2018

State of Connecticut Mitigation Plan under Volkswagen 2.0L and 3.0L Vehicle Partial Consent Decrees, Appendix D

Rev. 4/26/2018

Connecticut Department of Energy and Environmental Protection

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I. BACKGROUND

On October 25, 2016, a Partial Consent Decree[1] was approved between the United States, California, and the defendants to address installation and use of emissions control defeat device software (defeat devices). The defendants were the Volkswagen (VW) Corporation and its subsidiaries. The software was installed in approximately 500,000 model year 2009 through 2015 VW and Audi branded diesel vehicles with 2.0 liter engines, of which an estimated 11,911 vehicles were sold/leased in Connecticut. The use of the defeat devices has resulted in increased emissions of nitrogen oxide (NOx) in Connecticut and throughout the United States. NOx significantly contributes to the formation of ground level ozone which negatively impacts the respiratory system and cardiovascular health. One of the goals of the Partial Consent Decree is to offset the excess NOx emissions from these vehicles. On December 20, 2016, the United States and California filed a second partial settlement with VW addressing vehicles containing 3.0 liter diesel engines (the "3.0 liter partial settlement"), which was approved on May 17, 2017.[2] On January 11, 2017, the United States and California filed the third partial settlement with VW addressing civil penalties and injunctive relief to prevent future violations (the "third partial settlement"), which was approved on April 13, 2017.[3] On September 9, 2017, the United States and California filed with VW an unopposed motion for court approval of the finalized Environmental Mitigation Trust Agreement for State Beneficiaries (Mitigation Trust Agreement), which was approved on October 2, 2017. [4]

The Partial Consent Decrees, among other actions contained within, established an Environmental Mitigation Trust (Trust) which will provide funds to all fifty states, the District of Columbia, Puerto Rico and federally recognized tribes, to implement actions to counter the air quality impacts of the excess NOx emissions resulting from the use of the defeat devices. The Mitigation Trust Agreement sets forth the final details of the mitigation trust requirements. The initial allocation to the State of Connecticut (State) under the Trust is approximately $51.6 million dollars; the 3-liter settlement added another $4.1 million for a total allocation of $55.7 million. The Mitigation Trust Agreement establishes a process for states and tribes to receive the funds and requires the development of this mitigation plan, which summarizes how the State intends to use its allotted funds. The Mitigation Trust Agreement also requires the Connecticut Department of Energy and Environmental Protection (DEEP) to develop a plan for public review and comment describing the types of mitigation actions or projects eligible for funding under the Trust along with a general description of the expected ranges of emission benefits.

[1]Partial Consent Decree: http://www.ct.gov/deep/lib/deep/air/mobile/vw/2016-10-25_-_VW_Partial_Consent_Decree-web.pdf

[2] Second Partial Consent Decree: https://www.epa.gov/sites/production/files/2016-12/documents/30literpartialconsentdecree.pdf

[3] Third Partial Consent Decree: https://www.epa.gov/sites/production/files/2017-01/documents/vwthirdpartial-cd.pdf

[4] The Environmental Mitigation Trust Agreement for State Beneficiaries: http://www.ct.gov/deep/lib/deep/air/mobile/vw/2017-10-02_-_State_Beneficiary_Trust_Agreement.pdf

II. CONNECTICUT'S AIR QUALITY CHALLENGES

On April 11, 2016, the Environmental Protection Agency (EPA) made a final determination that Connecticut failed to attain the 2008 8-hour ozone National Ambient Air Quality Standard (NAAQS). Based on 2012-14 ambient air monitoring data,[5] Connecticut was reclassified from marginal to moderate nonattainment and must achieve significant reductions in NOx emissions in order to attain the ozone NAAQS. Figure 1 (below) shows the distribution of NOx emissions across the State's economic sectors, with the transportation sector being the major contributor.

Transportation emissions significantly impact the State's air quality and attainment designation, being the source of 67% of the State's NOx emissions; and 41% of its greenhouse gas (GHG) emissions (see Figures 1 and 2).

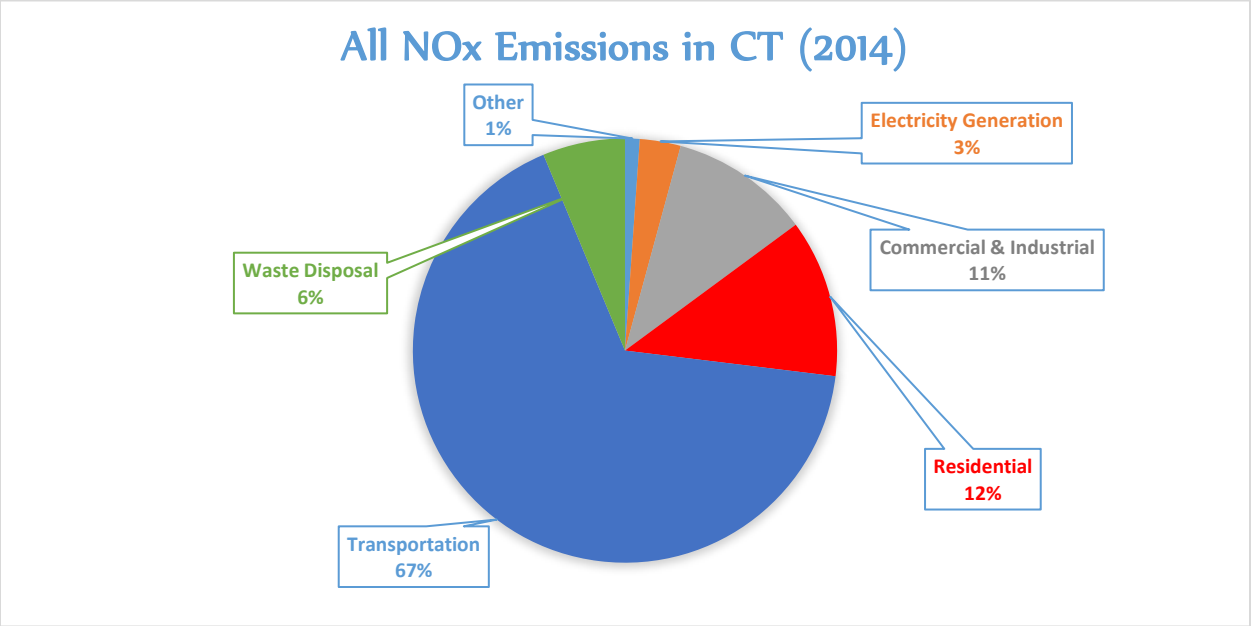

Figure 1: Sources of NOx in Connecticut (2014 NEI)

