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Iowa's Volkswagen Settlement Beneficiary Mitigation Plan

IOWA'S PLAN FOR USING FUNDS FROM THE NATIONAL VOLKSWAGEN SETTLEMENT

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Acronyms and Abbreviations

BMP	Beneficiary Mitigation Plan
DERA	Diesel Emission Reduction Act
EMAs	Eligible mitigation actions
EPA	United States Environmental Protection Agency
Indian Tribe Trust Agreement	Environmental Mitigation Trust for Indian Tribe Beneficiaries
Iowa DOT	Iowa Department of Transportation
NAAQS	National Ambient Air Quality Standards
NEI	National Emissions Inventory
NO	Nitric oxide
NO2	Nitrogen dioxide
NOx	Nitrogen oxides
State Trust Agreement	Environmental Mitigation Trust for State Beneficiaries
Trust	Environmental Mitigation Trust
Trustee	Willington Trust, N.A.
VW	Volkswagen and associated companies
ZEV	Zero emission vehicle

Introduction

Iowa is required to complete this Beneficiary Mitigation Plan (BMP) to inform the public on how it intends to spend the monies the state will receive from the Volkswagen Settlement. This plan outlines a high-level vision for use of Iowa's allocation of the settlement funds.

A formal public comment period was conducted on the draft version of this document from April 23 through May 25, 2018. If you have any questions or wish to comment on the plan, please visit our website at https://www.iowadot.gov/vwsettlement/.

About the Settlement

In January 2016, the United States filed a complaint against the companies of Volkswagen (VW), claiming they violated the federal Clean Air Act. It was alleged that VW installed software in approximately 580,000 diesel vehicles from 2009-2016, allowing the emissions control system to perform differently during emissions testing than during normal vehicle operation. Although the vehicles appeared to be compliant during testing, they were emitting up to 40 times the allowable amount of nitrogen oxides (NOx) during normal driving operations.

The first partial settlement, which addressed 2.0-liter diesel engines, was lodged with the court on June 28, 2016, and approved on October 25, 2016. A second partial settlement was lodged on December 20, 2016 addressing 3.0-liter engines, and was approved on May 17, 2017. A third partial settlement addressing civil penalties was lodged on January 11, 2017, and approved on April 13, 2017.

The settlements require that VW spend approximately $15 billion to establish three separate programs, listed below, to help mitigate the air quality impacts from the harmful excess NOx emissions:

1. **Buy Back/Emissions Modifications ($10 billion):** VW must buy back or perform approved emissions modifications on at least 85 percent of the affected vehicles before June 2019.

2. **Zero-Emission Vehicle (ZEV) Investment Commitment ($2 billion):** VW is required to support ZEV infrastructure, education, and access by investing monies over a 10-year period.

3. **Environmental Mitigation Trust ($2.9 billion):** This fund has been established by VW to fund mitigation actions that will reduce emissions of nitrogen oxides in all fifty states, Puerto Rico, the District of Columbia, and tribal nations.

About the Environmental Mitigation Trust

As required in the first and second partial settlements, VW must pay approximately $2.9 billion into an Environmental Mitigation Trust (Trust). The Trust will be used to fund defined eligible mitigation actions (EMAs) that will reduce NOx emissions. Each beneficiary will receive an allocation primarily based on the number of registered subject vehicles within its boundaries. Iowa is expected to receive approximately $21 million.

In March 2017, the court appointed Willington Trust, N.A. to serve as the trustee and administer the Trust. The Trust became effective on October 2, 2017, when the fully executed Trust documents were filed with the court. Two separate Trusts were established: the Environmental Mitigation Trust for State Beneficiaries (State Trust Agreement) and the Environmental Mitigation Trust for Indian Tribe Beneficiaries (Indian Tribe Trust Agreement).

Under the terms of the State Trust Agreement, Iowa had to submit a completed Certification for Beneficiary Status form within sixty (60) days of the effective date in order to receive the funds. Iowa submitted this form on November 21, 2017, identifying the Iowa Department of Transportation (Iowa DOT) as the lead agency to coordinate the use of Iowa's Trust funds. Iowa received official beneficiary status on January 29, 2018.

Having been deemed a beneficiary, Iowa must submit a BMP to the trustee no later than thirty (30) days prior to requesting funding for any eligible projects. This plan must also be made available to the public.

About the Beneficiary Mitigation Plan Requirements

As stated in Paragraph 4.1 of the State Trust Agreement, Iowa's mitigation plan should summarize how the Trust funds will be used by addressing the following:

- Iowa's overall goals for use of the funds
- The eligible mitigation actions selected to achieve Iowa's goals
- The estimated percentage of the funds assigned to each action
- A general description of the range of expected emission reductions
- Prioritizing air quality improvements in areas that are disproportionately affected by air pollution
- Ways in which Iowa will seek and consider public opinion on its plan.

The BMP is not a request for project proposals; it is meant to provide the public with a high-level view of how Iowa intends to use the mitigation funds they will receive. The information in the plan was developed by a state agency working group that was tasked with reviewing the settlement requirements, consulting available resources on air quality and alternative fuels, and engaging the public to determine the best use of the Volkswagen Settlement funds.

The working group is made up of representatives from the following state agencies:

- Iowa Department of Administrative Services
- Iowa Department of Education
- Iowa Department of Justice
- Iowa Department of Natural Resources
- Iowa Department of Public Health
- Iowa Department of Transportation
- Iowa Economic Development Authority

This plan is not binding and the Iowa DOT may adjust the plan at any time, at its discretion. Any updates to the plan will be provided to the Trustee and to the public.

What are the Eligible Mitigation Actions?

The Trust is very specific regarding the types of projects that can use settlement funds. Appendix D-2 of the State Trust Agreement lists the 10 mitigation actions and expenditures that are allowed under the settlement. These actions are designed to mitigate the impact the excess NOx emissions had on Iowa's air quality. The EMAs include projects that repower or replace the following diesel vehicle and/or equipment types:

- Class 8 local freight or port drayage trucks (large trucks)
- Class 4-7 local freight trucks (medium trucks)
- Class 4-8 school, shuttle, or transit buses
- Freight switchers (pre-Tier 4 locomotives that operate 1,000 or more hours per year)
- Ferries/Tugs (unregulated, Tier 1 or Tier 2 marine engines)
- Ocean going vessel shorepower (Category 3 river or fresh water lake vessels)
- Airport ground support equipment
- Forklifts and port cargo handling equipment (greater than 8,000 lbs. lift capacity)

Trust funds may also be used to invest in the following:

- Light-duty zero-emission vehicle supply equipment
- Diesel Emission Reduction Act (DERA) grant program

Background on NOx and Iowa's Air Quality

Nitrogen oxides (NOx) are emitted as a byproduct of combustion. In engines, NOx is commonly formed when nitrogen in the air is oxidized in the high temperature combustion environment. Diesel engines have a higher combustion temperature than other fuel engines. These higher temperatures help to make diesel engines more fuel-efficient, but they create favorable conditions for NOx production.

