

Pennsylvania State Clean Diesel Grant Program Guidelines



pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Tom Wolf
Governor

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Secretary

Fiscal Year (FY) 2019

What's New and Important Information

Project Funding – There is \$2,654,841 available from DEP for this round of funding under the Pennsylvania (PA) State Clean Diesel Grant Program. A portion of this funding, \$2,154,309, is from the settlement of a lawsuit with Volkswagen and its subsidiaries, relating to diesel vehicle emission violations, and is being used as the Commonwealth's voluntary match funding under the Diesel Emission Reduction Act (DERA) program.

Project Period – The project period end date is September 30, 2020. Extensions, other than no-cost time extensions, are not possible; no-cost time extension requests will be evaluated on a case-by-case basis by DEP. Without extensions, the project period will be approximately 6 months.

Submission Format – The application continues to be an online application. See the PA State Clean Diesel Grant Application Instructions document for details on applying for funding.

Application Scoring – The application scoring criteria are included in this document.

Application Submission Period – The application submission period for this funding begins upon publication of the notice of availability of the program and ends March 6, 2020.

Webinar – DEP staff will host a webinar during the application period to answer questions from applicants. Please see Section VII for instructions on how to access the webinar. The webinar will be recorded and posted on DEP's website.

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Pennsylvania State Clean Diesel Grant Program

I. Funding Opportunity Description

A. Background

Reducing emissions from diesel engines is one of the most important air quality challenges facing the Commonwealth of Pennsylvania (Commonwealth or PA). Pennsylvania, as one of the most populous states in the country, has one of the largest vehicle populations, including a large population of diesel vehicles and equipment. Pennsylvania is a major freight corridor, for both rail and trucking, for the Northeast United States. Pennsylvania contains many interstate highways that provide quick access to major north-south and east-west routes and the economically significant Northeast United States for all truck drivers traveling in the Commonwealth. Pennsylvania also has numerous warehouses, intermodal facilities, several international airports, three ports used by commercial marine vessels, numerous railroads, and is a major destination for freight transport to and from these facilities. According to EPA's 2014 National Emission Inventory, in 2014¹ diesel emissions from on-road and nonroad diesel-powered mobile sources (including marine, rail, and aviation) in Pennsylvania accounted for approximately 145,395 tons per year (tpy) of NO_x, 6,742 tpy of PM_{2.5}, 8,145 tpy of PM₁₀ and 13,874 tpy of VOC.

To protect public health and air quality, the EPA is authorized by the Diesel Emission Reduction Act (DERA) (42 U.S.C. 16131 et seq.) to allocate funding to state governments to establish grant programs for diesel emission reduction projects. PA's program is the PA State Clean Diesel Grant Program, administered by the PA Department of Environmental Protection (DEP). Under the Environmental Mitigation Trust Agreement for State Beneficiaries, one of the Eligible Mitigation Actions (EMAs) is using State Mitigation Trust² funds as matching funds when applying to EPA for DERA funding for the PA State Clean Diesel Grant Program. As a result, this program is now included under the Wolf Administration's Driving PA Forward initiative to improve air quality in Pennsylvania, which includes new grant and rebate programs that will drive transformation from older, polluting diesel engines to clean technologies. New engine technologies like electric, compressed natural gas, propane, and clean diesel can significantly reduce pollutants from sources that rely on older diesel technology. Pennsylvania has been allocated approximately \$118.5 million from the State Mitigation Trust, resulting from the emissions cheating lawsuit settlement, to fund EMAs. Pennsylvania will have at least 10 years to use its allocation of the Trust to fund EMAs. All expenditures from the State Mitigation Trust will require the approval of the Trustee.³

¹ To access EPA's 2014 National Emission Inventory data, see: <https://www.epa.gov/air-emissions-inventories/2014-national-emissions-inventory-nei-data>

² A \$2.866 billion environmental mitigation trust (State Mitigation Trust) was established by the Environmental Mitigation Trust Agreement for State Beneficiaries filed by the United States (U.S.) Department of Justice, with the U.S. District Court for the Northern District of California on October 2, 2017, in the case, *In Re: Volkswagen "Clean Diesel" Marketing, Sales Practices, and Products Liability Litigation* (No. 3:15-md-02672-CRB (N.D. Cal.), MDL No. 2672). Additional information about the case and the settlement are available on DEP's website.

³ A Trustee, Wilmington Trust, N.A., was approved by the Court on March 15, 2017, to administer the State Trust Agreement and disburse the funds from the State Mitigation Trust.

B. Scope of Work

The primary goal of the PA State Clean Diesel Grant Program is to improve the Commonwealth's air quality by decreasing emissions from diesel-powered mobile sources through funding diesel emission reduction projects. This goal supports EPA's 2014-2018 Strategic Plan Goal 1, Objective 1.2, 'Improve Air Quality,' which states, "achieve and maintain health- and welfare-based air pollution standards and reduce risk from toxic air pollutants and indoor air contaminants." DEP will consider projects in all of the categories listed below as eligible projects. A single proposal may target multiple fleets, fleet types, and/or diesel emission reduction solutions. Eligible diesel emission reduction solutions include but are not limited to: verified exhaust controls; engine upgrades and certified remanufacture systems; verified idle reduction technologies; certified engine replacements; aerodynamic technologies; and/or certified vehicle or equipment replacement. Eligible diesel vehicles, engines, and equipment may include buses, medium-duty or heavy-duty trucks, nonroad engines, equipment or vehicles (used in construction, cargo handling, agriculture, mining or energy production), marine engines and locomotive engines. See full eligibility information for applicants and projects in Section III. Eligibility Information.

II. Award Information

A. Available Funding

The PA State Clean Diesel Grant Program is primarily funded through the EPA's State Clean Diesel Program. Additional or other sources of state funding, when available, may also be applied to the PA State Clean Diesel Grant Program. The fiscal year (FY) 2019 funding available under the State Clean Diesel Grant Program is \$2,654,841. Multiple projects may be funded from the total available. Partial funding is also possible, if deemed appropriate by DEP staff.

B. Project Period

The project period for the FY 2019 PA State Clean Diesel Grant Program will be from the date a grant agreement is fully executed, unless an earlier date is agreed to in writing, to September 30, 2020. Project period extensions may be possible and will be evaluated on a case by case basis. ***Any applicant who begins a project and incurs costs before receiving a fully executed grant agreement does so at their own risk.***

C. Funding Type

The PA State Clean Diesel Grant Program is offering funding as a reimbursement grant program. This means a grantee will pay all project costs and submit proof that project invoices have been paid and proof of project work completion to DEP for reimbursement. DEP will not approve reimbursement requests for unpaid invoices. Detailed invoice requirements and submission instructions will be included in the grant agreement with successful applicants.

D. Technology Compatibility

Limited technology changes may be allowed after a project has been selected for funding. If technology compatibility issues arise, DEP may elect to terminate the grant agreement, at which time any funding received by the grantee must be returned to DEP, unless otherwise stated in writing by DEP.

III. Eligibility Information

A. Eligible Applicants

Organizations that operate eligible diesel-powered fleets throughout the Commonwealth may apply to the PA State Clean Diesel Grant Program. See the glossary for definitions. Eligible organizations include:

1. Businesses
2. Incorporated Nonprofits 501(c)(3)
3. State, Local, or Tribal Government Agencies
4. Air Quality or Transportation Organizations
5. Metropolitan or Rural/Regional Planning Organizations
6. Federal Government Agencies

B. Ineligible Applicants

1. Non-profit organizations described in Section 501(c)(4) of the Internal Revenue Code that engage in lobbying activities as defined in Section 3 of the Lobbying Disclosure Act of 1995 are not eligible to apply.
2. Businesses not incorporated in or registered with the Pennsylvania Department of State, Bureau of Corporations and Charitable Organizations, to do business in the Commonwealth, if required to be incorporated or registered.
3. Individuals applying as individuals, not on behalf of an eligible applicant. Please note sole proprietors are eligible to apply as a business.