[5] EPA Final Rule: Determinations of Attainment by the Attainment Date, Extensions of the Attainment Date, And Reclassification of Several Areas for the 2008 Ozone National Ambient Air Quality Standards, April 11, 2016 https://www.epa.gov/sites/production/files/2016-04/documents/20160411fr.pdf

A. NOx and OZONE

NOx reacts in the atmosphere, in the presence of sunlight, to form ground-level ozone (smog). The adverse health effects of ozone and diesel exhaust are well documented.[6,7] These studies show that ozone can irritate the respiratory system and affect lung function, even in otherwise healthy individuals. Exposure to high levels of ozone can enhance people's sensitivity to asthma-triggering allergens such as pollen and dust mites, and can also increase the frequency and severity of asthma attacks.[8]

Ozone levels in Connecticut are also significantly affected by the transport of ozone, as well as NOx and other ozone precursors, from upwind states. Predominant weather patterns combined with Connecticut's location relative to upwind emissions sources makes the state particularly vulnerable to levels of pollution transport that at times exceed the 8-hour ozone NAAQS.

In addition to transported air pollution, NOx emissions from mobile sources also negatively impact air quality and public health in the State. While upwind air pollution has slightly diminished somewhat in recent years, Connecticut, being a thruway between New York and Boston, continues to experience increases in vehicular activity. Vehicle miles traveled in the State has increased by more than 2.1% over the last two years.[9]

B. CLIMATE CHANGE

There are many observed changes to the climate, such as rising temperatures and shifting snow and rainfall patterns, linked to increasing levels of GHGs in our atmosphere.[10] For example, research by the Connecticut Institute for Resilience and Climate Adaptation at the University of Connecticut projects that greenhouse gas emissions will lead to significant sea level rises in Long Island Sound that will impact Connecticut by the middle of this century.[11] In 2008, Connecticut passed the Global Warming Solutions Act, which established GHG targets of at least ten percent below the level emitted in 1990 by 2020 and at least eighty percent below the

[6] EPA Health Assessment Document for Diesel Engine Exhaust (2002): https://cfpub.epa.gov/si/si_public_record_report.cfm?dirEntryId=29060

[7] Diesel Exhaust and Health: Remarkable Progress, Lingering Concerns (2012): https://www.epa.gov/sites/production/files/2014-09/documents/2012_09_okeefe.pdf

[8] Health Effects of Ozone in the General Population: https://www.epa.gov/ozone-pollution-and-your-patients-health/health-effects-ozone-general-population

[9] Federal Highway Administration Travel Monitoring, Traffic Volume Trends: https://www.fhwa.dot.gov/policyinformation/travel_monitoring/tvt.cfm

[10] Climate Change Indicators: Greenhouse Gases: https://www.epa.gov/climate-indicators/greenhouse-gases

[11] O'Donnell, James, "Sea Level Rise and Coastal Flood Risk in Connecticut: An Overview, https://circa.uconn.edu/wp-content/uploads/sites/1618/2017/09/ExecSummarySeaLevelRise_J_ODonnell_Sept-2017-1.pdf

level emitted in 2001 by 2050.[12] To that end, Connecticut continues to address climate change in a meaningful way by identifying new strategies and developing and supporting forward thinking policies and legislation.

GHG emissions from transportation, primarily carbon dioxide, have increased nationwide by about 17% since 1990[13], and will continue to rise unless there is substantial reduction in the use of fossil fuels. Approximately 41% of Connecticut's GHG emissions are emitted by mobile sources (see Figure 2).

Transportation-related pollution is a function of vehicle emissions, the carbon content of transportation fuel, and vehicle miles traveled. Transportation fuel and emissions are the most likely of these three elements to be impacted by mitigation strategies. As such, promoting the use of zero or low emitting vehicles, providing a platform to facilitate the adoption of clean fuels and cleaner vehicles, and improving transportation system efficiencies will be a significant part of any efforts to mitigate both GHG and NOx emissions.