NOx is a collective term for two common oxides of nitrogen, nitric oxide (NO) and nitrogen dioxide (NO2). Both are significant contributors to air pollution. These gases can directly affect human health and they contribute to the formation of other harmful pollutants, such as ozone and particulate matter. Additionally, NOx can react with water to produce nitric acid (acid rain), which can have harmful effects on plants, aquatic animals, and infrastructure.

Breathing air with a high concentration of NOx can irritate the human respiratory tract, aggravating respiratory diseases that may result in more emergency room visits and hospital

admissions. For this reason, the US Environmental Protection Agency (EPA) established National Ambient Air Quality Standards (NAAQS) for NOx to protect the public against harmful levels of this pollutant. EPA based the NAAQS for NOx on concentrations of NO2. The levels established for NO2 are:

- 53 parts per billion (annual average), and
- 100 parts per billion (1-hour average).

Currently, Iowa is in attainment with these standards.

The EPA also maintains the National Emissions Inventory (NEI), a comprehensive and detailed estimate of air emissions for every county in the US. It is completed every three years. According to the 2014 NEI, annual NOx emissions from Iowa mobile sources were 138,810 tons, or 57.3 percent of all NOx emitted in Iowa. Sources of NOx emissions in Iowa are shown in the table below.

Table 1: 2014 Estimated Iowa NOx Emissions (tons)

Category	NOx (tons)	Percent of Total Statewide NOx Emissions
Mobile Sources	138,810	57.30%
Stationary Source/Residential Fossil Fuel Combustion	57,873	23.90%
Biogenics – Plants and Trees	34,154	14.10%
Industrial Processes	7,814	3.20%
Fires	2,752	1.10%
Waste Disposal	919	0.40%
Other	38	0.00%
Total	**242,539**	**100.0%**

Emissions from mobile sources are calculated by EPA using models. Of the 138,810 tons of mobile NOx emissions in Iowa in 2014, the majority are from equipment or vehicles that use diesel, as shown in Table 2.

Table 2: 2014 Estimated Mobile Source NOx Emissions (tons)

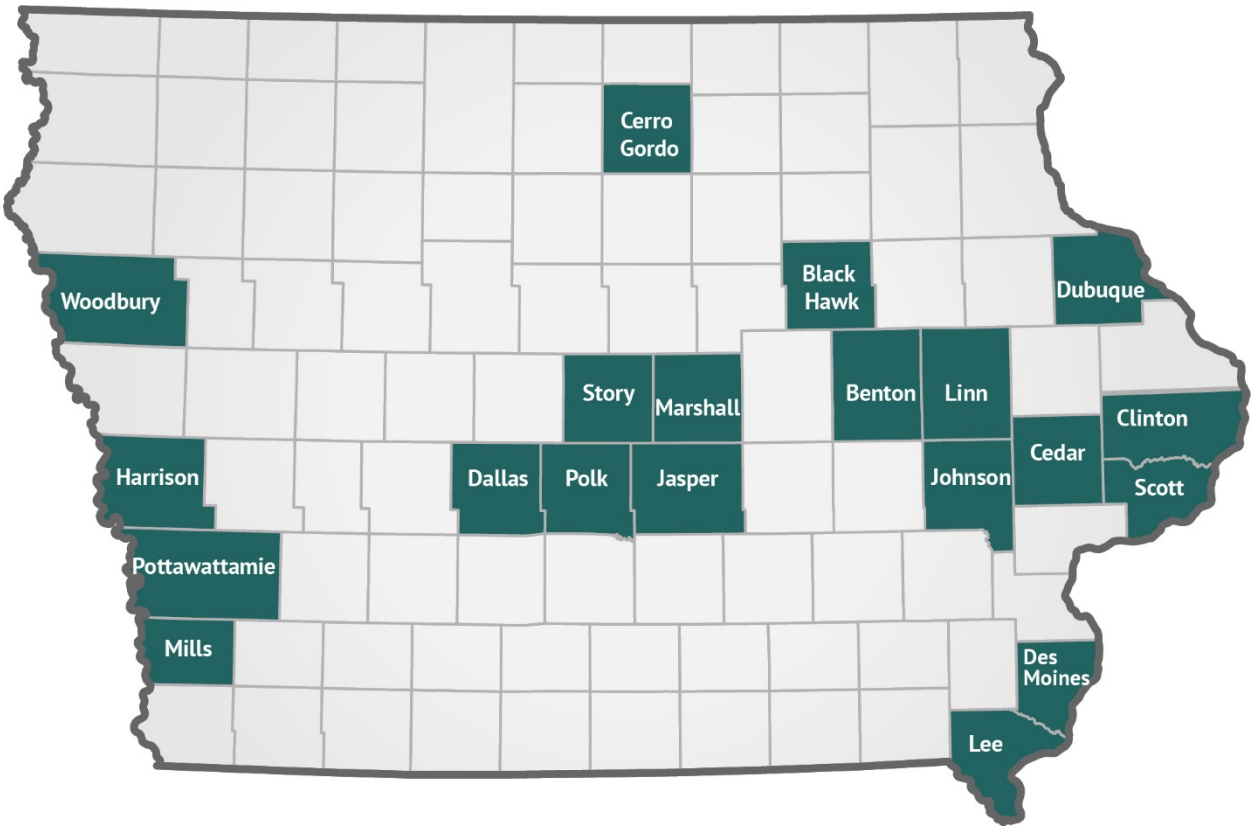
Vehicle or Equipment Type	NOx (tons)	Percent of Total Iowa Mobile NOx Emisions
Non-Road Diesel Equipment	37,610	27.10%
On-Road Non-Diesel Vehicles	35,964	25.90%
On-Road Diesel Vehicles	34,878	25.10%
Diesel Locomotives	21,486	15.50%
Non-Road Non-Diesel Equipment	5,689	4.10%
Commercial Marine Diesel Vessels	2,770	2.00%
Aircraft	412	0.30%
Total	**138,810**	**100.00%**

Using data from the 2014 NEI, the 20 counties in Iowa with the highest annual mobile NOx emissions were identified. The table below ranks the counties by tons of NOx emitted annually.