C. Eligible Diesel Vehicles, Engines, and Equipment

Details relating to eligible model years and specific projects, as well as funding restrictions, are presented under the applicable eligible project section. See the glossary for definitions. Eligible vehicles, engines and equipment include the following diesel-powered sources:

1. School buses.
2. Transit buses.
3. Medium-duty or heavy-duty trucks – Class 5 through Class 8, including drayage trucks.
4. Marine engines.
5. Locomotives.
6. On-road or nonroad engines, equipment or vehicles used in:
 - a. Construction;
 - b. Handling of cargo (including at a port or airport);
 - c. Agriculture;
 - d. Mining; or
 - e. Energy production (not including stationary generators and pumps).

D. Eligible Project Types

See Section IV. Cost Share, Scrappage, and Program Income Requirements for cost-share information for each project type.

1. Diesel Engine Retrofit Technologies: Diesel Engine Retrofit Technologies include pollution control devices installed in the exhaust system (such as diesel oxidation catalysts (DOCs) and diesel particulate filters (DPFs)), or systems that include closed crankcase ventilation (CCV) filtration systems. Each applicant requesting funding for

diesel particulate filters should datalog the exhaust temperature of all proposed vehicles before an application is submitted, and, if the results indicate that the project is feasible for the vehicles in question, include the results with the submitted application to ensure DEP has adequate evidence to determine whether the project can be completed as proposed. See Section II.D. relating to technology compatibility.

A list of eligible, EPA verified diesel engine retrofit technologies is available at: <https://www.epa.gov/verified-diesel-tech/verified-technologies-list-clean-diesel>; a list of eligible, California Air Resources Board (CARB) verified exhaust control technologies is available at: <http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm>. Verified technologies proposed for funding under this project type must be specifically named on one of these lists at the time of application submission to DEP and must only be used for the vehicle/equipment application specified on the list. If an applicant is selected for funding, the actual engine retrofit technology(ies) used by the grant recipient must be specifically named on one of these lists at the time of acquisition and used only for the vehicle/equipment application specified on the list.

Table 1: Diesel Engine Retrofit Technology Eligibility

Medium and Heavy-Duty Trucks, Transit Buses, and School Buses Eligibility

Current Engine Model Year (EMY)	DOC+/- CCV	DPF	SCR
	+/- Tires and Aerodynamics		
older - 1995	No	No	No
1996 - 2006	Yes	Yes	Yes
2007 to 2009	No	No	Yes
2010 - newer	No	No	No

Nonroad Engines

Current Engine Horsepower	Current Engine Model Year (EMY) and Tier	Verified Retrofit Technology
0-50	2006 and Newer; Unregulated – Tier 2	Yes
51-300	1996 and Newer; Tier 0 – Tier 2	Yes
51-300	1996 and Newer; Tier 3	Yes
301+	1986 and Newer; Tier 0 – Tier 2	Yes
301+	1986 and Newer; Tier 3	Yes

2. **Engine Upgrades and Remanufacture Systems:** This project type is only applicable to nonroad, marine, and locomotive engines. Generally, an engine upgrade involves the removal of parts on an engine during a rebuild and replacement with parts that cause the engine to represent an engine configuration which is cleaner than the original engine. Some nonroad and marine engines can be upgraded to reduce their emissions by applying manufacturer upgrades that are retrofits currently verified by EPA or CARB as a package of components demonstrated to achieve specific levels of emission reductions. Some locomotives and marine engines can be upgraded through the application of a certified remanufacture system that is used to rebuild the engine to represent a cleaner engine configuration. Engine upgrades may not be available for all engines, and not all upgrades may achieve an emission reduction benefit. Proposals for upgrades should include a discussion of the availability of engine upgrade kits/systems and indicate the pre- and post-project emission standard levels of the engines to demonstrate that the upgrade will result in an emission reduction benefit.

To be eligible for funding, the upgrade must either be a verified retrofit, as described above, or a certified remanufacture system that will result in an emissions benefit by rebuilding the engine to a cleaner engine configuration. For an engine to be eligible for an upgrade, the engine must be currently operating and performing its intended function. If a certified remanufacture system for a locomotive includes a full engine replacement, the requirements below in Section III.D.5. (Certified Engine Replacements) will apply. If

a certified remanufacture system is applied at the time of rebuild, funds under this award cannot be used for the entire cost of the engine rebuild, but only for the cost of the certified remanufacture system and associated labor costs for installation.

A list of eligible, EPA-verified engine upgrade technologies is available at: <https://www.epa.gov/verified-diesel-tech/verified-technologies-list-clean-diesel>. Lists of certified remanufacture systems for locomotives and marine engines, and additional information on remanufacture systems, are available at: <http://www.epa.gov/compliance-and-fuel-economy-data/engine-certification-data>, and additional information on remanufacture systems, are available at: www.epa.gov/vehicle-and-engine-certification/remanufacture-systems-category-1-and-2-marine-diesel-engines. Technologies proposed for funding under this project type must be specifically named on EPA’s list of certified remanufacture systems or EPA or CARB’s Verified Technologies lists at the time of acquisition and used only for the vehicle/engine applications specified on the lists, to be eligible for funding.

Table 2: Engine Upgrade and Remanufacture System Eligibility

Nonroad Engines

Current Engine Horsepower	Current Engine Model Year (EMY) and Tier	Verified Engine Upgrade
0-50	2006 and Newer; Unregulated – Tier 2	Yes
51-300	1996 and Newer; Tier 0 – Tier 3	Yes
301-750	1986 and Newer; Tier 0 – Tier 3	Yes
751+	1986 and Newer; Tier 0 – Tier 2	Yes

Marine Engines

Current Engine Tier	Certified Remanufacture System	Verified Engine Upgrade
Unregulated – Tier 2	Yes	Yes
Tier 3 - 4	No	No

Locomotive Engines

Current Locomotive Tier	Verified Retrofit	Certified Remanufacture System
Unregulated - Tier 2	Yes	Yes
Tier 2+ switcher	Yes	Yes
Tier 2+ line haul	Yes	Yes
Tier 3 – Tier 4	No	No

3. **Idle Reduction Technologies:** An idle reduction project is generally defined as the installation of a technology or device that reduces unnecessary idling of diesel vehicles or equipment and/or is designed to provide services (such as heat, air conditioning, and/or electricity) to vehicles and equipment that would otherwise require the operation of the main drive or auxiliary engine(s) while the vehicle is temporarily parked or remains stationary. The reduction in idling will conserve diesel fuel and must also lower emissions.

Lists of eligible, EPA-verified idle reduction technologies are available at:

<http://www.epa.gov/verified-diesel-tech/smartway-technology>. Technologies proposed for funding under this project type must be specifically named on EPA's SmartWay Verified Technologies list at the time of the application submission to DEP and may only be used for the vehicle/equipment application specified on the list. The technology categories include: auxiliary power units and generator sets, battery air conditioning systems, thermal storage systems, electrified parking spaces (truck stop electrification), fuel-operated heaters, shore connection systems and alternative maritime power, shore connection systems for locomotives, and automatic shutdown/start-up systems for locomotives.

Please note that technologies for the electrification of engines/vehicles/equipment other than those specifically listed on EPA's SmartWay Verified Technologies list cannot be considered verified idle reduction technologies, but those technologies may be eligible as a Replacement (replacement of a diesel-powered engine/vehicle/equipment with an eligible electric engine/vehicle/equipment; see Section III.D.6, below).

- a. **Locomotive Idle Reduction Technologies:** Idle reduction technologies allow locomotive engine operators to reduce long-duration idling of the main propulsion engine by using an alternative technology.
- b. **Electrified Parking Spaces:** Electrified Parking Spaces (EPS), also known as Truck Stop Electrification (TSE), operate independently of the truck's main engine and allow the truck's main engine to be turned off as the EPS/TSE system supplies heating, cooling, and/or electrical power. The EPS/TSE system provides off-board electrical power to operate either:
 - i. an independent heating, cooling, and electrical power system, or
 - ii. a truck-integrated heating and cooling system, or
 - iii. a plug-in refrigeration system that would otherwise be powered by the main propulsion engine.
- c. **Marine Shore Power Connection Systems:** Shore power systems allow maritime vessels to "plug into" an electrical power source instead of using diesel main or auxiliary engines while at port. Funding may support new installations, or expansions of existing shore power systems. Due to the unique nature and custom design of marine shore power connection systems, DEP will review and approve the marine shore power connection system proposed by the applicant on a case-by-case basis.