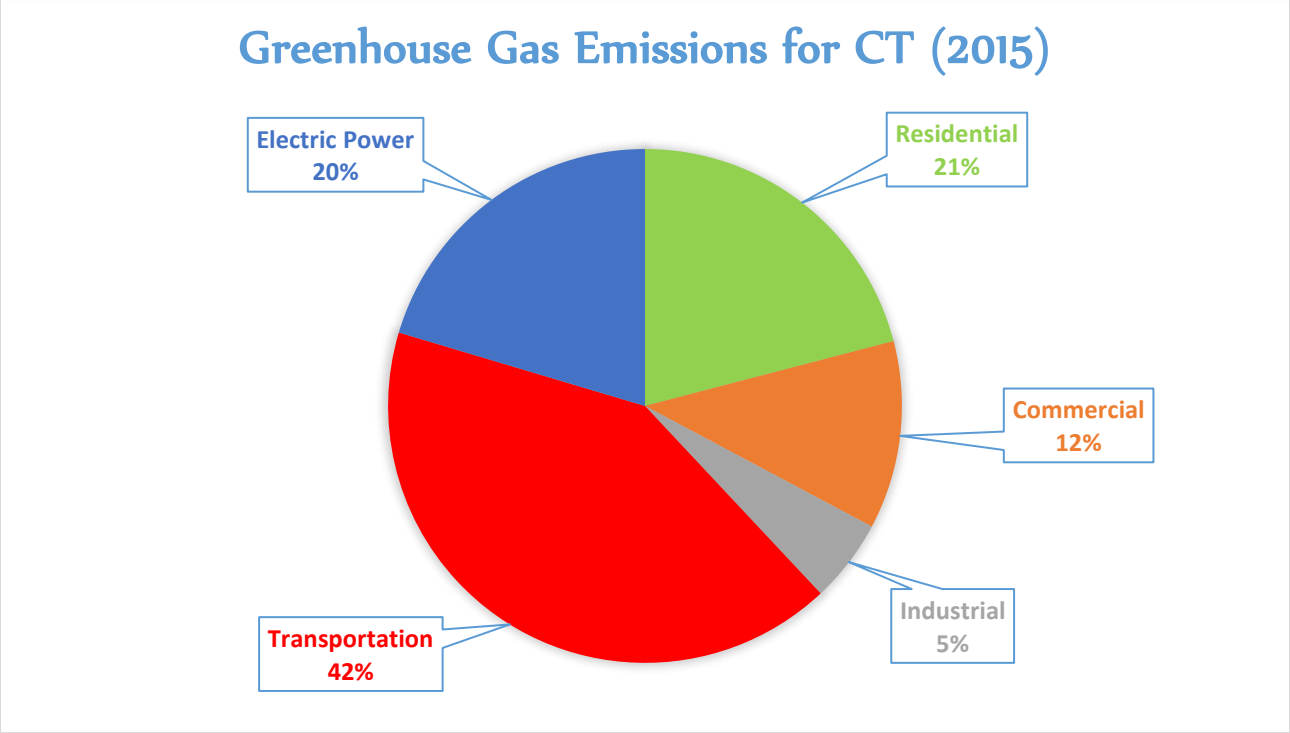

Figure 2: Distribution of Connecticut's Greenhouse Gas Emissions (EIA)

[12] IPCC (Intergovernmental Panel on Climate Change). 2013. Climate change 2013: The physical science basis. Working Group I contribution to the IPCC Fifth Assessment Report. Cambridge, United Kingdom: Cambridge University Press.www.ipcc.ch/report/ar5/wg1

[13] Greenhouse Gas Emissions: Sources of Greenhouse Gas Emissions: Transportation Sector Emissions, EPA website, October 6, 2016.

III. MITIGATION PLAN: OVERVIEW and GOAL

In accordance with the Mitigation Trust Agreement, all designated Beneficiaries[14] must create a mitigation plan summarizing how the allocated funds will be used. Specifically, the plan must describe:

- The State's overall goal for use of the funds,
- The categories of eligible mitigation projects[15] anticipated to be appropriate to achieve the stated goals and the assessment of the allocation of funds anticipated to be used for each type of eligible mitigation project,
- What consideration will be given to the potential beneficial impact of selected eligible mitigation projects on air quality in areas that bear a disproportionate share of the State's air pollution burden,
- The anticipated ranges of emission benefits that would be realized by implementation of the eligible mitigation projects identified, and
- The State's process for seeking and considering public input on the Plan.

In keeping with the above criteria, DEEP has developed this plan to provide the public with insight into its vision and overall approach to utilizing the mitigation funds allocated under the Trust. The primary goal of the State's Plan is to improve and protect ambient air quality by reviewing, analyzing and implementing eligible mitigation projects that will:

- Improve air quality by achieving significant and sustained cost effective reductions in NOx emissions,
- Expedite deployment and widespread adoption of zero emission and near-zero emission vehicles and engines, and
- Support statewide energy, environmental and economic development goals while also taking into account environmental justice considerations associated with each proposed eligible mitigation project.

The State has the discretion to adjust its objectives and specific spending strategy when necessary to achieve the Plan's goals and the State will update the Plan as necessary. Any updates to the Plan will be submitted to the Trustee and be made available on DEEP's public webpage addressing all VW settlement related issues, which can be found at www.ct.gov/deep/vw.

[14] All governmental entities initially allocated funds under the Environmental Mitigation Trust must apply to become a Beneficiary of the Trust. See Appendix D, Section 4.0 of the Partial Consent Decree

[15] Categories of eligible mitigation projects are designated in Appendix D-2 to the Partial Consent Decree, which is attached to this Mitigation Plan as Appendix D.

IV. AVAILABLE FUNDING AND ELIGIBLE APPLICANTS

On October 2, 2017, the Mitigation Trust Agreement, upon court approval, became effective. On October 18, 2017, DEEP submitted its *Certification for Beneficiary Status Under Environmental Mitigation Trust Agreement* to the Trustee, the United States and the court overseeing the VW action. On January 29, 2018, the Trustee filed a Notice of Beneficiary Designation under the VW Diesel Emissions Environmental Mitigation Trust for State Beneficiaries designating Connecticut as a Beneficiary under the Trust.[16] As such, Connecticut is now eligible to receive $55,721,169 (1.90% of the $2.9 billion made available to states and Tribes) from the Trust as specified in Appendix D to the Mitigation Trust Agreement.

Both non-government and government entities are eligible to apply for funding to implement eligible mitigation projects. Funding allocation requests are limited per the terms of the Mitigation Trust Agreement. Project funding will be awarded through an open and transparent process based on sound analytics that will comply with all applicable state and federal procurement requirements.

DEEP will maintain and make publicly available all documentation submitted in support of each funding request and all records supporting all expenditures of eligible mitigation project funds.

V. CATEGORIES OF ELIGIBLE MITIGATION PROJECT TYPES

The State will ensure that projects ultimately funded support the Plan's goal. This goal will be achieved by establishing priorities and associated objective criteria to be used to guide the planning, solicitation, and project selection processes. The categories of eligible mitigation projects deemed appropriate to achieve the stated goal in this Plan are based on mobile NOx emissions sources in the State (see Figure 3).

[16]Notice of Beneficiary Designation, January 29, 2018, http://www.ct.gov/deep/lib/deep/air/mobile/vw/2018-01-29_-_VW_Beneficiary_Designation.pdf