Table 3: Top 20 Counties for 2014 Estimated Mobile NOx Emissions in Iowa

Rank	County	Tons	% of Total State NOx	Rank	County	Tons	% of Total State NOx
1	Polk	10,621	7.65%	11	Clinton	2,497	1.80%
2	Pottawattamie	6,392	4.60%	12	Harrison	2,368	1.71%
3	Linn	4,931	3.55%	13	Jasper	2,366	1.70%
4	Scott	4,401	3.17%	14	Lee	2,331	1.68%
5	Johnson	3,880	2.80%	15	Dubuque	2,248	1.62%
6	Story	3,674	2.65%	16	Dallas	1,954	1.41%
7	Black Hawk	2,789	2.01%	17	Benton	1,832	1.32%
8	Cerro Gordo	2,743	1.98%	18	Marshall	1,792	1.29%
9	Woodbury	2,723	1.96%	19	Des Moines	1,747	1.26%
10	Cedar	2,666	1.92%	20	Mills	1,691	1.22%

Figure 1: Location of Top 20 Counties for 2014 Estimated Mobile NOx Emissions

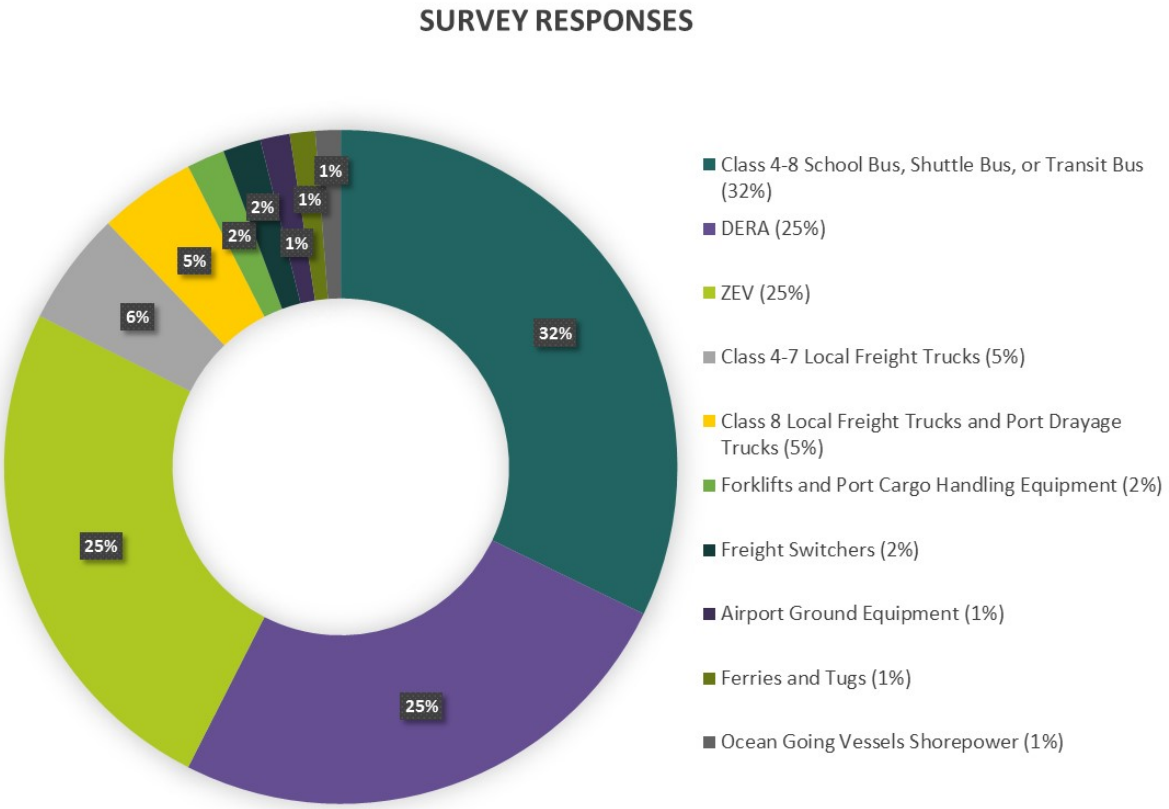


What does the Public Want?

To keep the public informed about the VW settlement and Iowa's responsibilities, a website was created and can be found at https://www.iowadot.gov/vwsettlement/. A listserv, accessed through the website, was also created for the public to receive updates on the VW settlement and Iowa's BMP.

A survey was placed on the website from February to April 2017 to seek input on how the VW Settlement Trust funds should be spent. Approximately 500 survey responses were received, as well as many emailed comments and letters.

Figure 2: Public Survey Responses from February - April 2017



The most popular response received was to use the funds for school bus replacements, specifically for buses utilizing alternative fuel sources such as propane. The public was also overwhelmingly in favor of funding zero-emission vehicle infrastructure for light-duty electric vehicles and supplementing the Diesel Emission Reduction Act grant program.

What is Iowa's Overall Goal for Use of the Funds?

The primary goal of Iowa's BMP is to positively impact air quality by reducing NOx emissions and implementing eligible mitigation projects that best align with the state's funding priorities.

IOWA'S FUNDING PRIORITIES

Mitigation projects will be awarded on a competitive basis. Scoring and selection criteria will be developed to achieve the state's priorities for funding, including the following:

- Achieve significant, quantifiable reductions in NOx emissions
- Maximize cost effectiveness, determined by cost per ton of NOx reduction
- Ensure health and environmental benefits for areas that bear a disproportionate share of air pollution and people most adversely affected, including:
    - Counties with higher mobile NOx measurements, based on 2014 National Emissions Inventory
    - Counties with a higher share of previously registered, non-compliant VW subject vehicles
    - Areas of concern for vulnerable populations, based on environmental justice screening tools
    - Counties with higher rates of asthma and heart disease hospitalizations
    - Locations within or near industrialized/urban areas
- Build on the success of stakeholders and applicants with a proven track record in emission reduction projects
- Complement public and/or private-sector programs and initiatives
- Expand the impact of mitigation funding through projects with verified additional funding sources, exceeding the required match
- Achieve long-term sustainability and demonstrate the ability to continue efforts or expand the project after mitigation project funding is utilized
- Implement the Iowa Energy Plan, which encourages growth of alternative fuel vehicles and incentives for related infrastructure, including electric vehicle charging stations

The Iowa DOT anticipates having at least three application cycles, each of which will be advertised on Iowa's Volkswagen Settlement website once information becomes available.

According to subparagraph 5.0.2 of the State Trust Agreement, beneficiaries may not withdraw more than one-third of their funds during the first year after the initial deposit, or two-thirds of their allocation during the first two years. The Iowa DOT anticipates awarding approximately $6 million in each of the three application cycles.

The state intends to obligate 100 percent of the VW funds within 10 years of the Trust effective date (before October 2, 2027). Doing so allows Iowa to apply for a portion of the remainder balance, which will be divided up among eligible beneficiaries. Any unused funds remaining 15 years after the effective date (October 2, 2032) will be donated to federal agencies for them to spend on EMAs.

IOWA'S ELIGIBLE MITIGATION PROJECTS

Appendix D-2 of the State Trust Agreement lists the types of projects and funding expenditures that are allowed under the settlement (a copy can be found in Appendix 1 of this document). Iowa grouped the 10 EMAs into five categories and established a target percentage of VW funds to be spent on each category. Descriptions of the categories and their target percentages are as follows:

- ***Class 4-8 School Bus, Shuttle Bus, or Transit Bus – 45 percent of VW funds***
  This category includes repowering or replacing a 2009 engine model year or older diesel bus with a new diesel, alternate fueled, or all-electric engine or bus. Replaced engines and buses must be scrapped.

  The public survey indicated a desire to use a significant portion of the funds to replace school buses. Iowa believes that placing an emphasis on school bus replacement will help decrease exposure of diesel exhaust pollutants to one of its most vulnerable populations – school-aged children.