- i. Marine Shore Power Criteria: Projects are eligible for funding on the condition that the following criteria are satisfied:
 - 1) Applicants must attest to compliance 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).
 - 2) Shore power connection systems must be supplied with electricity from the local utility grid.
 - 3) Demonstration that the proposed system has the capacity, demand, and commitment to be utilized for more than 1,000 MW-hours per year. Smaller projects will be considered if the applicant can demonstrate that project benefits outweigh project costs with a lower level of use.
 - 4) If the project proposal is selected for funding, the final design of the marine shore power connection system will require specific DEP approval prior to purchase and installation.
 - 5) Applicants must commit to reporting usage information to DEP for five years after the system is operational.
 - 6) Shore power capable vessels docked at a berth where shore power is available must be required to turn off the vessel's engines and utilize the shore power system, with limited exceptions for extreme circumstances.
- ii. Marine Shore Power Project Description: Applicants proposing marine shore power connection systems should provide a project description that includes, but is not limited to:
 - 1) the annual number of ship visits to berth where the shore power system is to be installed;
 - 2) average hoteling (or idling) time per visit; and
 - 3) information about the fleet of vessels that has, or will have, the ability to use the shore-side connection system, including:
 - a) the estimated annual number of ship visits to the shore power enabled berth that will utilize the shore power system;
 - b) estimated annual hoteling hours using shore power system;
 - c) fuel type and average sulfur content of fuel used in the auxiliary engines for each vessel;
 - d) auxiliary engine and boiler information for each vessel; and
 - e) estimated annual hoteling load requirements (MW-hours).
 - 4) any documented commitment of visits and hours by the fleet of vessels that has, or will have, the ability to use the shore-side connection system; and
 - 5) estimated emission reductions using the step-by-step instructions provided in Appendix B of EPA's Shore Power Port Assessment Report.
 - a) The Shore Power Port Assessment Report, and the calculator tool can be found here: www.epa.gov/ports-initiative/shore-power-technology-assessment-us-ports.
 - b) Other methodologies may be considered. Contact DEP for approval if the applicant plans to use a different methodology.

- d. Highway Idle Reduction Technologies: Idle reduction technologies allow highway vehicle operators to reduce long-duration idling of the main propulsion engine by using an alternative technology. Only long-haul Class 8 trucks and school buses are eligible for idle reduction technology projects under the guidelines in Table 3 below.

Table 3: Idle Reduction Technology Eligibility

Locomotives

Current Locomotive Tier	Idle- Reduction Technology
Unregulated - Tier 2	Yes*
Tier 2+ switcher	Yes*
Tier 2+ line haul	Yes*
Tier 3 – Tier 4	No

*Automatic Engine Start-Stop technologies are only eligible to be installed on locomotives certified to Tier 0 or unregulated.

Class 8 Long Haul Trucks and School Buses (Highway)

Current Engine Model Year (EMY)	Idle Reduction Technology
older - 1995	No
1996 - 2006	Yes
2007 to 2009	Yes*
2010 - newer	Yes*

*Auxiliary Power Units and generators are not eligible on vehicles with EMY 2007 or newer.

4. Aerodynamic Technologies and Verified Low Rolling Resistance Tires: To improve fuel efficiency, long haul Class 8 trucks can be retrofitted with aerodynamic trailer fairings, or the fairings can be provided as new equipment options. Certain tire models can provide a reduction in NO_x emissions and fuel savings, relative to the “standard” new tires for long haul Class 8 trucks, when used on all axles.

A list of eligible, EPA-verified aerodynamic technologies is available at:

<https://www.epa.gov/verified-diesel-tech/smartway-verified-list-aerodynamic-devices>, and includes:

- a. gap fairings that reduce the gap between the tractor and the trailer to reduce turbulence;
- b. trailer side skirts that minimize wind under the trailer; and
- c. trailer rear fairings that reduce turbulence and pressure drop at the rear of the trailer.

A list of EPA-verified low rolling resistance tires is available at:

<https://www.epa.gov/verified-diesel-tech/smartway-verified-list-low-rolling-resistance-lrr-new-and-retread-tire>, and includes both dual tires and single wide tires (single wide tires replace the double tire on each end of a drive or trailer axle, in effect turning an "18"

wheeler into a "10" wheeler). Low rolling resistance tires can be used with lower-weight aluminum wheels to further improve fuel savings; however, aluminum wheels are not eligible for funding under this project solicitation.

DEP will fund verified aerodynamic technologies or verified low rolling resistance tires installed on long haul Class 8 trucks ONLY if combined on the same vehicle with the new installation of one or more of the verified engine retrofit technologies funded under this project solicitation, as described in Section III.D.1. The types of aerodynamic technologies and low rolling resistance tires proposed for funding under this category must exist on EPA's SmartWay Verified Technologies list for the vehicle/engine application specified in the proposal at the time of proposal submission to DEP. If selected for funding, the actual technologies/tires used by the grant recipient must be specifically named on EPA's SmartWay Verified Technologies list at the time of acquisition and used only for the vehicle/engine applications specified on the list, to be eligible for funding. Note: Low rolling resistance tires are not eligible for funding where these types of tires have already been installed on the truck.

5. Engine Replacement: Engine Replacement includes, but is not limited to, diesel engine replacement with an engine certified for use with diesel or an alternative fuel (e.g., gasoline, CNG, propane), diesel engine replacement with an zero tailpipe emissions power source (grid, battery or fuel cell), and/or the replacement of a diesel engine with an electric generator(s) (genset). Zero tailpipe emission engine replacements do not require EPA or CARB certification. Proposals for engine replacements should include the pre- and post-project standard emission levels of the engines to be replaced, to ensure that the engine replacement will result in a net emissions reduction. New engines for highway vehicles must be model year 2016 or newer and certified to EPA emission standards. New engines for locomotive, marine, and nonroad engines must be model year 2019 or newer and certified to EPA emission standards.

Nonroad, locomotive, and marine engine emission standards are on EPA's website at: <http://www.epa.gov/emission-standards-reference-guide/epa-emission-standards-nonroad-engines-and-vehicles>.

Highway engine emission standards are on EPA's website at: <http://www.epa.gov/emission-standards-reference-guide/epa-emission-standards-heavy-duty-highway-engines-and-vehicles>.

Engines certified to CARB's Optional Low NO_x Standard may be found by searching CARB's Executive Orders for Heavy-duty Engines and Vehicles, found at: www.arb.ca.gov/msprog/onroad/cert/cert.php.

Table 4: Engine Replacement Eligibility

Nonroad

Current Engine Horsepower	Current Engine Model Year (EMY) and Tier	Engine Replacement: EMY 2019+*			
		Compression Ignition		Spark Ignition	Zero Emission
		Tier 0 - 3	Tier 4	Tier 2	
0-50	2006 and Newer; Unregulated – Tier 2	No	Yes	Yes	Yes
51-300	1996 and Newer; Tier 0 – Tier 3	No	Yes	Yes	Yes
301-750	1986 and Newer; Tier 0 – Tier 3	No	Yes	Yes	Yes
751+	1986 and Newer; Tier 0 – Tier 2	No	Yes	Yes	Yes

*Previous engine model year engines may be used for engine replacement if the engine is certified to the same emission standards applicable to EMY 2019.

Marine

Current Marine Engine Tier	Engine Replacement: EMY 2019+*			
	Compression Ignition		Spark Ignition	Zero Emission
	Tier 1 - 2	Tier 3 - 4		
Unregulated – Tier 2	No	Yes	Yes	Yes
Tier 3 – Tier 4	No	No	No	Yes

*Previous engine model year engines may be used for engine replacement if the engine is certified to the same emission standards applicable to EMY 2019.

Locomotive

Current Locomotive Tier**	Engine Replacement: EMY 2019+* or Zero Emission		
	Tier 0+ - 3	Tier 4	Zero Emission
Unregulated - Tier 2	No	Yes	Yes
Tier 2+ Switcher	No	Yes	Yes
Tier 2+ Line Haul	No	No	No
Tier 3 - Tier 4	No	No	No

*Previous engine model year engines may be used for engine replacement if the engine is certified to the same emission standards applicable to EMY 2019.

