



Commonwealth of Kentucky

Environmental Mitigation Plan for the Volkswagen Settlement

Prepared by the Kentucky Energy & Environment Cabinet

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A. BACKGROUND

On October 18, 2016, a Partial Consent Decree was finalized between the U.S. Justice Department, the Volkswagen (VW) Corporation, and its subsidiaries regarding the installation and use of emissions testing defeat devices in approximately 500,000 vehicles with 2.0 liter engines sold and operated in the United States beginning in 2009. On May 17, 2017, the courts also granted approval on the 3.0 liter portion of the settlement. Use of these “defeat devices” increased nitrogen oxide (NOx) emissions from those vehicles, resulting in adverse impacts to air quality and violating the Clean Air Act. NOx emissions contribute to the formation of ground level ozone and PM_{2.5}, which impair lung function and cardiovascular health.

An Environmental Mitigation Trust has been established as part of the Consent Decree (CD) that provides funds to the states to mitigate the air quality impacts of the higher vehicle emissions. Kentucky’s initial allocation from the Trust is \$20,378,649.58. The Settlement establishes the trust and processes to administer the funds, for states to receive the funds, including the development of this mitigation plan; and the types of mitigation “actions” or project types eligible under the Settlement, which are found in Appendix D of the Settlement.

States have the right to request and receive State Trust Funds up to the amount allocated to it for eligible projects for ten years provided that no more than one-third of its allocation may be paid out during the first year following the Initial Deposit or two-thirds of its allocation during the first two years after the Initial Deposit. Upon the tenth anniversary of the Trust Effective Date (TED), any unused State Trust funds held by any Beneficiary shall be returned to the State Trust. States that have allocated at least 80% of their initial allocation of State Trust funds may be eligible for supplemental funding from any Remainder Balance.

By letter dated December 2, 2016, Governor Matt Bevin stated Kentucky’s intent to designate the Kentucky Energy and Environment Cabinet (Cabinet) as the lead agency to administer the VW Mitigation Trust. The Kentucky Division for Air Quality as well as the State Energy Office are located within the Energy and Environment Cabinet.

On November 16, 2017, EEC submitted the required forms and requests to the Court and the National Trustee to be determined to be a Beneficiary under the State Trust. On January 29, 2018, the Trustee published the list of states and territories determined to be beneficiaries under that Trust which included Kentucky.

Table 1. State Trust Agreement Implementation Milestone Dates

Effective Date	Action
October 25, 2016	Partial Consent Decree approved (2.0-liter diesel vehicles)
November 22, 2016	VW makes initial deposit of \$900 million for the Trust Fund (Initial Deposit)
March 15, 2017	Wilmington Trust, N.A. appointed to serve as national trustee
May 17, 2017	Partial consent decree approved (3.0-liter diesel vehicles)
October 2, 2017	Trust Effective Date (TED) finalized State Trust Agreement filed with the Court
November 16, 2017	Kentucky files Certification for Beneficiary Status Under Environmental Mitigation Trust Agreement designating Energy and Environment Cabinet as Kentucky's Lead Agency
January 29, 2018	Trustee publishes a list of approved State Beneficiaries
August 17, 2018	Kentucky releases draft Beneficiary Mitigation Plan for the Commonwealth of Kentucky

B. MITIGATION PLAN OVERVIEW & GOAL

As required by the Settlement, the Kentucky Energy and Environment Cabinet (EEC) has developed a state mitigation plan to provide the public a transparent process for Kentucky's overall approach for use of these mitigation funds.

The primary goal of the Commonwealth's mitigation plan is to implement eligible projects that lower NOx emissions, thereby improving air quality. By removing older, more polluting diesel engines, significant and sustained reductions in NO_x emissions can be achieved. Tons of reductions in areas and sectors most impacted by these emissions will be a goal for Kentucky in funding projects under this Trust.

In accordance with Appendix D of the Partial Consent Decree, this mitigation plan specifically addresses:

- The funding priorities for Kentucky to guide the planning, solicitation and project selection;
- The categories of eligible mitigation projects anticipated to be appropriate to achieve the stated goals and the assessment of allocation of funds anticipated to be used for each type of eligible mitigation project;
- How to consider potential benefits of selected eligible mitigation projects on air quality in areas that historically bear a disproportionate share of air pollution burden; and
- Anticipated ranges of benefits for the implementation of the eligible mitigation projects.