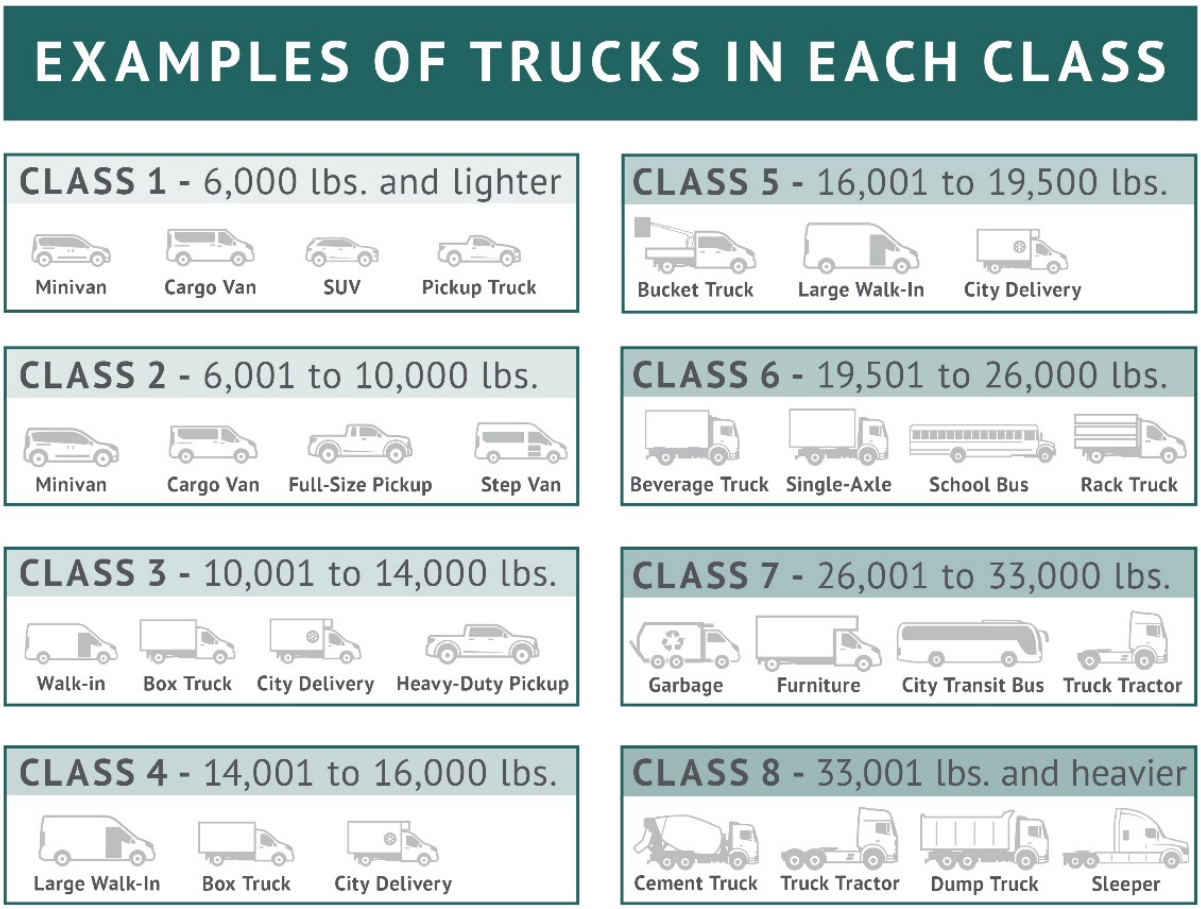
  Public transit in Iowa serves every county and every community of the state with 16 rural demand-response transit agencies and 19 fixed-route/paratransit agencies. Iowa has the second oldest bus fleet in the nation with over 50 percent of buses on the road past their federal useful life.

- ***Freight Trucks and Port Drayage Trucks – 15 percent of VW funds***

  This category includes the following EMAs:
  - Class 8 local freight or port drayage trucks (large trucks)
  - Class 4-7 local freight trucks (medium trucks)

  Eligible trucks include those with 1992-2009 model year diesel engines. Iowa will allocate approximately 15 percent of the Trust monies to repower or replace eligible trucks with a new diesel, alternate fueled, or all-electric engine. Replaced trucks and engines must be scrapped.

Figure 3: Vehicle Class Categorized by the Gross Vehicle Weight Rating (GVWR)



- ***Non-Road Transport and Equipment – 10 percent of VW funds***

  This category includes projects listed under the following EMAs:

  - Freight switchers
    - locomotives used in rail yards for light freight duties and rail car transfer
  - Ferries/Tugs
    - Ferries convey passengers and freight over a body of water
    - Tugs push or pull larger boats over short distances
  - Ocean going vessel shorepower
    - Includes vessels that operate in fresh-water lakes or rivers
  - Airport ground support equipment
    - Vehicles and equipment used to service aircraft between flights

- Forklifts and port cargo handling equipment
  - Eligible forklifts are non-road equipment used to lift and move materials greater than 8,000 pounds
  - Port cargo handling equipment move freight within ports and are further defined in Appendix 1.

Public interest in the non-road transport and equipment projects was low during the formal survey. However, interest in the above projects was conveyed through informal inquiries. Because these sources contribute substantially to mobile NOx emissions in the state, Iowa has decided to invest in replacing older diesel engines and equipment that qualify under these categories.

- ***Zero Emission Vehicle (ZEV) Supply Equipment – 15 percent of VW funds***

Although there was significant public support for investing in ZEV technologies, Appendix D-2 of the State Trust Agreement limits beneficiaries to using up to 15 percent of their funds on light-duty, zero-emission electric vehicle supply equipment. This includes the acquisition, installation, operation, and maintenance of Level 1, Level 2, or fast charging equipment that is located in the following areas:

- Public places
- Workplaces
- Multi-unit Dwellings

Light-duty hydrogen fuel cell vehicle supply equipment is also eligible as long as it is located in a public place.

Table 4: Types of Electric Vehicle Supply Equipment (EVSE)

Type of Charging	Level 1 – 110 V (~1.4 kW)	Level 2 – 220 V (~7.2 kW)	DC Fast Charger (50 kW and above)	Extreme Fast Charging (350 kW and above)
Charging Station 101	Provides same electricity as a regular electrical outlet	More powerful than Level 1 charging	DC currently directly supplied to vehicle	Power output can decrease to match EV battery capacity. Higher power output may be fully realized by EVs within 10 years.
		Comprises majority of stations in the U.S.	Commonly adds 60-80 miles of range in ~20 minutes	
Range gained per hour of charge	2-5 miles	10-20 miles	Up to 180 miles	787.5 miles (more than today's EV range)

- ***Diesel Emission Reduction Act (DERA) Grant Program – 15 percent of VW funds***

  Public interest was also high for supplementing the annual DERA grant program administered by the EPA and the Iowa Department of Transportation. Funds from the VW Settlement can be used as the state's voluntary match. If this match is equal to or exceeds the base amount, a bonus of half the base amount will be added to the grant total by the EPA.