**Note: Tier 0+, Tier 1+, and Tier 2+. Tier 3, and Tier 4 represent locomotives manufactured or under the more stringent Tier standards promulgated under the 2008 (current) locomotive and marine rule. Tier 0, Tier 1, and Tier 2 represent locomotives originally manufactured or remanufactured under the less stringent Tier standards promulgated in 1997.

Highway

Current Engine Model Year (EMY)	Engine Replacement: EMY 2016+ (2013+ for Drayage)	Engine Replacement: EMY 2016+ Zero Emission or Low NOx*
older - 1995	No	No
1996 - 2006	Yes	Yes
2007 to 2009	Yes	Yes
2010 - newer	No	Yes

*Hydrogen fuel cells are only eligible for engine replacements for eligible urban transit buses, shuttle buses, and drayage trucks, as defined in these program guidelines.

6. Vehicle and Equipment Replacements: Nonroad and highway diesel vehicles, engines, and equipment, locomotives, and marine vessels can be replaced under this program with newer, cleaner vehicles and equipment that operate on diesel or alternative fuels and use engines certified by EPA and, if applicable, CARB to meet a more stringent set of engine emission standards. Replacement includes, but is not limited to, diesel vehicle/equipment replacement with newer, cleaner diesel, zero tailpipe emission (grid, battery or fuel cell), hybrid or alternative fuel (e.g., gasoline, CNG, propane) vehicles/equipment. Zero tailpipe emission vehicles and equipment do not require EPA or CARB certification.

The following are eligible replacement projects:

- a. Locomotives, Marine Vessels, and Nonroad Diesel Vehicles and Equipment: Nonroad diesel vehicles or equipment, marine vessels, and locomotives can be replaced with vehicles or equipment powered by a MY 2019 or newer engine certified to EPA emission standards. Previous engine model year engines may be used if the engine is certified to the same emission standards applicable to EMY 2019. Zero tailpipe emissions replacements are allowed for nonroad diesel vehicles or equipment, marine

vessels, and locomotives. Nonroad, marine, and locomotive engine emission standards are on EPA's website at: <http://www.epa.gov/emission-standards-reference-guide/epa-emission-standards-nonroad-engines-and-vehicles>.

- b. Highway Diesel Vehicles and Buses (other than drayage vehicles): Diesel-powered highway vehicles can be replaced with a vehicle powered by a MY 2016 or newer engine certified to EPA emission standards. Zero tailpipe emissions replacements are allowed. Highway engine emission standards are on EPA's website at: <http://www.epa.gov/emission-standards-reference-guide/epa-emission-standards-heavy-duty-highway-engines-and-vehicles>.
- c. Drayage Vehicles: Drayage vehicles can be replaced if the following conditions are met:
 - i. The replacement vehicle is defined as a drayage truck which is "any Class 8 (GVWR greater than 33,000) highway vehicle operating on or transgressing through port or intermodal rail yard property for the purpose of loading, unloading or transporting cargo, such as containerized, bulk or break-bulk goods." (see Section VI. for definitions).
 - ii. The replacement vehicle has a MY 2013 or newer engine certified by EPA.
 - iii. If a proposal for the replacement of drayage trucks is selected for funding, the grant recipient will be required to establish guidelines to ensure that any existing truck replaced with grant funds has a history of operating on a frequent basis over the prior year as a drayage truck, and to ensure any new truck purchased with grant funds is operated in a manner consistent with the definition of a drayage truck, as defined above and in Section VI. For an example of sample guidelines, see <https://www.epa.gov/cleandiesel/clean-diesel-state-forms-and-documents>.

Table 5: Vehicle and Equipment Replacement Eligibility

Nonroad

Current Engine Horsepower	Current Engine Model Year (EMY) and Tier	Vehicle/Equipment Replacement: EMY 2019+*				
		Compression Ignition			Spark Ignition	Zero Emission
		Tier 0 - 2	Tier 3 – 4i	Tier 4	Tier 2	
0-50	2006 and Newer; Unregulated – Tier 2	No	Yes	Yes	Yes	Yes
51-300	1996 and Newer; Tier 0 – Tier 2	No	Yes*	Yes	Yes	Yes
51 - 300	1996 and Newer; Tier 3	No	No	Yes	Yes	Yes
301+	1986 and Newer; Tier 0 – Tier 2	No	Yes*	Yes	Yes	Yes
301+	1986 and Newer; Tier 3	No	No	Yes	Yes	Yes

*Tier 3 and Tier 4 interim (4i) allowed for vehicle/equipment replacement only when Tier 4 final is not yet available from OEM for 2019 model year equipment under the Transition Program for Equipment Manufacturers (TPEM).

Marine

Current Marine Engine Tier	Vessel Replacement: EMY 2019+*			
	Compression Ignition		Spark Ignition	Zero Emission
	Tier 1 - 2	Tier 3 - 4		
Unregulated – Tier 2	No	Yes	Yes	Yes
Tier 3 – Tier 4	No	No	No	Yes

*Previous engine model year engines may be used for engine replacement if the engine is certified to the same emission standards applicable to EMY 2019.

Locomotive

Current Locomotive Tier**	Locomotive Replacement: EMY 2019+* or Zero Emission		
	Tier 0+ - 3	Tier 4	Zero Emission
Unregulated - Tier 2	No	Yes	Yes
Tier 2+ Switcher	No	Yes	Yes
Tier 2+ Line Haul	No	No	No
Tier 3 - Tier 4	No	No	No

*Previous engine model year engines may be used for engine replacement if the engine is certified to the same emission standards applicable to EMY 2019.

**Note: Tier 0+, Tier 1+, and Tier 2+. Tier 3, and Tier 4 represent locomotives manufactured or under the more stringent Tier standards promulgated under the 2008 (current) locomotive and marine rule. Tier 0, Tier 1, and Tier 2 represent locomotives originally manufactured or remanufactured under the less stringent Tier standards promulgated in 1997.

Highway

Current Engine Model Year (EMY)	Vehicle Replacement: EMY 2016+ (2013+ for Drayage)	Vehicle Replacement: Zero Emission or Low NOx*
older - 1995	No	No
1996 - 2006	Yes	Yes
2007 to 2009	Yes	Yes
2010 - newer	No	Yes

*Hydrogen fuel cells are only eligible for engine replacements for eligible urban transit buses, shuttle buses, and drayage trucks, as defined in these program guidelines.

7. Fleet Expansion, Replacement Criteria, and Normal Attrition
 - a. No funds awarded under this program may be used for the purchase of vehicles, engines, or equipment to expand a fleet.
 - b. Replacement projects are eligible for funding on the condition that the following criteria are satisfied:
 - i. The vehicle, engine, or equipment must be fully operational and in current, regular service.
 - ii. The replacement vehicle, engine, or equipment will continue to perform similar function and operation as the vehicle, engine, or equipment that is being replaced.
 - iii. The replacement vehicle, engine, or equipment will be of similar type and gross vehicle weight rating or horsepower as the vehicle, engine, or equipment being replaced.
 - 1) Nonroad: Horsepower increases of more than 25 percent will require specific approval by DEP prior to purchase, and the applicant may be required to pay the additional costs associated with the higher horsepower equipment.
 - 2) Highway: The replacement vehicle must not be in a larger weight class than the existing vehicle (Class 5, 6, 7, or 8). The engine's primary intended

service class must match the vehicle's weight class (i.e. a LHD diesel engine is used in a vehicle with GVWR 16,001 – 19,500 pounds, a MHD diesel engine is used in a vehicle with a GVWR of 19,501 – 33,000 pounds, and an HHD diesel engine is used in a vehicle with a GVWR greater than 33,000 pounds). Exceptions may be granted for vocational purposes; however, the GVWR must stay within 10 percent of the engine's intended service class and any exceptions will require specific DEP approval prior to purchase.

- c. Normal Attrition:
 - i. Engine, vehicle, and equipment replacements that would have occurred through normal attrition are considered to be the result of normal fleet turnover and are not eligible for funding under this program.
 - ii. Normal attrition is generally defined as a replacement that is scheduled to take place within three (3) years of the project start date. Normal attrition is typically defined by the vehicle or fleet owner's budget plan, operating plan, standard procedures, or retirement schedule.
 - iii. For example, if a school bus fleet typically retires vehicles after 20 years, a bus that is currently in its 18th or 19th year of service is not eligible for replacement. A bus that is currently in its 17th year of service and has three years of service remaining (as defined by the fleet's retirement schedule) is eligible for replacement.
 - iv. Normal attrition does not include replacements that must occur due to a state or local mandate.