In addition to the above listed components, the process for seeking and considering public comments on this plan will be included in the final mitigation plan as required by the Consent Decree and included as Appendix B. Kentucky EEC has been taking comment from the public and interested parties on what elements should be included in the Mitigation Plan since being named by the Governor as the Lead Agency for Kentucky. Outreach and presentations on the overall Settlement have taken place since that time and a summary of that outreach is included in Appendix B.

All beneficiaries of Environmental Mitigation Trust funding, including Kentucky, have the discretion to adjust the goals and objectives and spending plan necessary to achieve the desired results of reducing NOx emissions. For this reason, this plan is a living document. The Commonwealth will provide updates on any future revisions to this Mitigation Plan to the national trustee, as well as making those changes available on the EEC webpage (www.eec.ky.gov).

C. AVAILABLE FUNDING & ELIGIBLE APPLICANTS

As provided in Appendix D-1B, of the Decree, Kentucky’s initial allocation of funds under the 2.0 liter partial settlement is listed as \$19,048,080.43 and under the 3.0 liter partial settlement is \$1,330,569.15 (total of \$20,378,649.58). EEC anticipates that funding under the Volkswagen Settlement will become available for mitigation projects in Kentucky during the second half of 2018.

As mentioned previously, states and territories will have 10 years to expend the allocated trust funds. After that, unused trust funds will be redistributed as supplemental funding among state beneficiaries that have used at least 80% of their allocated trust funds. State beneficiaries will be given five additional years to use any remaining and awarded supplemental funding.

Access to those funds will be limited the first year to only one third of available funding and two thirds during the second year. Table 1 outlines the anticipated access as outlined in Section 5.0.2 of Appendix D. Access of the full allocation will be available for years three and beyond.

Table 2 -- Anticipated Funding Availability per Year

Total Funds Available	\$20,378,469.58
1 st year availability = 1/3 of total funding	\$6,792,833.19
2 nd year availability = 2/3 of total funding (plus any remaining unspent from year 1)	\$13,585,766.39
Years 3 – 10 Availability (Total Funds Available)	\$20,378,469.58

It is the agency’s intent to expend these monies in Kentucky as expeditiously as possible – on projects that will provide the greatest benefits in Kentucky.

Government and other entities will be eligible to apply for funding to implement mitigation projects depending on the eligible mitigation project types. Levels of available funding and required match are provided under each project category as well. Project funding shall be awarded through a competitive process in accordance with Kentucky’s procurement laws.

EEC shall maintain and submit to the national trustee all documentation and records supporting expenditures for eligible mitigation projects in Kentucky. All documentation shall be publicly available as well.

D. FUNDING PRIORITIES FOR CATEGORIES OF ELIGIBLE MITIGATION PROJECT TYPES

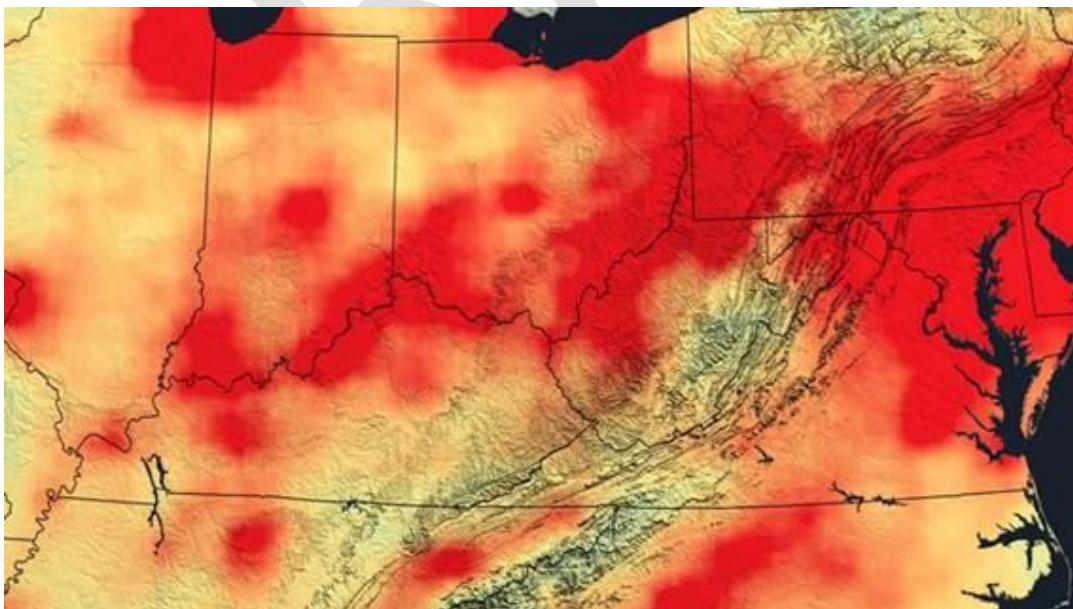
The Commonwealth will ensure that projects ultimately funded support the plan’s goal – to reduce NOx emissions and to improve and protect ambient air quality by implementing eligible mitigation projects. These goals will be achieved by following the outline contained within this document to guide the planning, solicitation, and project selection processes.

