions to increase public exposure or access to ZEVs
 - Brand-neutral media activities that will provide education and raise awareness on ZEVs



+ Electrify America's National ZEV Investment Plan

- EA has selected 11 metropolitan areas for “community charging” investments over the first 30 months (plus 5 additional metropolitan areas in CA)
- EA plans to install DC fast chargers at approximately 240 highway sites across 39 states.
- EA will invest \$25 million in “brand-neutral” education and awareness activities
- EA is continuing to solicit proposals on their website, www.electrifyamerica.com



Overview of Cycle 1 National Investment Plan

+ Considerations and Next Steps

- States and tribes can coordinate and partner on EMT projects
 - Contact your State Energy Office to learn more about the state's approach to the settlement
- Clean Cities Coalitions are on-the-ground alternative fuel vehicle experts with the latest information on available technologies and additional incentives in your area
 - Contact your local/closest Clean Cities Coordinator to learn more
- The National Labs and others have emissions tools, alternative fuels literature, and additional technical assistance capabilities
 - Contact the National Renewable Energy Laboratory, or another national lab to learn more
- Electrify America is continuing to accept project ideas through their website and is considering additional investment in the states and tribes
 - Visit www.electrifyamerica.com to learn more and submit your proposal

+ Resources

- Alternative Fuels Data Center: offers comprehensive information, statistics, fuel prices, maps, calculators and tools to support a community's transition to alternative fuels.
<http://www.afdc.energy.gov/data/10381>
- Clean Cities Coalitions: Coalitions work with local fleets to develop and implement strategic plans to reduce petroleum use in the cities and counties they serve. <https://cleancities.energy.gov/coalitions/contacts/>
- Electrify America website: <https://www.electrifyamerica.com/>
- Additional Resources from NASEO: www.volkswagensettlement.org



+ Contact Information



Thank You

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www.naseo.org/volkswagen-settlement