  The DERA grant program provides funding for projects that reduce emissions from diesel fleets, similar to the EMAs, but allows for actions not eligible under the EMAs. DERA was formerly administered by the Iowa Department of Natural Resources, and has granted more than $1.5 million toward projects that have reduced diesel emissions throughout the state. These projects include bus replacements, exhaust control devices, and truck replacements.

Due to the success of the program, Iowa has elected to use VW funds to match or exceed the annual DERA grant base amount up to an estimated $3,150,000 over the next ten years.

Table 5: Iowa's Funding Totals for Eligible Mitigation Categories

Mitigation Category	Funding Percentage	Estimated Application Cycle Total	Estimated Trust Fund Total
Class 4-8 Buses	45%	$3,150,000	$9,450,000
Freight and Port Drayage Trucks	15%	$1,050,000	$3,150,000
Non-Road Transport and Equipment	10%	$700,000	$2,100,000
ZEV	15%	$1,050,000	$3,150,000
DERA	15%	N/A	$3,150,000
Total	**100%**		**$21,000,000**

Appendix D-2 of the State Trust Settlement (Appendix 1), outlines the eligibility requirements for each project type in detail. The percentages listed in Appendix D-2 indicate the "up to" funding allowed under the agreement. Iowa reserves the right to lower the percentages on certain project types to increase their cost effectiveness. More information on the cost-share percentages will be available during the funding cycles.

How Much NOx Will Be Reduced?

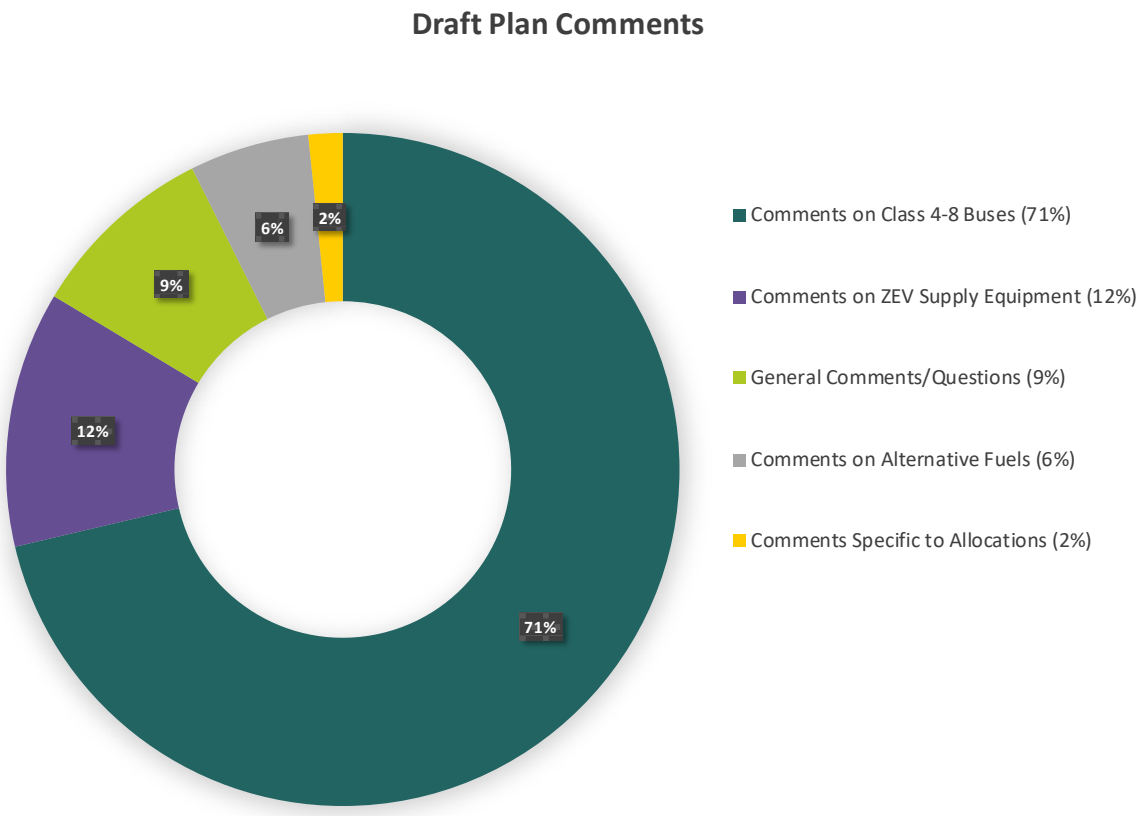
With the wide variety of projects eligible for funding, there is an equally wide range of emission benefits. NOx emission reductions will vary depending on the vehicle/equipment type, age, and usage of the engine to be replaced and the type of replacement engine. Several models and tools are available to calculate the potential reductions in NOx emissions from projects. More guidance on acceptable calculation methods will be provided with the application materials.

The estimated NOx emission reductions will be recorded for the life of the program and will be available on the website for public review.

What Are Your Thoughts?

A draft version of the plan was available for public comment from April 23 through May 25, 2018. Approximately 120 formal responses were received and were generally positive. A majority of the commenters supported the use of funds for school bus replacements, with most being focused on propane buses and other respondents supporting electric buses.

Figure 4: Comments on Draft Plan from April - May 2018



Please visit Iowa's Volkswagen website at https://www.iowadot.gov/vwsettlement/ to find more information on the funding cycles as they become available. Make sure to become a member of the VW listserv by signing up on the website. This will allow you to receive email updates on plan revisions and funding cycles.

Appendix 1: Copy of Appendix D-2 from the Environmental Mitigation Trust Agreement for State Beneficiaries

APPENDIX D-2

ELIGIBLE MITIGATION ACTIONS AND MITIGATION ACTION EXPENDITURES

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

    a. Eligible Large Trucks include 1992-2009 engine model year Class 8 Local Freight or Drayage. For Beneficiaries that have State regulations that already require upgrades to 1992-2009 engine model year trucks at the time of the proposed Eligible Mitigation Action, Eligible Large Trucks shall also include 2010-2012 engine model year Class 8 Local Freight or Drayage.

    b. Eligible Large Trucks must be Scrapped.

    c. Eligible Large Trucks may be Repowered with any new diesel or Alternate Fueled engine or All-Electric engine, or may be replaced with any new diesel or Alternate Fueled or All-Electric vehicle, with the engine model year in which the Eligible Large Trucks Mitigation Action occurs or one engine model year prior.

    d. For Non-Government Owned Eligible Class 8 Local Freight Trucks, Beneficiaries may only draw funds from the Trust in the amount of:

        1. Up to 40% of the cost of a Repower with a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) engine, including the costs of installation of such engine.

        2. Up to 25% of the cost of a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) vehicle.

        3. Up to 75% of the cost of a Repower with a new All-Electric engine, including the costs of installation of such engine, and charging infrastructure associated with the new All-Electric engine.