Appendix D to the Settlement states that this plan provide a preliminary assessment of the percentage of funds to be used for each type of eligible mitigation action. This plan is not a finite plan, and as stated in Section 4.1 of Appendix D, it is not intended to be binding on any state beneficiary.

Additionally, using locational and demographic data, anticipated NOx emission reductions from will be different, depending on the location of those potential projects and equipment being replaced. It is the Commonwealth’s intent to give priority to projects in historic and/or current ground level ozone and fine particle (PM_{2.5}) nonattainment and maintenance areas. Table 3 is a list, provided by the Kentucky Division for Air Quality, of nonattainment and maintenance areas in Kentucky for both ozone and PM_{2.5}. This data is also available in U.S. EPA’s Green Book.¹

Additionally, information available from special monitoring instruments on NASA’s Aura satellite, areas heavy with nitrogen dioxide levels can be detected from space. Figure 1 provides a NASA image of the Ohio River Valley in 2005. The red areas are emissions of nitrogen dioxide. ²

Figure 1. NASA Satellite Image – Nitrogen Dioxide Emissions -- 2005



Nine years later, 2014 – shows that those emissions have dropped significantly in the area, however, the major metropolitan areas in the state, and areas that continue to grow, continue to show higher levels of Nitrogen Oxide emissions. Coincidentally, these are the areas that have had historic air quality problems.