E. Ineligible Vehicles, Engines, Equipment, and Project Types

In addition to the restrictions noted in the eligible project descriptions, the following are ineligible vehicles, engines, and/or equipment:

1. Class 1-4 vehicles (Vehicles with a gross vehicle weight rating (GVWR) of 16,000 or fewer pounds).
2. Non-diesel-powered vehicles, engines, and equipment.
3. Vehicles, engines, and equipment with less than three years of useful life remaining or scheduled for replacement within less than 3 years of the project completion date are not eligible for funding. See Section III.D.7.c. Normal Attrition for additional information about replacement restrictions relating to normal attrition schedules.
4. A bus or medium-duty or heavy-duty highway vehicle that is a MY 1995 vehicle or older.
5. Nonroad engines and equipment, except agricultural pumps, that operate 500 hours per year or less. Agricultural pumps must operate at least 250 hours per year to be eligible for funding. Engine hours may be combined to reach the thresholds below where two units will be scrapped and replaced with a single unit.
6. Locomotive or marine engines that operate 1,000 hours per year or less. Engine hours may be combined to reach the 1,000-hour threshold where two engines will be scrapped and replaced with a single engine.
7. Marine shore connection system projects that are expected to be utilized less than 1,000 MW-hr/year.
8. Locomotive shore connection system projects that are expected to be utilized less than 1,000 hours/year.

9. Vehicles, engines, or equipment designated for retrofit, repower, or replacement where most of its annual operation time DOES NOT occur within the Commonwealth.
10. Vehicles being replaced or repowered that are not operational or that DO NOT have a valid Pennsylvania state registration, if required.

The following are types of projects that are not eligible for funding:

1. Projects already completed or started prior to submitting an application to DEP.
2. Projects physically located entirely outside of Pennsylvania.
3. Projects that are intended for fleet expansion.
4. The repair or salvaging of a disabled vehicle or scheduled or routine maintenance and repairs due to accidents or neglect.
5. Projects that were previously funded by a different state or federally funded grant program.
6. Projects that replace or repower an alternative fuel vehicle, engine or equipment.
7. Projects with no measurable environmental net benefit for the Commonwealth.
8. Replacements that would have occurred through normal attrition.
9. Projects for the purchase of single-wide wheels except where a fleet is retrofitting from standard dual tires to SmartWay-verified single-wide low rolling resistance tires. In this case, the cost of single-wide wheels would be acceptable as additional equipment necessary to use the SmartWay verified technology.
10. Projects to purchase of exhaust controls, idle reduction technologies, low rolling resistance tires or advanced aerodynamic technologies if similar technologies have previously been installed on the truck or trailer.

F. Additional Funding Restrictions

No funds awarded under the PA State Clean Diesel Grant Program may be used:

1. To fund the costs of emission reductions that are mandated under federal law, pursuant to 42 U.S.C. 16132(d)(2) or any other federal, state or local mandates. The restriction applies when the mandate takes effect (the effective date) for any affected vehicles, engines or equipment. This restriction does not apply to a mandate in a State Implementation Plan approved by the Administrator under the Clean Air Act. Voluntary or elective emission reduction measures shall not be considered “mandated,” regardless of whether the reductions are included in the State Implementation Plan.
 - a. Specifically, projects involving locomotives and marine engines are not eligible for funding if the emission reductions are required by EPA’s locomotive and marine rule, “Control of Emissions of Air Pollution from Locomotives and Marine Compression-Ignition Engines Less than 30 liters per Cylinder.” Also, projects involving stationary engines will not be considered for funding if the emission reductions proposed for funding are required by EPA’s RICE rule, “National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines” (40 CFR Part 63 Subpart ZZZZ). Projects which include locomotives, marine engines and/or stationary engines must provide DEP a clear and concise justification for why/how the proposed emission reduction are not subject to the Restriction for Mandated Measures. The justification must clearly demonstrate that:

- i. the target engines are exempt from any federal requirements; or
 - ii. emission reductions funded under the Program will be implemented prior to the effective date of any applicable federal requirements; and/or
 - iii. emission reductions funded under the Program will not be used to satisfy any applicable federal requirements, but instead are in excess of (above and beyond) those required by the applicable mandate.
 - b. Sufficient information must be provided to support the justification, including maintenance records, if applicable.
 - c. Projects involving locomotive, marine, and stationary engines will be evaluated on a case-by-case basis to determine if the proposed project is required by one of the rules cited in Section III.F.1.a. above, based on the information submitted pursuant to Section III.F.1.a.i-iii.
 - d. Provisions of a state or federal consent decree or other litigation resolution are not considered to be federal mandates for the purpose of this project solicitation.
2. As matching funds for other federal grants, lobbying, or intervention in local, state, or federal regulatory or adjudicatory proceedings, and cannot be used to sue the Commonwealth of Pennsylvania or any other government entity.
 3. To cover expenses incurred prior to the project period set forth in any grant agreement funded by the PA State Clean Diesel Grant Program. Additionally, expenses incurred prior to the project period set forth in any grant agreement resulting from this project solicitation are not eligible as a cost-share for proposed projects.
 4. To prepare the PA State Clean Diesel Grant Program grant application.
 5. For vehicle title, registration and inspection fees, permit fees, or any other fees not approved by DEP in writing.
 6. For emissions testing and/or air monitoring activities (including acquisition cost of emissions testing equipment), or research and development.
 7. For fueling infrastructure, such as that used for the production and/or distribution of biodiesel, compressed natural gas, liquified natural gas, and/or other fuels.
 8. For any administrative costs.

IV. Cost Share, Scrappage, and Program Income Requirements

The following section identifies the mandatory cost-share requirements, specifically the project costs DEP will reimburse and the project costs that are the responsibility of the applicant. This section also discusses voluntary cost-share options and program income requirements.

A. Mandatory Cost-Share Requirement

The following are the funding limitations and mandatory cost-share requirements for eligible projects, as defined in Section III.D. of this project solicitation:

Table 6: Funding Limits and Mandatory Cost Share Requirements

PSCDG FY 2019 Eligible Project Types	Maximum DEP Funding Percentage	Minimum Mandatory Applicant Match Funding Percentage
Exhaust Control Retrofit	100%	0%
Engine Upgrade/ Remanufacture ¹	40%	60%
Highway Idle Reduction Bundled with Exhaust Control Retrofit ²	100%	0%
Stand-alone Highway Idle Reduction ³	25%	75%
Locomotive Idle Reduction	40%	60%
Marine Shorepower	25%	75%
Electrified Parking Space/ Truck Stop Electrification	30%	70%
Aerodynamic Technologies and Verified Low Rolling Resistance Tires ⁴	100%	0%
Highway, Locomotive, Marine, or Nonroad Engine Replacement - Diesel or Alternative Fuel	40%	60%
Highway Engine Replacement - Low NOx	50%	50%
Highway, Locomotive, Marine, or Nonroad Engine Replacement - Zero Emission	60%	40%
Highway, Locomotive, Marine, or Nonroad Vehicle/Equipment Replacement - Diesel or Alternative Fuel	25%	75%
Highway Vehicle/Equipment Replacement - Low NOx	35%	65%
Highway, Locomotive, Marine, or Nonroad Vehicle/Equipment Replacement - Zero Emission	45%	55%
Vehicle Replacement - Drayage	50%	50%

1. Nonroad, Locomotive, and Marine only.

2. Class 8 long-haul trucks and school buses only.

3. Class 8 long-haul trucks and school buses only.

4. Only if combined on same Class 8 long haul truck with new installation of one or more engine retrofit technologies.

B. Eligible and Ineligible Costs

1. Diesel Engine Retrofit Technologies: DEP will fund up to 100 percent of the cost (labor and equipment) for an eligible verified exhaust emission control retrofit. The eligible cost of retrofits includes the cost of modifications, attachments, accessories, or auxiliary apparatus necessary to make the equipment functional, including related labor expenses. Examples of eligible retrofit costs include, but are not limited to: DPF cleaning machines, spare DPFs for maintenance rotation, replacement CCV filters, mechanic training, and filter cleaning contracts.