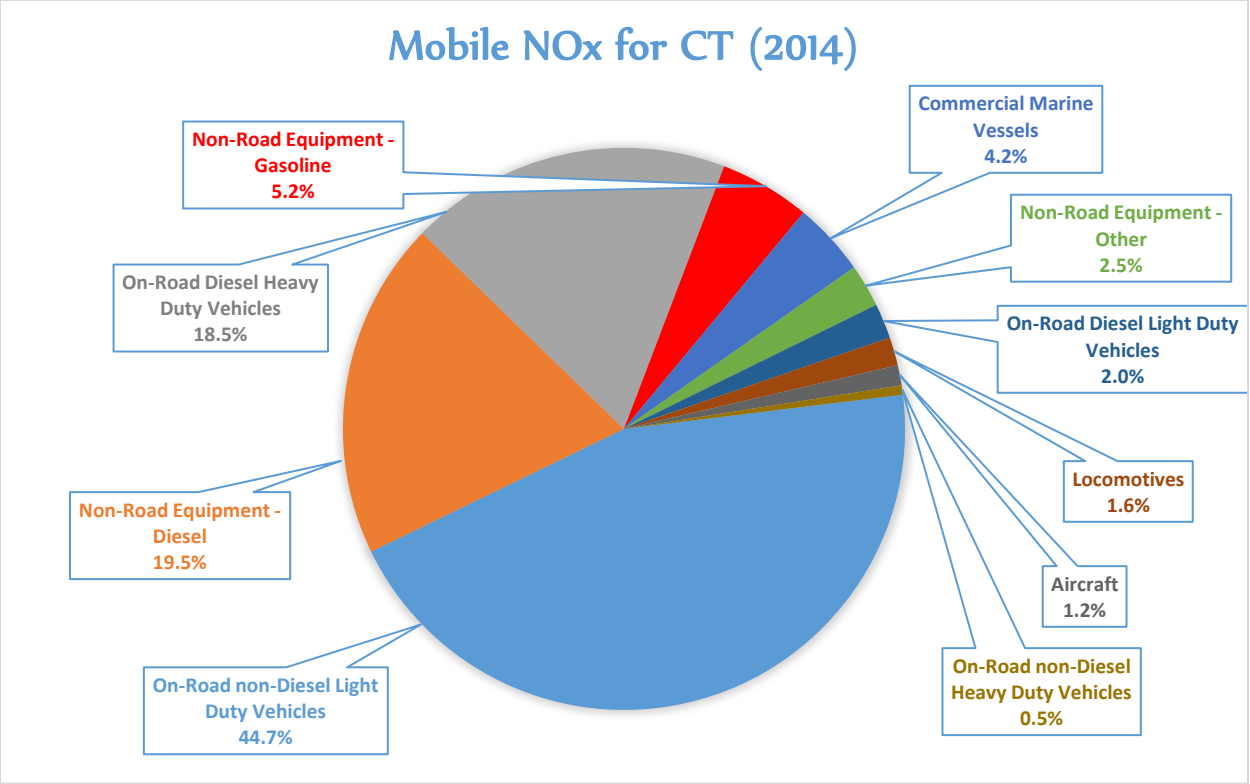

Figure 3: Breakdown of Mobile NOx Emissions in Connecticut (2014 NEI)

A. FUNDING PRIORITIES

The funding priorities in this Plan are based on:

- The assessment of current NOx emissions from mobile sources (see Figures 3 and 4),
- Demographic and locational data (see Figure 5),
- Anticipated NOx emissions reductions or offsets from mobile sources, current and anticipated ground level ozone nonattainment areas,
- Existing air quality improvement measures and programs in Connecticut,
- Equity considerations for the distribution of the funds across the State,
- Capacity issues for certain sectors to implement programs in a timely and efficient manner,
- Consistency with statewide energy, environmental, and economic development goals; and
- Environmental justice considerations and other relevant factors.

These funding priorities, include, but are not limited to:

- Projects scaled to achieve the greatest NOx emission reduction or offset per dollar

invested (i.e., capital cost effectiveness in dollars/ton),

- Transformative projects that promote other statewide energy, environmental, and economic development goals[17] while also taking into account environmental justice considerations,
- Projects submitted by Government and non-government entities with demonstrated experience and existing administrative and programmatic structure in place for implementing diesel reduction or offset projects,
- Projects in environmental justice (EJ) and other communities[18] that have historically borne a disproportionate share of the adverse impacts of air pollution from sources including, but not limited to transportation hubs/corridors, ports, rail yards, truck stops, airports, terminals, and bus depots,
- Projects with verified funding or leveraged funding that exceeds the minimum required cost share,
- Projects that can be completed within eighteen months of the award date;
- Projects located in nonattainment areas, or areas with historical issues concerning compliance with federal air quality standards, and
- Applicants that have or projects that include a motor vehicle anti-idling education and outreach program.

It is important to note that the above list consists of preferential funding criteria and should not be considered as eligibility criteria. Funding priorities are subject to change based on public input, new or supplemental air quality or other data, and other applicable factors.

[17] For example, see the 2013 Comprehensive Energy Strategy for Connecticut and its draft 2017 successor at http://www.ct.gov/deep/cwp/view.asp?a=4405&Q=500752&deepNav_GID=2183 and the Draft Clean Fuels / Clean Vehicles Plan at http://www.ct.gov/deep/lib/deep/air/siprac/2014/zev_implementation_plan_meeting.pdf.

[18] Find lists of Connecticut EJ communities at http://www.ct.gov/deep/cwp/view.asp?a=2688&Q=432364&deepNav_GID=1511 and distressed communities at http://www.ct.gov/ecd/cwp/view.asp?a=1105&q=251248.