        4. Up to 75% of the cost of a new All-Electric vehicle, including charging infrastructure associated with the new All-Electric vehicle.

    e. For Non-Government Owned Eligible Drayage Trucks, Beneficiaries may only draw funds from the Trust in the amount of:

        1. Up to 40% of the cost of a Repower with a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) engine, including the costs of installation of such engine.

        2. Up to 50% of the cost of a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) vehicle.

3. Up to 75% of the cost of a Repower with a new All-Electric engine, including the costs of installation of such engine, and charging infrastructure associated with the new All-Electric engine.

4. Up to 75% of the cost of a new all-electric vehicle, including charging infrastructure associated with the new All-Electric vehicle.

f. For Government Owned Eligible Class 8 Large Trucks, Beneficiaries may draw funds from the Trust in the amount of:

1. Up to 100% of the cost of a Repower with a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) engine, including the costs of installation of such engine.

2. Up to 100% of the cost of a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) vehicle.

3. Up to 100% of the cost of a Repower with a new All-Electric engine, including the costs of installation of such engine, and charging infrastructure associated with the new All-Electric engine.

4. Up to 100% of the cost of a new All-Electric vehicle, including charging infrastructure associated with the new All-Electric vehicle.

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

a. Eligible Buses include 2009 engine model year or older class 4-8 school buses, shuttle buses, or transit buses. For Beneficiaries that have State regulations that already require upgrades to 1992-2009 engine model year buses at the time of the proposed Eligible Mitigation Action, Eligible Buses shall also include 2010-2012 engine model year class 4-8 school buses, shuttle buses, or transit buses.

b. Eligible Buses must be Scrapped.

c. Eligible Buses may be Repowered with any new diesel or Alternate Fueled or All-Electric engine, or may be replaced with any new diesel or Alternate Fueled or All-Electric vehicle, with the engine model year in which the Eligible Bus Mitigation Action occurs or one engine model year prior.

d. For Non-Government Owned Buses, Beneficiaries may draw funds from the Trust in the amount of:

1. Up to 40% of the cost of a Repower with a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) engine, including the costs of installation of such engine.

2. Up to 25% of the cost of a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) vehicle.

3. Up to 75% of the cost of a Repower with a new All-Electric engine, including the costs of installation of such engine, and charging infrastructure associated with the new All-Electric engine.

4. Up to 75% of the cost of a new All-Electric vehicle, including charging infrastructure associated with the new All-Electric vehicle.

e. For Government Owned Eligible Buses, and Privately Owned School Buses Under Contract with a Public School District, Beneficiaries may draw funds from the Trust in the amount of:

1. Up to 100% of the cost of a Repower with a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) engine, including the costs of installation of such engine.

2. Up to 100% of the cost of a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) vehicle.

3. Up to 100% of the cost of a Repower with a new All-Electric engine, including the costs of installation of such engine, and charging infrastructure associated with the new All-Electric engine.

4. Up to 100% of the cost of a new All-Electric vehicle, including charging infrastructure associated with the new All-Electric vehicle.

3. Freight Switchers

a. Eligible Freight Switchers include pre-Tier 4 switcher locomotives that operate 1000 or more hours per year.

b. Eligible Freight Switchers must be Scrapped.

c. Eligible Freight Switchers may be Repowered with any new diesel or Alternate Fueled or All-Electric engine(s) (including Generator Sets), or may be replaced with any new diesel or Alternate Fueled or All-Electric (including Generator Sets) Freight Switcher, that is certified to meet the applicable EPA emissions standards (or other more stringent equivalent State standard) as published in the CFR for the engine model year in which the Eligible Freight Switcher Mitigation Action occurs.

d. For Non-Government Owned Freight Switchers, Beneficiaries may draw funds from the Trust in the amount of :

1. Up to 40% of the cost of a Repower with a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) engine(s) or Generator Sets, including the costs of installation of such engine(s).

2. Up to 25% of the cost of a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) Freight Switcher.

3. Up to 75% of the cost of a Repower with a new All-Electric engine(s), including the costs of installation of such engine(s), and charging infrastructure associated with the new All-Electric engine(s).

4. Up to 75% of the cost of a new All-Electric Freight Switcher, including charging infrastructure associated with the new All-Electric Freight Switcher.

e. For Government Owned Eligible Freight Switchers, Beneficiaries may draw funds from the Trust in the amount of:

1. Up to 100% of the cost of a Repower with a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) engine(s) or Generator Sets, including the costs of installation of such engine(s).

2. Up to 100% of the cost of a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) Freight Switcher.

3. Up to 100% of the cost of a Repower with a new All-Electric engine(s), including the costs of installation of such engine(s), and charging infrastructure associated with the new All-Electric engine(s).

4. Up to 100% of the cost of a new All-Electric Freight Switcher, including charging infrastructure associated with the new All-Electric Freight Switcher.

4. Ferries/Tugs

a. Eligible Ferries and/or Tugs include unregulated, Tier 1, or Tier 2 marine engines.

b. Eligible Ferry and/or Tug engines that are replaced must be Scrapped.

c. Eligible Ferries and/or Tugs may be Repowered with any new Tier 3 or Tier 4 diesel or Alternate Fueled engines, or with All-Electric engines, or may be upgraded with an EPA Certified Remanufacture System or an EPA Verified Engine Upgrade.

d. For Non-Government Owned Eligible Ferries and/or Tugs, Beneficiaries may only draw funds from the Trust in the amount of:

1. Up to 40% of the cost of a Repower with a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) engine(s), including the costs of installation of such engine(s).

2. Up to 75% of the cost of a Repower with a new All-Electric engine(s), including the costs of installation of such engine(s), and charging infrastructure associated with the new All-Electric engine(s).

e. For Government Owned Eligible Ferries and/or Tugs, Beneficiaries may draw funds from the Trust in the amount of:

1. Up to 100% of the cost of a Repower with a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) engine(s), including the costs of installation of such engine(s).

2. Up to 100% of the cost of a Repower with a new All-Electric engine(s), including the costs of installation of such engine(s), and charging infrastructure associated with the new All-Electric engine(s).

5. Ocean Going Vessels (OGV) Shorepower

a. Eligible Marine Shorepower includes systems that enable a compatible vessel's main and auxiliary engines to remain off while the vessel is at berth. Components of such systems eligible for reimbursement are limited to cables, cable management systems, shore power coupler systems, distribution control systems, and power distribution. Marine shore power systems must comply with international shore power design standards (ISO/IEC/IEEE 80005-1-2012 High Voltage Shore Connection Systems or the IEC/PAS 80005-3:2014 Low Voltage Shore Connection Systems) and should be supplied with power sourced from the local utility grid. Eligible Marine Shorepower includes equipment for vessels that operate within the Great Lakes.

b. For Non-Government Owned Marine Shorepower, Beneficiaries may only draw funds from the Trust in the amount of up to 25% for the costs associated with the shore-side system, including cables, cable management systems, shore power coupler systems, distribution control systems, installation, and power distribution components.

c. For Government Owned Marine Shorepower, Beneficiaries may draw funds from the Trust in the amount of up to 100% for the costs associated with the shore-side system, including cables, cable management systems, shore power coupler systems, distribution control systems, installation, and power distribution components.