2. Engine Upgrades/Remanufactures: DEP will fund up to 40 percent of the cost (labor and equipment) of an eligible nonroad, locomotive or marine engine upgrade, including a verified retrofit or a certified remanufacture system. Applicants are responsible for cost-sharing at least 60 percent of the cost of an eligible engine upgrade. Note: If a certified remanufacture system is applied at the time of rebuild, funds under this award cannot be used for the entire cost of the engine rebuild, but only for the cost of the certified remanufacture system and associated labor costs for installation.
3. Idle Reduction Technologies on Locomotives: DEP will fund up to 40 percent of the cost (labor and equipment) of an eligible verified idle reduction technology on a locomotive. Applicants are responsible for cost-sharing at least 60 percent of the cost of an eligible idle reduction technology on a locomotive.
4. Marine Shore Connection Systems: DEP will fund up to 25 percent of the cost (labor and equipment) of an eligible shore connection system, including the cost of modifications, attachments, accessories, or auxiliary apparatus necessary to make the equipment functional. Applicants are responsible for cost-sharing at least 75 percent of the cost of an eligible shore connection system.
 - a. Eligible marine shore power connection costs include but are not limited to various components such as cables, cable management systems, shore power coupler systems, distribution control systems, transformers, grounding switches, service breakers, capacitor banks, and power distribution.
 - b. Funding may support new installations, or expansions of existing shore power systems.
 - c. Examples of ineligible costs for marine shore power connection systems include, but are not limited to, shipside modifications to accept shore-based electrical power, electricity costs, and operation and maintenance costs.
 - d. Due to the unique nature and custom design of marine shore power connection systems, DEP will review and approve the marine shore power connection system proposed by the applicant on a case-by-case basis.
5. Truck Stop Electrification/ Electrified Parking Spaces: DEP will fund up to 30 percent of the cost (labor and equipment) of truck stop electrification (TSE)/ Electrified Parking Spaces (EPS) technologies, including the cost of modifications, attachments, accessories, or auxiliary apparatus necessary to make the equipment functional. Applicants are responsible for cost-sharing at least 70 percent of the cost of a TSE/EPS technology.
 - a. Eligible TSE/EPS costs include, but are not limited to, the purchase and installation of electrical infrastructure or equipment to enable heating, cooling, and the use of cab power for parked trucks, or to enable the use of power for TRUs and auxiliary power systems at distribution centers, intermodal facilities, and other places where trucks congregate.
 - b. Examples of ineligible costs for TSE/EPS include but are not limited to: on-board auxiliary power units and other equipment installed on trucks; equipment and services unrelated to heating and cooling (e.g., telephone, internet, television, etc.); TRUs; electricity costs; and operation and maintenance costs.
6. Idle Reduction Technologies on Highway Vehicles: DEP will fund
 - a. up to 100 percent of the cost (labor and equipment) for verified idle reduction

- technologies installed on long haul Class 8 trucks and school buses, if combined on the same vehicle with the new installation of one or more of the verified engine retrofit technologies funded under this Program, as described in this Section.
- b. up to 100 percent of the cost (labor and equipment) for verified idle reduction technologies installed on long haul Class 8 trucks and school buses with model year 2006 or older engines that have been previously retrofitted with a verified emission control device (retrofit technology). No funding is available to install verified idle reduction technology on model year 2006 Class 8 trucks or school buses that had verified emission control devices installed at the time of manufacture (i.e. installed by the vehicle manufacturer).
 - c. up to 25 percent of the cost (labor and equipment) of stand-alone installations of eligible, verified idle reduction technologies on long-haul trucks and school buses.
7. Aerodynamic Technologies and Verified Low Rolling Resistance Tires: DEP will not fund stand-alone aerodynamic technologies or low rolling resistance tires. DEP will fund up to 100 percent of the cost (labor and equipment) for verified aerodynamic technologies or verified low rolling resistance tires installed on long haul Class 8 trucks, ONLY if combined on the same vehicle with the new installation of one or more of the verified engine retrofit technologies funded under this project solicitation, as described in Section III.D.1. Note: Low rolling resistance tires are not eligible for funding where these types of tires have already been installed on a truck.
8. Engine Replacement:
- a. DEP will fund up to 40 percent of the cost (labor and equipment) of an eligible highway, locomotive, marine, or nonroad diesel engine replacement with a MY 2019 or newer diesel or alternative fuel engine certified to EPA emission standards. Previous engine model year engines may be used if the engine is certified to the same emission standards applicable to the engine in EMY 2019. Applicants are responsible for cost-sharing at least 60 percent of the cost.
 - b. DEP will fund up to 60 percent of the cost (labor and equipment) of an eligible highway, locomotive, marine, or nonroad diesel engine replacement with zero tailpipe emissions power source. Applicants are responsible for cost-sharing at least 40 percent of the cost.
 - c. DEP will fund up to 50 percent of the cost (labor and equipment) of replacing a highway diesel engine with a MY 2019 or newer engine that is certified to CARB's Optional Low-NO_x Standards of 0.1 g/bhp-hr, 0.05 g/bhp-hr, or 0.02 g/bhp-hr NO_x. Engines certified to CARB's Optional Low NO_x Standards may be found by searching CARB's Executive Orders for Heavy-duty Engines and Vehicles, found at: www.arb.ca.gov/msprog/onroad/cert/cert.php. Applicants are responsible for cost-sharing at least 50 percent of the cost.
 - d. The eligible cost of engine replacement includes the cost of modifications, attachments, accessories, or auxiliary apparatus necessary to make the equipment functional, including related labor expenses.
 - e. Charges for equipment and parts on engine replacement projects are only eligible for funding if they are included in the certified engine configuration and/or are required to ensure the effective installation and functioning of the new technology but are not

- part of typical vehicle or equipment maintenance or repair.
- f. Examples of ineligible engine replacement costs include, but are not limited to: tires, cabs, axles, paint, brakes, and mufflers.
 - g. For engine replacement with battery, fuel cell, and grid electric, examples of eligible engine replacement costs include, but are not limited to: electric motors, electric inverters, battery assembly, direct drive transmission/gearbox, regenerative braking system, vehicle control/central processing unit, vehicle instrument cluster, hydrogen storage tank, hydrogen management system, fuel cell stack assembly, and the purchase and installation of electrical infrastructure or equipment to enable the use of power.
 - h. Examples of ineligible costs include, but are not limited to, electricity, and operation and maintenance costs.
9. Vehicle/Equipment Replacement:
- a. Locomotives, Marine Vessels, and Nonroad Diesel Vehicles and Equipment: DEP will fund up to 25 percent of the cost of an eligible replacement locomotive, marine vessel, or nonroad vehicle or piece of equipment powered by a MY 2019 or newer diesel or alternative fuel engine certified to EPA emission standards. Applicants are responsible for cost-sharing at least 75 percent of the cost.
 - b. Highway Diesel Vehicles and Buses (other than Drayage): DEP will fund up to 25 percent of the cost of an eligible replacement highway vehicle powered by a MY 2016 or newer diesel or alternative fuel engine certified to EPA emission standards. Applicants are responsible for cost-sharing at least 75 percent of the cost.
 - c. Low NO_x Highway Vehicles: DEP will fund up to 35 percent of the cost of a replacement vehicle powered by a 2016 model year or newer engine certified to meet CARB's Optional Low-NO_x Standards of 0.1 g/bhp-hr, 0.05 g/bhp-hr, or 0.02 g/bhp-hr NO_x. Engines certified to CARB's Optional Low NO_x Standards may be found by searching CARB's Executive Orders for Heavy-duty Engines and Vehicles, found at: www.arb.ca.gov/msprog/onroad/cert/cert.php. Applicants are responsible for cost-sharing at least 65 percent of the cost.
 - d. Electric Vehicle or Equipment Replacement: DEP will fund up to 45 percent of the cost of a new, zero tailpipe emissions locomotive, marine vessel, nonroad or highway vehicles or equipment. Note: Hydrogen fuel cell vehicles and equipment are only eligible as replacements for eligible transit buses, shuttle buses, drayage trucks, terminal tractors/yard hostlers, stationary generators and forklifts, as defined in these program guidelines. Applicants are responsible for cost-sharing at least 55 percent of the cost.
 - e. Drayage Vehicle Replacement: DEP will fund up to 50 percent of the cost of an eligible replacement drayage truck powered by a MY 2013 or newer certified engine. Applicants are responsible for cost-sharing at least 50 percent of the cost.
 - f. The eligible cost of a vehicle/equipment replacement includes the cost of modifications, attachments, accessories, or auxiliary apparatus necessary to make the equipment functional.
 - g. The cost of additional "optional" components or "add-ons" that significantly increase the cost of the vehicle may not be eligible for funding under the grant; the

- replacement vehicle should resemble the replaced vehicle in form and function.
- h. For grid electric powered equipment replacements, examples of eligible replacement costs include, but are not limited to, the purchase and installation of electrical infrastructure or equipment to enable the use of power.
 - i. Examples of ineligible costs include, but are not limited to, electricity, and operation and maintenance costs.