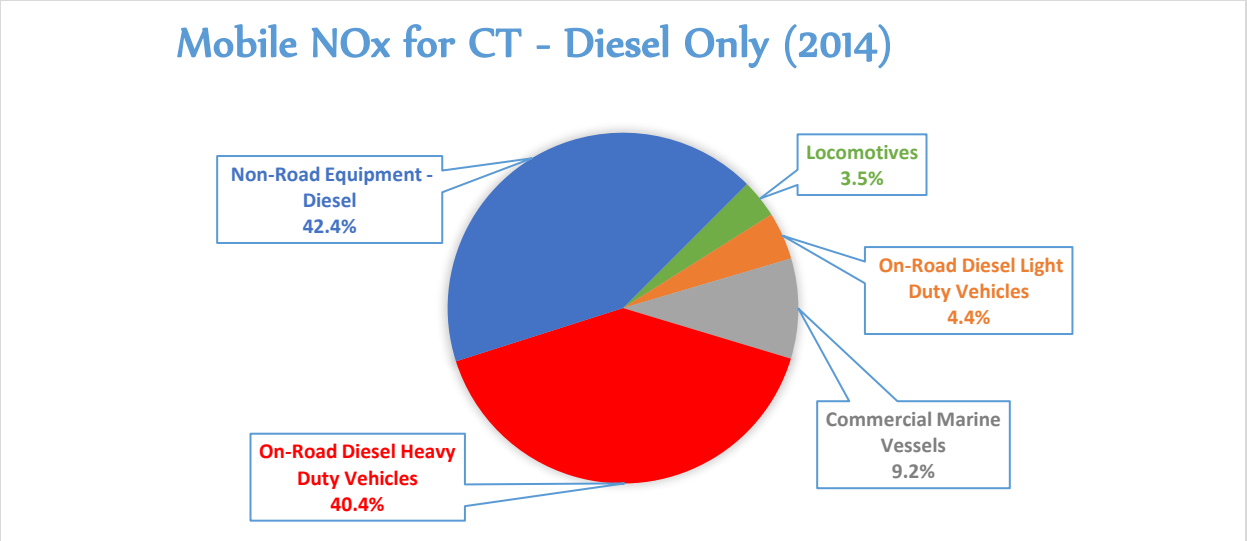

Figure 4: Diesel Mobile NOx Emissions in Connecticut (2014 NEI)

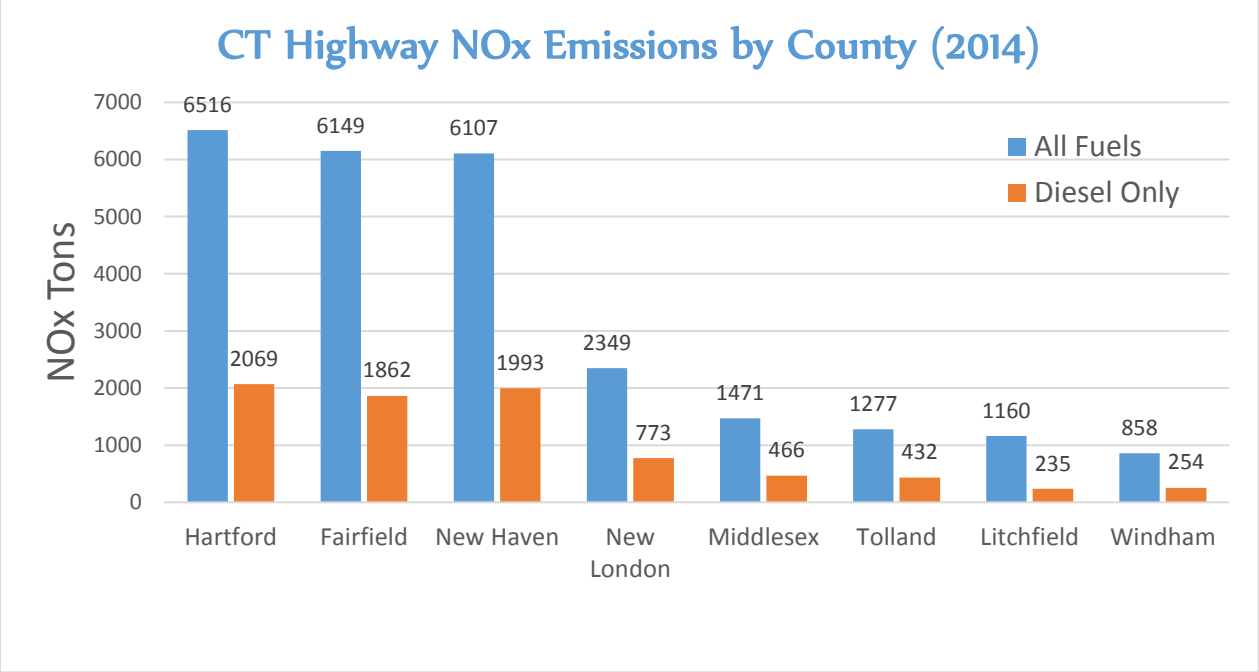

Figure 5: Connecticut Highway NOx Emissions by County (2014 NEI)

B. FUNDING ALLOCATIONS

Considerations informing the State's funding allocation approach for eligible mitigation projects, include but are not limited to: sources of mobile NOx emissions, sources of projected NOx emissions reductions, options to maximize funding allowed for the deployment of zero emission vehicle supply equipment and possible projects not specifically enumerated in Appendix D-2 of the Mitigation Trust Agreement but eligible under the Diesel Emission Reduction Act (DERA).

DEEP fully supports the State's ongoing commitments to the wide-scale deployment of electric vehicles. Appendix D-2 of the Mitigation Trust Agreement authorizes the use of up to 15% of the allocated 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; DEEP intends to utilize the maximum amount allowed for this purpose. However, under Appendix D-2, 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).

DEEP intends to exercise the DERA Option, utilizing Trust funds to match its State DERA allocation to allow for a greater variety of eligible projects. The rest of the allocated funds will be used for the remaining categories of eligible projects outlined in the Mitigation Trust Agreement that are aligned with the funding priorities presented in this Plan. 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 Mitigation Trust Agreement.[19] The specific Trust expenditures under this Plan, will depend on the proposals received, the degree to which proposed projects meet or exceed solicitation criteria, and additional factors. It is anticipated that all recipients of Trust funds will be required to provide a minimum level of cost sharing, but DEEP reserves the right to allocate the maximum allowed under the Mitigation Trust Agreement for a proposed project of exceptionally high quality and merit that advances State goals and objectives. Notwithstanding the program expenditure levels for each project category below, preference will be given to eligible project proposals that exceed the minimum required cost share.

The following information provides detail on the categories of eligible project types and anticipated benefits. To encourage the widest diversity of proposals, DEEP does not intend to prioritize any category of eligible mitigation projects beyond the allocations for light duty zero-emission supply equipment and DERA.

Projects initiated prior to filing an application for the program are not eligible for funding. For more details on eligible mitigation projects, see Appendix C to this document.

i. On-Road Medium and Heavy Duty Vehicles

On-road heavy duty vehicles emitted 7,501 tons or 19% of all mobile source NOx emissions in the State during 2014.

Eligible Mitigation Project Types: Class 8 Local Freight Trucks and Port Drayage Trucks (Large Trucks), Class 4-8 School Bus, Shuttle Bus, or Transit Bus (Buses), and Class 4-7 Local Freight Trucks (Medium Trucks).

[19] See Appendix C to this document.

Eligible trucks include 1992 - 2009 engine model years; and eligible buses include 2009 engine model year or older. Eligible trucks and buses 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 mitigation action occurs or one engine model year prior.