Figure 2. NASA Satellite Image – Nitrogen Dioxide Emissions – 2014

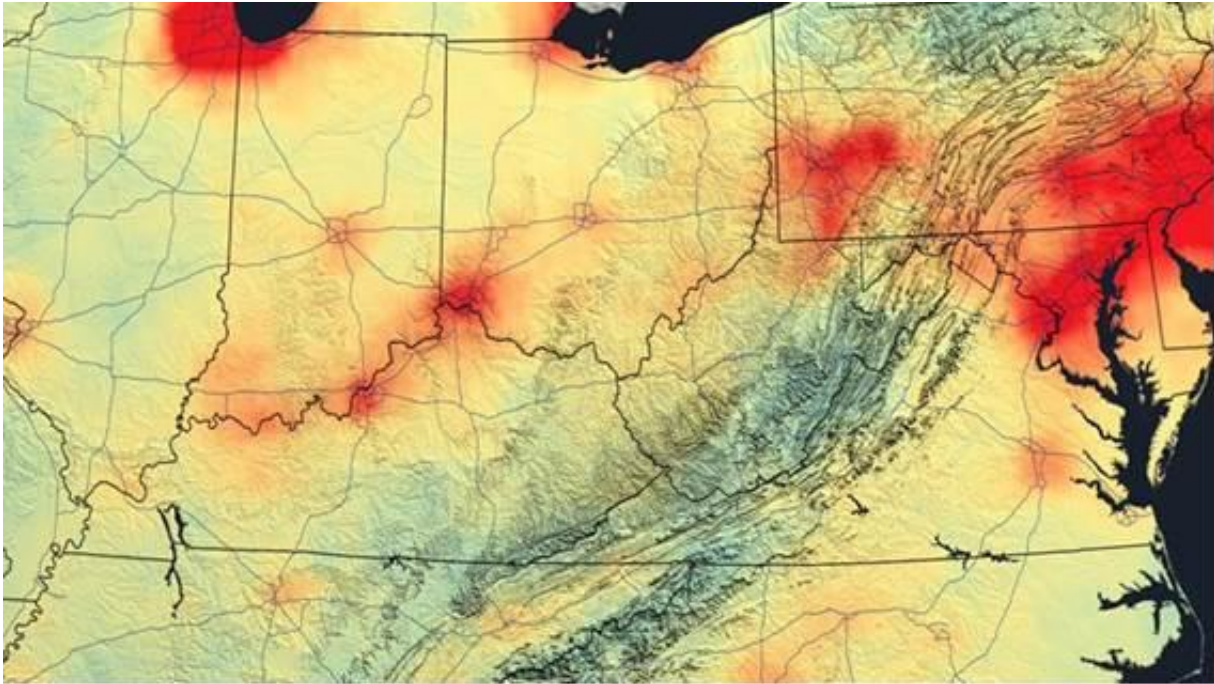


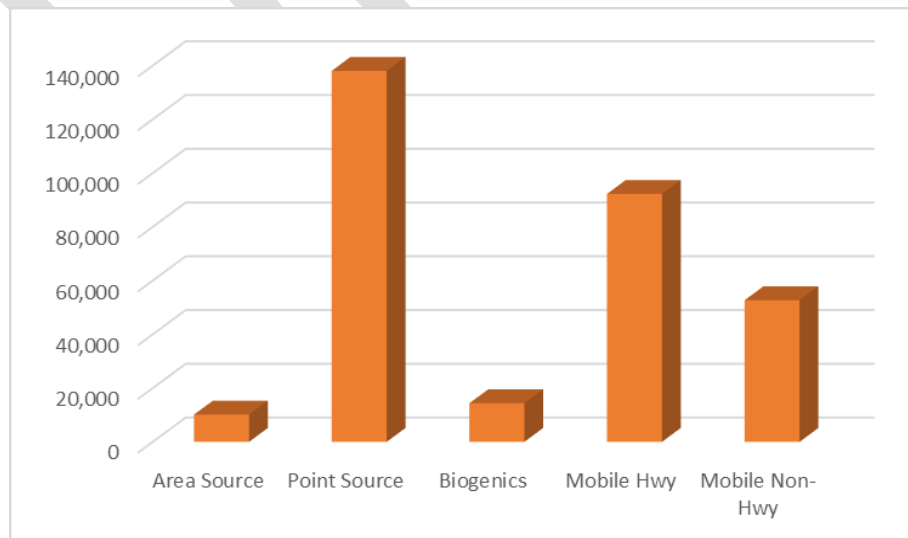
Table 3 -- Kentucky Ozone and PM2.5 Nonattainment and Maintenance Area Designations

County	Ozone		PM2.5	
	Nonattainment	Maintenance	Nonattainment	Maintenance
Boone	X			X
Boyd		X		X
Bullitt	X			X
Campbell	X			X
Christian		X		
Daviess		X		
Edmonson		X		
Fayette		X		
Greenup		X		
Hancock		X		
Jefferson	X			X
Kenton	X			X
Lawrence				X
Livingston		X		
Marshall		X		
Oldham	X			
Scott		X		

To provide a comparison view of total NOx emissions in Kentucky, Figure 3 provides the breakdown of total NOx emissions from the U.S. EPA 2014 National Emissions Inventory (NEI)³. These data include NOx emissions from both diesel and gasoline emissions for the mobile and non-highway mobile sectors.