6. Class 4-7 Local Freight Trucks (Medium Trucks)

a. Eligible Medium Trucks include 1992-2009 engine model year class 4-7 Local Freight trucks, and for Beneficiaries that have State regulations that already require upgrades to 1992-2009 engine model year trucks at the time of the proposed Eligible Mitigation Action, Eligible Trucks shall also include 2010-2012 engine model year class 4-7 Local Freight trucks.

b. Eligible Medium Trucks must be Scrapped.

c. Eligible Medium Trucks may be Repowered with any new diesel or Alternate Fueled or All-Electric engine, or may be replaced with any new diesel or Alternate Fueled or All-Electric vehicle, with the engine model year in which the Eligible Medium Trucks Mitigation Action occurs or one engine model year prior.

d. For Non-Government Owned Eligible Medium Trucks, Beneficiaries may draw funds from the Trust in the amount of:

1. Up to 40% of the cost of a Repower with a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) engine, including the costs of installation of such engine.

2. Up to 25% of the cost of a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) vehicle.

3. Up to 75% of the cost of a Repower with a new All-Electric engine, including the costs of installation of such engine, and charging infrastructure associated with the new All-Electric engine.

4. Up to 75% of the cost of a new All-Electric vehicle, including charging infrastructure associated with the new All-Electric vehicle.

e. For Government Owned Eligible Medium Trucks, Beneficiaries may draw funds from the Trust in the amount of:

1. Up to 100% of the cost of a Repower with a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) engine, including the costs of installation of such engine.

2. Up to 100% of the cost of a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) vehicle.

3. Up to 100% of the cost of a Repower with a new All-Electric engine, including the costs of installation of such engine, and charging infrastructure associated with the new All-Electric engine.

4. Up to 100% of the cost of a new All-Electric vehicle, including charging infrastructure associated with the new All-Electric vehicle.

7. Airport Ground Support Equipment

a. Eligible Airport Ground Support Equipment includes:

1. Tier 0, Tier 1, or Tier 2 diesel powered airport ground support equipment; and

2. Uncertified, or certified to 3 g/bhp-hr or higher emissions, spark ignition engine powered airport ground support equipment.

b. Eligible Airport Ground Support Equipment must be Scrapped.

c. Eligible Airport Ground Support Equipment may be Repowered with an All-Electric engine, or may be replaced with the same Airport Ground Support Equipment in an All-Electric form.

d. For Non-Government Owned Eligible Airport Ground Support Equipment, Beneficiaries may only draw funds from the Trust in the amount of:

1. Up to 75% of the cost of a Repower with a new All-Electric engine, including costs of installation of such engine, and charging infrastructure associated with such new All-Electric engine.

2. Up to 75% of the cost of a new All-Electric Airport Ground Support Equipment, including charging infrastructure associated with such new All-Electric Airport Ground Support Equipment.

e. For Government Owned Eligible Airport Ground Support Equipment, Beneficiaries may draw funds from the Trust in the amount of:

1. Up to 100% of the cost of a Repower with a new All-Electric engine, including costs of installation of such engine, and charging infrastructure associated with such new All-Electric engine.

2. Up to 100% of the cost of a new All-Electric Airport Ground Support Equipment, including charging infrastructure associated with such new All-Electric Airport Ground Support Equipment.

8. Forklifts and Port Cargo Handling Equipment

a. Eligible Forklifts includes forklifts with greater than 8000 pounds lift capacity.

b. Eligible Forklifts and Port Cargo Handling Equipment must be Scrapped.

c. Eligible Forklifts and Port Cargo Handling Equipment may be Repowered with an All-Electric engine, or may be replaced with the same equipment in an All-Electric form.

d. For Non-Government Owned Eligible Forklifts and Port Cargo Handling Equipment, Beneficiaries may draw funds from the Trust in the amount of:

1. Up to 75% of the cost of a Repower with a new All-Electric engine, including costs of installation of such engine, and charging infrastructure associated with such new All-Electric engine.

2. Up to 75% of the cost of a new All-Electric Forklift or Port Cargo Handling Equipment, including charging infrastructure associated with such new All-Electric Forklift or Port Cargo Handling Equipment.

e. For Government Owned Eligible Forklifts and Port Cargo Handling Equipment, Beneficiaries may draw funds from the Trust in the amount of:

1. Up to 100% of the cost of a Repower with a new All-Electric engine, including costs of installation of such engine, and charging infrastructure associated with such new All-Electric engine.

2. Up to 100% of the cost of a new All-Electric Forklift or Port Cargo Handling Equipment, including charging infrastructure associated with such new All-Electric Forklift or Port Cargo Handling Equipment.

9. Light Duty Zero Emission Vehicle Supply Equipment. Each Beneficiary may use up to fifteen percent (15%) of its allocation of Trust Funds on the costs necessary for, and directly connected to, the acquisition, installation, operation and maintenance of new light duty zero emission vehicle supply equipment for projects as specified below. Provided, however, that Trust Funds shall not be made available or used to purchase or rent real-estate, other capital costs (e.g., construction of buildings, parking facilities, etc.) or general maintenance (i.e., maintenance other than of the Supply Equipment).

   a. Light duty electric vehicle supply equipment includes Level 1, Level 2 or fast charging equipment (or analogous successor technologies) that is located in a public place, workplace, or multi-unit dwelling and is not consumer light duty electric vehicle supply equipment (i.e., not located at a private residential dwelling that is not a multi-unit dwelling).

   b. Light duty hydrogen fuel cell vehicle supply equipment includes hydrogen dispensing equipment capable of dispensing hydrogen at a pressure of 70 megapascals (MPa) (or analogous successor technologies) that is located in a public place.

   c. Subject to the 15% limitation above, each Beneficiary may draw funds from the Trust in the amount of:

      1. Up to 100% of the cost to purchase, install and maintain eligible light duty electric vehicle supply equipment that will be available to the public at a Government Owned Property.

      2. Up to 80% of the cost to purchase, install and maintain eligible light duty electric vehicle supply equipment that will be available to the public at a Non-Government Owned Property.

      3. Up to 60% of the cost to purchase, install and maintain eligible light duty electric vehicle supply equipment that is available at a workplace but not to the general public.

      4. Up to 60% of the cost to purchase, install and maintain eligible light duty electric vehicle supply equipment that is available at a multi-unit dwelling but not to the general public.

5. Up to 33% of the cost to purchase, install and maintain eligible light duty hydrogen fuel cell vehicle supply equipment capable of dispensing at least 250 kg/day that will be available to the public.

6. Up to 25% of the cost to purchase, install and maintain eligible light duty hydrogen fuel cell vehicle supply equipment capable of dispensing at least 100 kg/day that will be available to the public.