Expenditures for Non-Government Owned Eligible Large and Medium Trucks, and Eligible Buses:

- Up to 40% of the cost of a repower with a new diesel or alternate fueled[20] engine, including the costs of installation of the engine,
- Up to 25% of the cost of a new diesel or alternate fueled vehicle,
    - The only exception to this limit is for eligible drayage trucks, which are eligible for up to 50% of the cost of a new diesel or alternate fueled vehicle
- Up to 60% 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; and
- Up to 60% of the cost of a new all-electric vehicle, including charging infrastructure associated with the new all-electric vehicle.

Expenditures for Government Owned Eligible Large and Medium Trucks, and Eligible Buses:

- Up to 65% of the cost of a repower with a new diesel or alternate fueled engine, including the costs of installation of such engine,
- Up to 65% of the cost of a new diesel or alternate fueled vehicle,
- Up to 65% 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; and
- Up to 65% of the cost of a new all-electric vehicle, including charging infrastructure associated with the new all-electric vehicle.

Expected Benefits include, but are not limited to:

- Tons of pollution reduced over the lifetime of the engines/vehicles, specifically NOx, and GHGs,
- Net reduction in gallons of diesel fuel and/or other fossil fuels used,

[20] As defined in Appendix C of this document.

- Improved ambient air quality and human health in communities located in nonattainment areas, areas with historical air quality issues, or in areas that bear a disproportionate share of the air pollution burden, as well as benefits to the local economy; and
- Reduced public exposure to diesel particulate matter, which EPA has classified as a likely human carcinogen.

ii. Non-Road Equipment

Non-road equipment emitted 10,671 tons or 27% of all mobile source NOx emission in the State during 2014.

Eligible Project Types: Airport Ground Support Equipment, Forklifts and Port Cargo Handling Equipment.

Eligible airport ground support equipment includes Tier 0, Tier 1, or Tier 2 diesel powered airport ground support equipment; and uncertified, or certified to 3 grams per brake horsepower-hour or higher emissions, spark ignition engine powered airport ground support equipment. Eligible forklifts include reach stackers, side loaders, and top loaders with greater than 8000 pounds lift capacity. Eligible port cargo handling equipment includes rubber-tired gantry cranes, straddle carriers, shuttle carriers, and terminal tractors, including yard hostlers and yard tractors that operate within ports.

Eligible Airport Ground Support Equipment, Forklifts or Port Cargo Handling Equipment may be repowered with all-electric engines, or may be replaced with a similar units in an all-electric form.

Expenditures for Non-Government Owned Eligible Airport Ground Support Equipment, Forklifts and Port Cargo Handling Equipment:

- Up to 60% of the cost of a repower with a new all-electric engine, including the costs of installation of the engine, and charging infrastructure associated with the new all-electric engine, and
- Up to 60% of the cost of new all-electric equipment, including charging infrastructure associated with the new all-electric airport ground support equipment, forklifts or port cargo handling equipment.

Expenditures for Government Owned Eligible Airport Ground Support Equipment, Forklifts and Port Cargo Handling Equipment:

- Up to 65% 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; and
- Up to 65% of the cost of new all-electric equipment, including charging infrastructure

associated with the new all-electric airport ground support equipment, forklifts or port cargo handling equipment.

Expected Benefits include, but are not limited to:

- Tons of pollution reduced or avoided over the lifetime of the engines/vehicles, specifically NOx, and GHGs,
- Net reduction in gallons of diesel fuel and/or other fossil fuels used,
- Improved ambient air quality and human health in communities located in nonattainment areas, areas with historical air quality issues, or in areas that bear a disproportionate share of the air pollution burden, as well as benefits to the local economy; and
- Reduced public exposure to diesel particulate matter, which EPA has classified as a likely human carcinogen.

iii. Commercial Marine Vessels

Commercial marine vessels emitted 1664 tons or 4.2% of all mobile source NOx emissions in the State during 2014.

Eligible Project Types: Ferries, Tugs, and Shorepower for ocean-going vessels.

Eligible ferries or tugs include unregulated, Tier 1, or Tier 2 marine engines. 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.

Eligible marine shorepower includes systems that enable a compatible vessel's main and auxiliary engines to remain off while the vessel is at berth, and include cables, cable management systems, shore power coupler systems, distribution control systems, and power distribution.

Expenditures for Non-Government Owned Eligible Ferries, Tugs and Shorepower for Ocean-going Vessels:

- Up to 40% of the cost of a repower with new diesel or alternate fueled (e.g., CNG, propane, hybrid) engines, including the costs of installation of the engines for ferries or tugs,
- Up to 60% of the cost of a repower with new all-electric engines, including the costs of installation the engines and associated charging infrastructure; and
- 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.

Expenditures for Government Owned Eligible Ferries, Tugs and Shorepower for Ocean-going Vessels:

- Up to 65% of the cost of a repower with new diesel or alternate fueled (e.g., CNG, propane, hybrid) engines, including the costs of installation,
- Up to 65% of the cost of a repower with new all-electric engines, including the costs of installation of the engines and associated charging infrastructure; and
- Up to 65% 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.

Expected Benefits include, but are not limited to:

- Tons of pollution reduced or avoided over the lifetime of the engines/vehicles, specifically NOx, and GHGs,
- Net reduction in gallons of diesel fuel and/or other fossil fuels used,
- Improved ambient air quality and human health in communities located in nonattainment areas, in areas with historical air quality issues, or in areas that bear a disproportionate share of the air pollution burden, as well as benefits to the local economy, and the welfare of residents in such communities; and
- Reduced public exposure to diesel particulate matter, which EPA has classified as a likely human carcinogen.

iv. Locomotives

Locomotives emitted 639 tons or 1.6% of all mobile source NOx emission in the State during 2014.

Eligible Project Types: Freight Switchers

Eligible freight switchers include pre-Tier 4 switcher locomotives that operate 1000 or more hours per year.

Eligible Freight Switchers may be repowered with any new diesel or alternate fueled or all-electric engines (including generator sets), or may be replaced with any new diesel or alternate fueled or all-electric (including generator sets) freight switchers that are certified to meet the applicable EPA emissions standards as published in the code of federal regulations for the engine model year in which the eligible freight switcher mitigation action occurs.