C. Voluntary Cost-Share

1. Under this funding opportunity, voluntary cost sharing is when an applicant voluntarily proposes to legally commit to provide costs or contributions to support the project when a mandatory cost share is not required, or when the applicant proposes to provide more than the required cost share.
2. The recipient is legally obligated to meet any proposed voluntary cost share that is included in the approved project budget. If the proposed voluntary cost share does not materialize during grant performance, then DEP may reconsider the legitimacy of the award and/or take other appropriate action compliant with the terms of the grant agreement.
3. Applicants who propose to use a voluntary cost share must include the costs or contributions for the voluntary cost share in the project budget in the online application for this program.
4. If an applicant proposes a voluntary cost share, the following apply:
 - i. A voluntary cost share is subject to the match provisions in the grant regulations 2 CFR Part 200 as applicable.
 - ii. A voluntary cost share may only be met with eligible and allowable costs.
 - iii. The recipient may not use other sources of federal funds to meet a voluntary cost share unless the statute authorizing the other federal funding provides that the federal funds may be used to meet a cost share requirement on a federal grant.
5. While it is not required that an applicant provide a voluntary cost-share (or overmatch if a mandatory cost share applies) beyond DEP's funding and/or any mandatory cost-share as described above, applicants may provide a voluntary cost-share or overmatch to improve the environmental outputs and outcomes of the project.

D. Scrappage

The vehicle, equipment, and/or engine being replaced must be scrapped or rendered permanently disabled within ninety (90) days of being replaced.

1. If a 2010 engine model year (EMY) or newer vehicle is replaced, the 2010 EMY or newer vehicle may be retained or sold if the 2010 EMY or newer vehicle will replace an 1996-2009 EMY vehicle, and the 1996-2009 EMY vehicle will be scrapped. It is preferred that the scrapped unit currently operates within the same project location(s) as the 2010 EMY or newer vehicle currently operates, however alternative scenarios will be considered. The term "project location" as used in this program refers to the primary area where the affected vehicles/engines operate, or the primary area where the emissions benefits of the project will be realized. All existing and replacement vehicles are subject to the funding restrictions in this section of the program guidelines. All

equipment must operate within Pennsylvania. Under this scenario, a detailed scrappage plan must be submitted and will require prior DEP approval.

2. If a Tier 2 or Tier 3 locomotive, marine, or nonroad vehicle, equipment and/or engine is replaced, the units may be retained or sold if they will replace a similar, lower Tiered unit, and the lower Tiered unit will be scrapped. It is preferred that the scrapped unit currently operates within the same project location(s) as the original Tier 2 or 3 unit currently operates, however alternative scenarios will be considered. The term “project location” as used in this program guide refers to the primary area where the affected vehicles/engines operate, or the primary area where the emissions benefits of the project will be realized. All existing and replacement equipment are subject to the funding restrictions in this section of the program guidelines. All equipment must operate within Pennsylvania. Under this scenario, a detailed scrappage plan must be submitted and will require prior DEP approval.
3. Cutting a three-inch by three-inch hole in the engine block (the part of the engine containing the cylinders) is the preferred scrapping method. Other acceptable scrappage methods may be considered and will require prior DEP approval.
4. Disabling the chassis may be completed by cutting through the frame/frame rails on each side at a point located between the front and rear axles. Other acceptable scrappage methods may be considered and will require prior written approval from the DEP Project Officer.
5. Note: Vehicle or equipment replacements will require both the bore holes in the engine and cutting the frame/frame rails as indicated above.
6. Evidence of appropriate disposal is required in a final assistance agreement report submitted to DEP and includes digital photos of the engine tag (showing serial number, engine family number, and engine model year), the destroyed engine block and cut frame rails or other structural components, as applicable. Evidence also includes a signed Certificate of Destruction (to be provided by DEP), or alternative documentation as approved by DEP.
7. Equipment and vehicle components that are not part of the engine or chassis may be salvaged from the unit being replaced (e.g. plow blades, shovels, seats, tires, etc.). If scrapped or salvaged engines, vehicles, equipment, or parts are to be sold, program income requirements apply.
8. For tire replacement projects, the original tires should be scrapped according to local or state requirements, or the tires can be salvaged for reuse or retreading. If salvaged tires are sold, program income requirements apply.

E. Program Income

1. Program income as defined at 2 CFR §200.80 means gross income received by the grantee or subrecipient that is directly generated by a grant supported activity or earned as a result of the grant award during the period of performance. Under DERA grants, program income is generally limited to the sale of scrapped or remanufactured engines/chassis or salvaged engine/vehicle/equipment components and does not include revenue generated by recipients or subrecipients through the commercial use of vehicles and equipment purchased with grant funds. “Period of performance” is the time between

the start and end dates of term of the grant award. Program income earned during the project period shall be retained by the recipient and, in accordance with 2 CFR §200.307 recipient is authorized to use program income as follows:

- a. Program income may be added to the grant award by DEP and recipient and used to further eligible project or program objectives. The program income shall be used for the purposes and under the conditions of the grant agreement.
 - b. Program income may be used to meet the cost-sharing or matching requirement of the grant award, including any mandatory or voluntary cost-share. The amount of the grant award remains the same.
 - c. Program income may be deducted from the total allowable costs to determine the net allowable costs on which the federal share of costs is based. This means that the recipient shall spend program income on project activities before spending/requesting federal funds for project activities. This may result in unspent federal funds at the end of the project period.
2. The recipient will maintain records adequate to document the extent to which transactions generate program income and the disposition of program income.

V. General Conditions, Reporting, and Project Monitoring

A. Public Disclosure of Application Documents

PA State Clean Diesel Grant Program proposals are public documents and subject to disclosure to the public upon request. Any information included in the application package that the applicant wishes the Commonwealth to consider as proprietary must be on a separate sheet of paper and must be clearly marked as proprietary, in accordance with Section 13.2 of the Pennsylvania Air Pollution Control Act, 35 P.S. Section 4013.2. This section also states that cause must be shown as to why the information should be considered confidential.

B. Additional Conditions

The awarding of grant funding is subject to the following conditions:

1. DEP may consider past performance of applicants who have received state funding awards when determining grant eligibility. DEP reserves the right to not award or withhold funds to applicants that have not completed projects or have failed to adhere to grant agreement requirements, including interim and final reporting requirements, for projects funded by the PA State Clean Diesel Grant Program or other state funding programs. This determination will be made by DEP on a case-by-case basis.
2. All projects must be in compliance with all applicable local, state, and federal laws and must adhere to DEP guidance and policies.
3. Applicants must not have any outstanding obligations (financial or otherwise) to the Commonwealth and must not have any unresolved environmental violations.
4. Grantees must secure all permits or approvals otherwise required for the project to proceed, including permits required by DEP.
5. All projects must be consistent with the applicable provisions of the Keystone Principles for Growth, Investment and Resource Conservation; a description of the Keystone Principles is available at: www.phmc.state.pa.us/bhp/pkp.pdf.

C. Reporting Requirements

1. Instructions on specific reporting requirements applicable to the project, including frequency, content, and submission instructions, will be included in the package with the final executed grant agreement.
2. Quarterly Reports: Quarterly reports will be submitted to DEP within 14 days after the end of each quarter during the project period. Reporting quarters end March 31, June 30, September 30, and December 31.
3. Final Report: A final report will be submitted to DEP upon completion of the project, no later than 30 days after the Project Completion Date established by the grant agreement or future amendments.
4. 1-Year Follow-Up Report: A 1-year follow-up report will be submitted to DEP, at the earliest, one year after the Project Completion Date, but no later than one year and 30 days after the Project Completion Date.