Figure 3

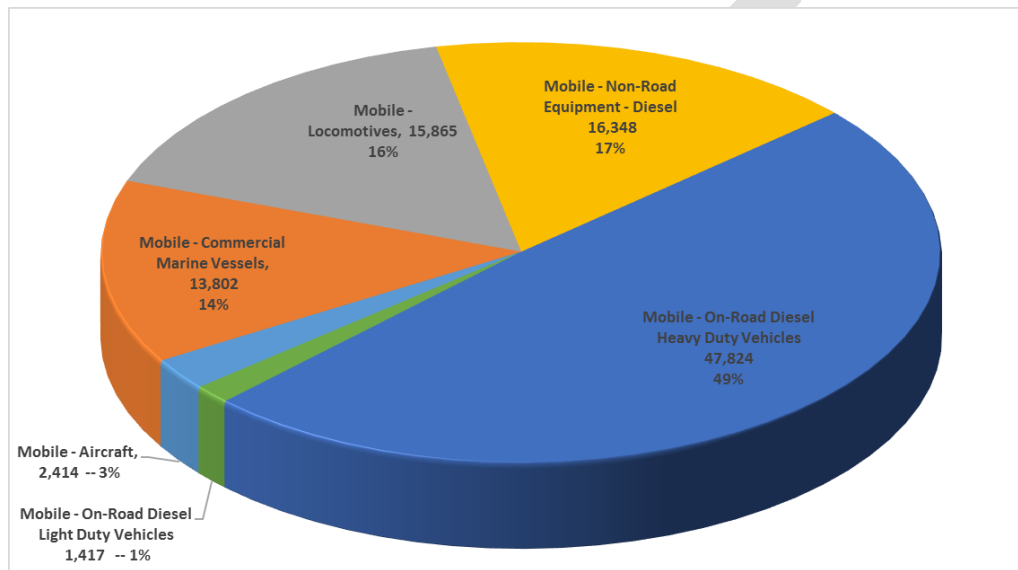
Kentucky NOx Emissions – U.S. EPA 2014 National Emissions Inventory



U.S. EPA – National Emissions Inventory (NEI) 2014 – Tons per year

Figure 4, provides a breakdown of 2014 *Mobile Diesel Emissions* from U.S. EPA’s 2014 National Emissions Inventory. That data is from a statewide basis and does not depict activity on a specific geographic location. By far, the majority of mobile NOx emissions throughout the Commonwealth, based on these data, come from on-road heavy duty vehicles – (49%). Based on information from the 2014 NEI, the on-road emissions data include emissions from several categories of diesel equipment that can be funded under the Mitigation Trust Funds.

Figure 4
EPA Mobile NOx Emissions for Kentucky (2014)



U.S. EPA – National Emissions Inventory (NEI) 2014

On-road mobile sources include emissions from vehicles that are normally operated on public roadways. This includes passenger cars, motorcycles, minivans, sport-utility vehicles, light-duty trucks, heavy-duty trucks, and buses. The sector includes emissions generated from parking areas as well as emissions while the vehicles are moving. The sector also includes “hoteling” emissions, which refers to the time spent idling in a diesel long-haul combination truck during federally-mandated rest periods of long-haul trips.

The NEI also includes emission estimates for aircraft auxiliary power units (APUs) and aircraft ground support equipment (GSE) typically found at airports, such as aircraft refueling vehicles, baggage handling vehicles and equipment, aircraft towing vehicles, and passenger buses. These APUs and GSE are located at the airport facilities as point sources along with the aircraft exhaust emissions. Aircraft exhaust, GSE, and APU emissions estimates are associated with aircrafts’ landing and takeoff (LTO) cycle.

E. FUNDING ALLOCATION FOR CATEGORIES OF ELIGIBLE MITIGATION PROJECT TYPES

The categories of eligible mitigation projects deemed appropriate to achieve the stated goals in this plan are based on mobile NOx emission sources for Kentucky as shown in Figure 4 and information provided by interested constituencies in Kentucky.

A review of vehicle registration data for subject Volkswagen vehicles was also performed and that information from that data is included in Table 4. This table shows the top ten (10) highest subject vehicle registrations based on information received from the Kentucky Transportation Cabinet. Vehicle registration by county showed that Kentucky had 3,621 subject vehicles registered in Kentucky.