Expenditures for Non-Government Owned Freight Switchers:

- Up to 40% of the cost of a repower with new diesel or alternate fueled (e.g., CNG,

propane, hybrid) engines or generator sets, including the costs of installation,

- Up to 25% of the cost of a new diesel or alternate fueled (e.g., CNG, propane, Hybrid) freight switcher,
- Up to 60% of the cost for a repower with new all-electric engines, including the costs of installation of the engine and associated charging infrastructure, and
- Up to 60% of the cost for new all-electric freight switchers, including associated charging infrastructure.

Expected Benefits include, but are not limited to:

- Tons of pollution reduced or avoided over the lifetime of the engines/vehicles, specifically NOx, and GHGs,
- Net reduction in gallons of diesel fuel and/or other fossil fuels used,
- Improved ambient air quality and human health in communities located in nonattainment areas, in areas with historical air quality issues, or in areas that bear a disproportionate share of the air pollution burden, as well as benefits to the local economy, and the welfare of residents in such communities; and
- Reduced public exposure to diesel particulate matter, which EPA has classified as a likely human carcinogen.

v. Light Duty Zero Emission Vehicle Supply Equipment

Light duty vehicles emitted 18,385 tons or 47% of all mobile source NOx emission in the State during 2014. Infrastructure investments would expedite the deployment of zero emission vehicles (ZEVs) and help offset emissions from the largest source of NOx emissions in State.

Eligible Project Types: Eligible light duty ZEV supply equipment includes:

- Light duty electric vehicle supply equipment: 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); and
- Light duty hydrogen fuel cell vehicle supply equipment: hydrogen dispensing equipment capable of dispensing hydrogen at a pressure of 70MPa (or analogous successor technologies) that is located in a public place.

Expenditures for Eligible Light Duty ZEV Supply Equipment:

- Up to 65% 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,
- Up to 60% 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,
- Up to 50% of the cost to purchase, install and maintain eligible light duty electric vehicle supply equipment that will be available at a multi-unit dwelling or a workplace but not to the general public,
- Up to 33% of the cost to purchase, install and maintain eligible hydrogen fuel cell vehicle supply equipment capable of dispensing at least 250 kilograms per day (kg/day) that will be available to the public; and
- Up to 25% of the cost to purchase install and maintain eligible hydrogen fuel cell vehicle supply equipment capable of dispensing at least 100 kg/day that will be available to the public.

Expected Benefits include, but are not limited to:

- Tons of pollution reduced over the lifetime of the zero emissions vehicle supply equipment, specifically NOx and GHGs,
- Net reduction in diesel or gasoline used,
- Improved ambient air quality and human health in communities located in nonattainment areas, in areas with historical air quality issues, or in areas that bear a disproportionate share of the air pollution burden, as well as benefits to the local economy, and the welfare of residents in such communities; and
- Reduced public exposure to diesel particulate matter, which EPA has classified as a likely human carcinogen.

vi. Diesel Emission Reduction Act (DERA) Option

Approximating the tons or percentage of NOx emitted under this category is slightly more difficult because emissions will vary based on the actual source or project type. However, potential air quality benefits are weighted heavily in the selection of projects to be funded through the State's DERA program and such benefits are calculated for all of the projects implemented with State DERA funds.

The State DERA program has a wider range of eligible projects than those covered by the Trust. Potential diesel reduction mitigation projects not specifically enumerated in Appendix D-2 of the Trust but eligible for funding through DERA include but are not limited to:

- Replacement, engine replacement (repowering), or engine upgrades of long haul locomotives,
- Replacement or repowering of agricultural or construction equipment,
- Replacement, repowering or engine upgrades of commercial marine vessels not limited to tugboats and ferries,
- Idle reduction technologies, including auxiliary power units, truck stop electrification (TSE) and shorepower,
- Retrofit technologies for diesel vehicles or equipment; and
- Replacement or repowering of transport refrigeration units (TRUs).

This is not an exhaustive list of source types and projects eligible to apply for funding under the State Clean Diesel Grant Program.[21] Any source type applying for grant funding will be subject to the requirements of the State DERA Program, including but not limited to EPA project eligibility, location-based preferential criteria, eligibility of expenditures for project administration, and cost-share availability. It should be noted that DEEP's locational criteria for evaluating and selecting projects for State DERA funding have consistently addressed location in environmental justice communities, which are characterized, in part, by disproportionate air pollution impacts, and nearness to diesel transportation hubs, including ports, rail yards and highways. Consideration is also given for projects that are consistent with state energy and clean transportation policies and to applicants with anti-idling policies.

Connecticut has elected to exercise the DERA Option and use Trust funds to match its 2017 State DERA allocation of $235,798.00. The match qualifies DEEP for a bonus from EPA of $118,899.00 yielding a total of $589,495.00 to be used to fund and administer DERA projects in fiscal year (FY) 2017. DEEP also reserves the opportunity to use VW Trust funds to match future State DERA allocations, should they be approved by Congress. Diesel reduction mitigation projects selected for FY 2017 State DERA funding include:

- Early replacement of one heavy duty sewer pumping truck;
- Idle reduction technologies, specifically, sixty TSE units (a.k.a. shorepower systems) for hybrid electric TRUs (e-TRUs);
- Early replacement of twelve diesel TRU trailers with hybrid electric TRU trailers; and
- Early replacement of two private school buses.

[21] For more information, see EPA's FY 2017 State Clean Diesel Grant Program Information Guide at https://www.epa.gov/sites/production/files/2017-02/documents/fy17-state-program-guide-2017-02.pdf.

Expected Benefits include, but are not limited to:

- Tons of pollution reduced or avoided over the lifetime of the engines/vehicles selected for the 2017 State DERA projects: 6.28 tons NOx, and 1.245 tons fine particulate matter,
- Net reductions, or avoidance, in diesel fuel use: a minimum reduction of 692 gallons per year from the TRU and TSE projects alone,
- Improved ambient air quality and human health in communities located in nonattainment areas, in areas with historical air quality issues, or in areas that bear a disproportionate share of the air pollution burden, as well as benefits to the local economy, and the welfare of residents in such communities: The selected idle reduction TSE/TRU project is located adjacent to residential areas near both Bradley Airport and two interstate highways, satisfying all of the locational priorities, and
- Reduced public exposure to diesel particulate matter, which EPA has classified as a likely human carcinogen.