10. Diesel Emission Reduction Act (DERA) Option. Beneficiaries may use Trust Funds for their non-federal voluntary match, pursuant to Title VII, Subtitle G, Section 793 of the DERA Program in the Energy Policy Act of 2005 (codified at 42 U.S.C. § 16133), or Section 792 (codified at 42 U.S.C. § 16132) in the case of Tribes, thereby allowing Beneficiaries to use such Trust Funds for actions not specifically enumerated in this Appendix D-2, but otherwise eligible under DERA pursuant to all DERA guidance documents available through the EPA. Trust Funds shall not be used to meet the non-federal mandatory cost share requirements, as defined in applicable DERA program guidance, of any DERA grant.

Eligible Mitigation Action Administrative Expenditures

For any Eligible Mitigation Action, Beneficiaries may use Trust Funds for actual administrative expenditures (described below) associated with implementing such Eligible Mitigation Action, but not to exceed 15% of the total cost of such Eligible Mitigation Action. The 15% cap includes the aggregated amount of eligible administrative expenditures incurred by the Beneficiary and any third-party contractor(s).

1. Personnel including costs of employee salaries and wages, but not consultants.
2. Fringe Benefits including costs of employee fringe benefits such as health insurance, FICA, retirement, life insurance, and payroll taxes.
3. Travel including costs of Mitigation Action-related travel by program staff, but does not include consultant travel.
4. Supplies including tangible property purchased in support of the Mitigation Action that will be expensed on the Statement of Activities, such as educational publications, office supplies, etc. Identify general categories of supplies and their Mitigation Action costs.
5. Contractual including all contracted services and goods except for those charged under other categories such as supplies, construction, etc. Contracts for evaluation and consulting services and contracts with sub-recipient organizations are included.
6. Construction including costs associated with ordinary or normal rearrangement and alteration of facilities.
7. Other costs including insurance, professional services, occupancy and equipment leases, printing and publication, training, indirect costs, and accounting.

Definitions/Glossary of Terms

"Airport Ground Support Equipment" shall mean vehicles and equipment used at an airport to service aircraft between flights.

"All-Electric" shall mean powered exclusively by electricity provided by a battery, fuel cell, or the grid.

"Alternate Fueled" shall mean an engine, or a vehicle or piece of equipment that is powered by an engine, which uses a fuel different from or in addition to gasoline fuel or diesel fuel (e.g., CNG, propane, diesel-electric Hybrid).

"Certified Remanufacture System or Verified Engine Upgrade" shall mean engine upgrades certified or verified by EPA or CARB to achieve a reduction in emissions.

"Class 4-7 Local Freight Trucks (Medium Trucks)" shall mean trucks, including commercial trucks, used to deliver cargo and freight (e.g., courier services, delivery trucks, box trucks moving freight, waste haulers, dump trucks, concrete mixers) with a Gross Vehicle Weight Rating (GVWR) between 14,001 and 33,000 lbs.

"Class 4-8 School Bus, Shuttle Bus, or Transit Bus (Buses)" shall mean vehicles with a Gross Vehicle Weight Rating (GVWR) greater than 14,001 lbs. used for transporting people. See definition for School Bus below.

"Class 8 Local Freight, and Port Drayage Trucks (Eligible Large Trucks)" shall mean trucks with a Gross Vehicle Weight Rating (GVWR) greater than 33,000 lbs. used for port drayage and/or freight/cargo delivery (including waste haulers, dump trucks, concrete mixers).

"CNG" shall mean Compressed Natural Gas.

"Drayage Trucks" shall mean trucks hauling cargo to and from ports and intermodal rail yards.

"Forklift" shall mean nonroad equipment used to lift and move materials short distances; generally includes tines to lift objects. Eligible types of forklifts include reach stackers, side loaders, and top loaders.

"Freight Switcher" shall mean a locomotive that moves rail cars around a rail yard as compared to a line-haul engine that moves freight long distances.

"Generator Set" shall mean a switcher locomotive equipped with multiple engines that can turn off one or more engines to reduce emissions and save fuel depending on the load it is moving.

"Government" shall mean a State or local government agency (including a school district, municipality, city, county, special district, transit district, joint powers authority, or port authority, owning fleets purchased with government funds), and a tribal government or native village. The term "State" means the several States, the District of Columbia, and the Commonwealth of Puerto Rico.

"Gross Vehicle Weight Rating (GVWR)" shall mean the maximum weight of the vehicle, as specified by the manufacturer. GVWR includes total vehicle weight plus fluids, passengers, and cargo.

Class 1: < 6000 lb.
Class 2: 6001-10,000 lb.
Class 3: 10,001-14,000 lb.
Class 4: 14,001-16,000 lb.
Class 5: 16,001-19,500 lb.
Class 6: 19,501-26,000 lb.
Class 7: 26,001-33,000 lb.
Class 8: > 33,001 lb.

"Hybrid" shall mean a vehicle that combines an internal combustion engine with a battery and electric motor.

"Infrastructure" shall mean the equipment used to enable the use of electric powered vehicles (e.g., electric vehicle charging station).

"Intermodal Rail Yard" shall mean a rail facility in which cargo is transferred from drayage truck to train or vice-versa.

"Port Cargo Handling Equipment" shall mean rubber-tired gantry cranes, straddle carriers, shuttle carriers, and terminal tractors, including yard hostlers and yard tractors that operate within ports.

"Plug-in Hybrid Electric Vehicle (PHEV)" shall mean a vehicle that is similar to a Hybrid but is equipped with a larger, more advanced battery that allows the vehicle to be plugged in and recharged in addition to refueling with gasoline. This larger battery allows the car to be driven on a combination of electric and gasoline fuels.

"Repower" shall mean to replace an existing engine with a newer, cleaner engine or power source that is certified by EPA and, if applicable, CARB, to meet a more stringent set of engine emission standards. Repower includes, but is not limited to, diesel engine replacement with an engine certified for use with diesel or a clean alternate fuel, diesel engine replacement with an electric power source (e.g., grid, battery), diesel engine replacement with a fuel cell, diesel engine replacement with an electric generator(s) (genset), diesel engine upgrades in Ferries/Tugs with an EPA Certified Remanufacture System, and/or diesel engine upgrades in Ferries/Tugs with an EPA Verified Engine Upgrade. All-Electric and fuel cell Repowers do not require EPA or CARB certification.

"School Bus" shall mean a Class 4-8 bus sold or introduced into interstate commerce for purposes that include carrying students to and from school or related events. May be Type A-D.

"Scrapped" shall mean to render inoperable and available for recycle, and, at a minimum, to specifically cut a 3-inch hole in the engine block for all engines. If any Eligible Vehicle will be replaced as part of an Eligible project, Scrapped shall also include the disabling of the chassis by cutting the vehicle's frame rails completely in half.

"Tier 0, 1, 2, 3, 4" shall refer to corresponding EPA engine emission classifications for nonroad, locomotive, and marine engines.

"Tugs" shall mean dedicated vessels that push or pull other vessels in ports, harbors, and inland waterways (e.g., tugboats and towboats).

"Zero Emission Vehicle (ZEV)" shall mean a vehicle that produces no emissions from the on-board source of power (e.g., All-Electric or hydrogen fuel cell vehicles).

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