Table 4. Vehicle Registration by County

Jefferson	873	Fayette	373
Boone	204	Kenton	190
Oldham	169	Campbell	99
Hardin	88	Warren	73
Shelby	71	Bullet	69

The funding allocation approach for eligible mitigation projects will include but is not limited to:

- Sources of mobile NOx emissions, both at a state level, at a sector level, and at a local geographic level;
- Anticipated NOx emissions reductions;
- Options to maximize funding allowable for the deployment of zero emission vehicle supply equipment and;
- Use of Trust funds for projects specifically enumerated in Appendix D2 of the Trust.

Kentucky plans to implement projects:

- Designed to achieve the greatest NOx emission reduction for dollars expended
- For government entities, depending on the category, with demonstrated experience and existing administrative and programmatic structure in place for implementing successful projects
- With verified funding (for projects that require a cost share) or leveraged funding
- That can be completed within twenty-four (24) months of the award date
- In areas that receive a disproportionate quantity of air pollution from the vehicles cited in the consent decree
- Provide priority for projects that may be located in areas with historic non-compliance with ambient air quality standards for ozone and/or PM2.5
- Incentivize opportunities for emission reductions in conjunction with greater NOx reductions and economic development opportunities

The funding priorities in this plan may change based on public input, new or supplemental air quality data, or other data and factors.

1. Anticipated Funding Allocation

Expenditures from the Trust can only be used for eligible non-government and government mitigation projects that are specified in Appendix D-2 of the Consent Decree. Table 5 provides anticipated funding allocations for allowable projects under Appendix D2.

Eligible Transit Buses –Kentucky plans to provide at least 80% of available funding for government projects to repower or replacement of eligible transit buses.

Light Duty Zero Emission Vehicle (ZEV) Supply Equipment – This plan proposes to use up to 15% of the funds available for expenses associated with the deployment of zero emission vehicle supply equipment to offset emissions from light duty diesel and non-diesel vehicles as established in the Consent Decree. However, Trust funds cannot be used for purchasing or renting real estate and other capital costs such as construction of buildings or parking facilities, etc.

Program Administration – The Consent Decree would allow for up to 15% of the Mitigation Trust funds to be used for expenses associated with the administrative oversight of eligible Mitigation Actions. Kentucky plans to allow for 5% of the funds for cabinet administrative expenditures as outlined in Appendix D2.

Table 5. Anticipated Funding Allocations

Categories of Eligible Mitigation Actions	% of Funds Allocated	\$\$ Amount
Administrative Expenses	Up to 5%	\$1,018,933
Eligible Large Trucks	0%	
Eligible Transit Buses (<i>government entities only</i>)	At least 80%	\$16,302,919
Freight Switchers	0%	
Ferries/Tugs	0%	
Ocean Going Vessel Shorepower	0%	
Eligible Medium Trucks	0%	
Airport Ground Support Equipment	0	
Forklifts & Port Cargo Handling Equipment	0%	
Light Duty Zero Emission Vehicle Supply Equipment (<i>Government & Non-government</i>)	Up to 15%	\$3,056,797
Diesel Emission Reduction Act (DERA) Option	0%	
Total	100%	

It is important to note that transit buses to be replaced under funding provided through the Mitigation Trust must be scrapped.

Appendix D2 to the Partial Consent Decree defines "Scrapped" to 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 a part of an Eligible project, scrapped shall also include the disabling of the chassis by cutting the vehicle's frame rails completely in half.

F. ELIGIBLE MITIGATION ACTIONS AND MITIGATION ACTION EXPENDITURES

The eligible mitigation actions and approvable expenditures for projects in Kentucky are as follows:

1. Transit Bus

Repower or Replacement of transit buses is included under item 2 in Appendix D. Vehicles eligible for scrappage and repower or replacement include those with engine model years 2009 and older.

Transit bus (buses) are defined in Appendix D of the Final Consent Decree as vehicles with a Gross Vehicle Weight Rating (GVWR) greater than 14,001 pounds used for transporting people.