This Plan is not a solicitation for projects. As such, the Plan does not include detail on the competitive application or project selection process.

VI. ANTICIPATED BENEFITS

There are many benefits to be realized from the implementation of the mitigation projects outlined in this Plan. Some of those benefits are outlined below.

A. ENVIRONMENTAL BENEFITS

The retrofit, repower, or replacement of eligible vehicles and equipment provides 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's duty cycle and power rating. Based on current EPA exhaust emission standards for NOx[22]:

- Heavy duty highway vehicles may provide up to 96% reduction in NOx emissions per vehicle, based on replacing a model year 1992 engine with a model year 2007 engine,
- Non-road equipment replacements, depending on the type of equipment and engine power rating, may provide between 20% and 95% reduction in NOx emissions for each engine,
- Locomotives may provide up to 89% NOx reduction per engine, based on replacing the oldest (Tier 0) engine with the newest (Tier 4) engine,
- Replacement or repower of a ferry or tug engine may provide up to 80% NOx reduction for

[22]EPA exhaust emission standard data: https://www.epa.gov/emission-standards-reference-guide

each vessel, and

- Shorepower projects may reduce all NOx exhaust emissions from many ocean-going vessels.

These anticipated ranges of emission benefits were used to inform the Plan's funding priorities, categories of eligible mitigation projects, and funding allocation considerations for each category of eligible mitigation projects. It is important to note that the range of emission benefits mentioned above are for individual engines and actual NOx emissions reductions will vary based on the type of projects received for funding consideration, and the eligible mitigation projects ultimately funded. However, in order to achieve the goal of the Plan, it is a priority to fund sizeable and/or transformative projects designed to achieve the greatest emission reduction for the dollar (i.e. capital cost effectiveness in dollars/ton).

B. ENERGY AND ECONOMIC BENEFITS

Eligible mitigation projects, including the retrofit, repower or replacement of eligible vehicles along with the installation and operation of light duty zero emission vehicle supply infrastructure, will provide a wide range of energy and economic benefits to the State. As a result, this Plan intends to require the examination of both the energy and economic impacts of any proposed expenditures as these actions will support other important state interests.

Connecticut continues to make progress in reducing emissions of criteria pollutants and greenhouse gases while simultaneously supporting a clean energy economy. Connecticut has deployed a regulatory and institutional framework to support continued progress in reducing emissions and decarbonizing key sectors of the economy including buildings, electric generation and transportation. In conjunction with the state's continued efforts to advance clean energy deployment, the State has focused investments in light duty zero emission vehicles and associated infrastructure. In the future, these investments may support the potential to capture increased benefits to the grid as well as the local electric distribution system.

Eligible mitigation projects specified in Part V of this Plan will provide energy and economic benefits to the State that may include, but not be limited to, increased sales of both diesel vehicles, non-road equipment and other eligible equipment along with associated tax revenue generated from non-governmental purchases. Increased equipment efficiency will reduce operation and maintenance costs and allow the redirection of these cost savings into other areas of the state's economy.

The State intends to allocate the maximum allowed to light duty zero emission vehicle infrastructure to support the deployment of electrified transportation options and further enhance the State's efforts to reduce greenhouse gas emissions from the transportation sector. Cost savings associated with reduced spending on petroleum can then be redirected to other

areas within the State's economy. Proposals for eligible mitigation projects under the light duty zero emission vehicle infrastructure Plan will also be evaluated to determine the extent to which they leverage additional resources to support transformative technological changes and further the energy and economic benefits of the State and whether they also provide a firm base of support for emerging fuel cell or other alternative fuel transportation technologies.

APPENDICES

APPENDIX A: ELIGIBLE MITIGATION PROJECT ADMINISTRATIVE EXPENDITURES

For any eligible mitigation project, Trust funds can be used for the actual administrative expenditures associated with implementing such eligible mitigation project, but not to exceed 15% of the total cost of such eligible mitigation project. The 15% allotment includes the aggregated amount of eligible administrative expenditures incurred by the Beneficiary and any third-party contractors. These eligible administrative expenditures include the following:

- Personnel, including costs of employee salaries and wages, but not consultants;
- Fringe Benefits, including costs of employee fringe benefits such as health insurance, Federal Insurance Contributions Act (FICA), retirement, life insurance, and payroll taxes;
- Travel, including costs of mitigation project-related travel by program staff, not including consultant travel;
- Supplies, including tangible property purchased in support of the mitigation project that will be expensed on the "Statement of Activities," such as educational publications, office supplies, etc.;
- Contractual, including all contracted services and goods except for those charged under other categories such as supplies, construction, etc.; this includes contracts for evaluation and consulting services and contracts with sub-recipient organizations;
- Construction, including costs associated with ordinary or normal rearrangement and alteration of facilities; and
- Other costs including insurance, professional services, occupancy and equipment leases, printing and publication, training, indirect costs, and accounting.

APPENDIX B: PUBLIC COMMENT PERIOD ACTIVITIES

All documents related to public comment period activities are available on DEEP's VW webpage at www.ct.gov/deep/vw. The following is a summary of public comment period activities:

Formal Public Comment Period

DEEP held a formal public comment period on its draft final mitigation plan from February 15, 2018 through March 9, 2018. All changes resulting from comments received on the draft have been incorporated into this final mitigation plan.

DEEP Response to Comments Received on Draft Final Mitigation Plan

DEEP Summary of Comments Received on Draft Final Mitigation Plan

Formal Public Comments Received on Draft Final Mitigation Plan

Informal Public Comment Period – January 18, 2017 to March 6, 2017

DEEP held an informal public comment period on its initial proposed mitigation plan from January 18, 2017 through March 6, 2017.

DEEP Summary of Comments Received During Informal Comment Period

Informal Comments Received on Initial Proposed Mitigation Plan

In addition, on February 23, 2017, DEEP hosted a public informational session on the draft proposed mitigation plan at the DEEP headquarters in Hartford.

DEEP Presentation on Connecticut's Initial Proposed Draft Mitigation Plan

APPENDIX C: Environmental Mitigation Actions and Mitigation Action Expenditures

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).