Table 6 -- Percentage of Project that can be funded through Trust –Transit Buses

	Government Owned
Repower with new diesel or alternate fueled engine	Up to 80%
Replace with new diesel or alternate fueled vehicle	Up to 80%
Repower with all-electric engine (includes infrastructure)	Up to 80%
Purchase new all-electric vehicle (includes infrastructure)	Up to 80%

2. Light Duty Zero Emission Vehicle (ZEV) Supply Equipment

The Trust allows for beneficiaries to use up to 15 percent of their allocation for the acquisition, installation, operation and maintenance of new light duty zero emission vehicle supply equipment. Eligible equipment includes level 1, level 2, or DC Fast Charging equipment (or analogous successor technologies that is located in a public place, workplace, or multi-unit dwelling and is not located at a private residential dwelling that is not a multi-unit dwelling (see figure 6. Light duty hydrogen fuel cell vehicle supply equipment is also eligible, and includes hydrogen dispensing equipment capable

of dispensing hydrogen at a pressure of 70 megapascals (or analogous successor technologies) that is located in a public place. Trust funds may 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). Table 21 provides information on the percentage of ZEV projects that can be covered through the mitigation trust funds.

There is a range of zero emission vehicle supply equipment available on the market and the costs of equipment installation and maintenance will vary widely from location to location.

- Level 1 -- The cost of a single port electric vehicle supply equipment unit ranges from \$300 - \$1,500
- Level 2 -- \$400 - \$6,500
- DC Fast charging -- \$10,000 - \$40,000

Installation costs also vary greatly with a general range of up to \$3000 for level 1; \$600 - \$12,700 for level 2; and \$4,000 - \$51,000 for DC fast charging.

Figure 5: Light Duty Electric Vehicle charging systems⁵

Charging Systems

Plug-in hybrid and all-electric vehicles need to be connected to a power source to charge their batteries. There are three (3) main types of electric vehicle chargers.



Level one – uses the same 120 volt current found in standard household outlets. Enabling charging can be as 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% of battery capacity) in 20-30 minutes. Requires more expensive charging equipment as well as high voltage 3 phase power connections.

Table 7 -- Percentage of ZEV projects that can be covered through the mitigation trust funds.

Project Type	Percentage Funded through Trust
Electric Vehicle Supply Equipment (EVSE) – publicly available at government owned property	Up to 100%
EVSE – publicly available at non-government owned property	Up to 80%
EVSE – at workplace but not available to general public	Up to 60%
EVSE – at multi-unit dwelling but not available to general public	Up to 60%
Fuel Cell Vehicle Supply Equipment (FCVSE)– publicly available and able to dispense at least 250 kg/day	Up to 33%
FCVSE – publicly available and able to dispense at least 100 kg/day	Up to 25%

G. ANTICIPATED ENVIRONMENTAL BENEFITS

The retrofit, repower, or replacement of eligible transit buses will provide a wide range of emission benefits based on many variables, including the type of vehicle or engine replaced, the initial age of the engine, and the engine power rating and the number of operating hours of the equipment. EPA’s Diesel Emissions Quantifier Tool shows varying results of anticipated NOx reductions based on the above criteria.

While a goal of the settlement was to off-set the excess NOx emissions, states have opportunities to fund projects in areas with existing or historic air pollution problems. Projects may also be funded that include communities and locations that receive a disproportionate quantity of air pollution from diesel fleets such as areas in close proximity to railyards, airports, terminals and bus areas. These criteria will play a role in funded projects, along with the actual decrease of overall NOx emissions in the state.

H. PROJECT QUANTIFICATION

During the project solicitation process, Kentucky anticipates that reductions for approvable projects will be calculated using various tools depending on the type of project being proposed. Emission reduction potential benefits will be included in the scoring criteria for project review. Those tools shall be included in the solicitation and may include:

- Environmental Protection Agency’s (EPA) Diesel Emissions Quantifier Tool: <https://www.epa.gov/cleandiesel/diesel-emissions-quantifier-deq>
- Other method(s) identified and verifiable to calculate the emissions reductions/offsets and costs of the proposed project.

APPENDIX A

Definitions

“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 which 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 of 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 with line haul engines that move 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 (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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APPENDIX B

Public Comment Period Activities

A summary of Kentucky's informal public comment and participation activities regarding this state mitigation plan will be provided in the final mitigation plan. However, Kentucky has been taking public comment on items interested parties believe appropriate to include in the plan for several months including presentations to interested groups on the Settlement.

December 7, 2016 – Presentation to the Kentucky Clean Fuels Coalition on the components of the Volkswagen Settlement

January 2017 -- EEC developed an internet site in to keep interested parties apprised of activities surrounding the VW Settlement in general and activities and public comment opportunities in Kentucky in particular.

In April, EEC began providing the public with an opportunity to comment on what eligible mitigation measures should be included in Kentucky's Beneficiary Mitigation Plan.

January 4, 2017 – Presentation at the Department for Local Government on Volkswagen Settlement components and how local governments may be able to take advantage of programs.

January 12, 2017 – Informational Briefing to the Executive Directors of the Area Development Districts on the Volkswagen Settlement components and offer opportunities for presentations at regional locations.

January 18, 2017 – Presentation before the transportation representatives of the Kentucky Metropolitan Planning Organization workgroup on the components of the Volkswagen Settlement.

February 17, 2017 – Kentucky Clean Fuels Coalition Meeting – Presentation on components of the Volkswagen Settlement

March 9, 2017 – Presentation for the Northern Kentucky Chamber of Commerce Infrastructure and Environment Committee on the Volkswagen Settlement components

March 23, 2017 – Presentation before the Lake Cumberland Area Development District members on the Volkswagen Settlement components and how funds coming to Kentucky could be utilized (Appendix D)

April 18, 2017 – Kentucky EEC provided on-line access to a comment form for the public to make comments on what types of projects should be included in Kentucky's draft environmental mitigation plan – these on-line forms went directly to a special e-mail account set up specifically to gather comments from the public and interested parties.

May 11, 2017 – Presentation at the Kentucky Clean Fuels Coalition Meeting – providing latest information – apprising members of the opportunity to provide input on Kentucky's draft mitigation plan using the on line form available on the Kentucky EEC VW website.

May 18, 2017 – Meeting with Executive Director of the Kentucky Conservation Committee to provide information to their constituency on the Volkswagen Settlement – Settlement Components and how funds slated for Kentucky could be utilized (Appendix D)

June 22, 2017 – Meeting with representative of the Kentucky Propane Education and Research Council on project applicability under the Volkswagen Settlement (Appendix D)

September 8, 2017 – Presentation before the Kentucky Clean Fuels Coalition members to provide an update on the Volkswagen Settlement and potential timelines.

October 9, 2017 – Presentation on the Volkswagen Settlement and components to representatives of East Kentucky Power Cooperative.

November 1, 2017 – Presentation before the Kentucky Clean Fuels Coalition members to provide an update on the Volkswagen Settlement and potential timelines.

December 8, 2017 -- Presentation before the Kentucky Clean Fuels Coalition members to provide an update on the Volkswagen Settlement and potential timelines.

March 23, 2018 -- Presentation before the Kentucky Clean Fuels Coalition members to provide an update on the Volkswagen Settlement

May 11, 2018 -- Presentation before the Kentucky Clean Fuels Coalition members to provide an update on the Volkswagen Settlement

May 15, 2018 –NASEO Regional meeting in Louisville update on Volkswagen activities in Kentucky

July 17, 2018 – FHWA state call – update on Volkswagen initiative in Kentucky

To Date, Kentucky has received over 450 written or electronic comments providing information addressing proposed components of Kentucky’s Environmental Mitigation Plan.

Public Meeting to take comment on Kentucky’s Draft Beneficiary Mitigation Plan is scheduled for September 5, 2018, at the offices of the Energy and Environment Cabinet, 300 Sower Blvd., Frankfort Kentucky. The meeting will be held from 4:00 p.m. to 6:00 p.m. local time.

APPENDIX C

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 which 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 move 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 (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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Appendix D

Document References

1. U.S. EPA designations – <https://www.epa.gov/green-book>
2. NASA Goddard’s Scientific Visualization Studio -- <https://airquality.gsfc.nasa.gov/slider/ohio-valley>
3. U.S. EPA National Emissions Inventory 2014 -- <https://www.epa.gov/air-emissions-inventories/2014-national-emissions-inventory-nei-data>
4. Vehicle Registration Data provided by Kentucky Transportation Cabinet
5. “Costs Associated with Non-Residential Electric Vehicle Supply Equipment.” *U.S. Department of Energy, office of Energy Efficiency and Renewable Energy*, November, 2015.