D. Financial Monitoring

1. Grantees must properly manage and account for funding received under the PA State Clean Diesel Grant Program and any matching funds provided by the applicant and any program income generated as a result of the project. Appropriate records must be maintained in order to confirm compliance with the conditions of the grant agreement.
2. No credit will be given for funds spent prior to the period of performance, unless otherwise approved in writing by DEP. All funding must be spent in accordance with the spending plan (budget) included in the grant agreement.
3. Extensions of the grant period of performance will not be issued, unless DEP concludes it to be necessary by determination or request.
4. Projects may be subject to PA Prevailing Wage Act requirements. For information about the applicability of the Prevailing Wage Act requirements, applicants should contact the Department of Labor and Industry at 717-787-5279 or 800-932-0665 or visit the Web site at www.dli.pa.gov. It is solely the responsibility of the grantee to ensure the act is followed, if applicable.
5. DEP reserves the right to terminate the project and/or recover funding from grantees not properly managing the funding in accordance with the conditions of the program and the grant agreement.
6. DEP reserves the right to inspect projects financed with PA State Clean Diesel Grant Program funds and to audit or require a third-party audit of any project's financial transactions or compliance with agreement terms.

E. Project Status and Monitoring

1. Grantees will, in quarterly reports, provide DEP with the status of the project work, as compared to the Work Plan included in the grant agreement.
2. Grantees will be required to provide a status report with each application for reimbursement, as outlined in the grant agreement.
3. DEP may, at any time during the project period, request an update on the status of the project, to ensure that the project activities are being completed according to the project Work Plan included in the grant agreement.

4. Project Completion
 - a. The project must be completed in accordance with the specifics of the grant agreement. Modifications will not be considered, except for very limited scope and budget changes, including, but not limited to: replacements of equal quality and function, and reallocation of contract budget category dollar amounts to and from other budget categories, as long as the maximum contract dollar amount payable by DEP to the recipient is not exceeded. All changes must be approved by DEP.
 - b. Grantees must adhere to scrappage requirements, when applicable. Scrappage requirements will be detailed in the grant agreement.
 - c. In most cases, the project will not be considered complete until an on-site inspection of the project work is performed by DEP to confirm the project work is complete. DEP may waive this requirement and allow confirmation of project work in another form, to be determined on a case-by-case basis. DEP will send written notification to the grantee when it has confirmed that the project work is complete. On-site inspection, or other project confirmation activities, may occur during the project period if project work is completed early, but must occur no later than 30 days after the Project Completion Date, unless otherwise agreed to in writing by DEP.

VI. Application Review, Scoring, and Selection

A. Project Selection

1. All complete applications will be reviewed by DEP staff, based on the criteria listed below and other criteria.
2. Applicants will receive scores, based on a scoring matrix, for each of the criteria being reviewed. Scores for each item will be totaled together and averaged if more than one scorer reviews the application.
3. Applications with the highest scores, that meet all other requirements, will be considered first for funding.
4. If additional funds remain, additional funding offers will be made to the next highest scoring applicant.
5. If remaining funds are not adequate to meet the funding request of the next highest scoring applicant, DEP will contact the applicant to see if they would accept funding at a lower level than requested in the application.

B. Notification of Applicants

1. All applicants will receive a letter from the DEP Secretary or designee, addressed to the contact person specified in the application, notifying the applicant whether or not they are being offered grant funding.
2. If an application is not selected for funding, the applicant can contact DEP if they wish to discuss the details of why the application was not selected. Applications may not be selected for funding for incomplete applications, lower score ranking than other applications, lack of funds to award, or other reasons.
3. Successful applicants will be assigned a DEP project advisor; grantees may be required to communicate with DEP staff to review contract requirements.

4. After the announcement of a grant award, DEP will forward a preliminary grant agreement to the successful applicant. Successful applicants will be required to execute the grant agreement, including a detailed scope of work, project schedule, budget and other information.
5. If applicants selected for funding do not have a DUNS Number or SAP Vendor Number at the time of award announcement, project work cannot begin until registration for both is complete. See the Application Instructions for additional information.

C. Application Review and Scoring

1. DEP will conduct a comprehensive review of the grant application and supporting documentation. DEP will not be responsible for an application that is rejected due to incomplete or inaccurate information. All complete applications will be reviewed and evaluated by a panel of air quality experts using set criteria, some of which are listed below.
2. Some of the criteria include the following:
 - a. Small business status
 - b. Emission reductions, particularly NO_x reductions
 - c. Cost effectiveness (\$ requested from DEP / ton NO_x reduced)
 - d. Size of the fleet proposed for repower or replacement
 - e. Match funding requirements
 - f. Project location – environmental justice areas, priority counties, high-pollution areas, Act 47 municipalities, population density of location, traffic density of location
 - g. Transformational projects
 - h. Quality and completeness of narrative application questions
 - i. Quality and completeness of required attachments

VII. Webinar Information

DEP staff will facilitate a webinar (web-based information session) for the FY2019 PA State Clean Diesel Grant Program on February 10, 2020, from 10:30 AM to 12:00 PM, to provide general information about the grant program and to answer any questions from attendees relating to the program, including questions about the application and instructions. A link to register for the webinar is available on the Driving PA Forward website at <http://www.depgis.state.pa.us/DrivingPAForward/> under the ‘PA State Clean Diesel Grant Program’ heading. The webinar will be recorded and posted online at <http://www.depgis.state.pa.us/DrivingPAForward/>, where the link to register for the webinar was originally posted. .

VIII. How to Apply

- A. DEP is accepting applications for the PA State Clean Diesel Grant Program. The application opportunity and the due date will be announced on the DEP web site. Applicants will not be able to submit their application unless all required information is completed. DEP may also offer an additional opportunity to apply for funds through the PA State Clean Diesel Grant

Program within the same fiscal year. Any additional application opportunity and application deadline will be announced on the DEP web site.

- B. See the PA State Clean Diesel Grant Application Instructions for step-by-step directions for applying for the PA State Clean Diesel Grant Program. The PA State Clean Diesel Grant Application must be submitted through the Department of Community and Economic Development's (DCED) Electronic Single Application website, eGrants, <https://www.esa.dced.state.pa.us/Login.aspx>.
- C. Application Submission Period – Applications for the PA State Clean Diesel Grant Program must be complete and submitted online by March 6, 2020. DEP will review and score applications after this date.
- D. Late submittals will not be accepted.
- E. DEP Assistance and Contacts
 - 1. Questions regarding the application process, including signing up for access and any issues with completing the online application should be directed to the DCED Customer Service Center at 1-800-379-7448. They are open 8:30 am-5:00 pm EST Monday thru Friday.
 - 2. Any questions about the contents of the application questions, deadlines, and webinar registration should be directed to Bureau of Air Quality, Pennsylvania Department of Environmental Protection, 717-787-9495, ra-epvwmitigation@pa.gov.

IX. Glossary

‘Agriculture engines, equipment or vehicles’ – Includes the following: 2-wheel tractors; agricultural mowers; agricultural tractors; balers; combines; irrigation sets; logging equipment fell/bunch/skidlers; off-highway tractors; off-highway trucks; other agricultural equipment; sprayers; swathers; and tillers >6 HP.

‘Air Quality or Transportation Organizations’ – Local, regional or multi-state air quality or transportation organizations that include a Pennsylvania state government agency, a municipal government, or a municipal authority as a member, and

1. owns or operates a diesel fleet located or operating predominately in Pennsylvania, or
2. have partnered with or is acting as a project manager for another eligible entity listed in this section.

‘Alternative fuel’ - gaseous fuels such as hydrogen, natural gas, and propane; alcohols such as ethanol, methanol, and butanol; vegetable and waste-derived oils; and electricity. For the purpose of this program, gasoline is considered an eligible alternative fuel replacement. Other fuels may be considered for replacement projects on a case-by-case basis by DEP.

‘Bus’ - a motor vehicle with motive power (except a trailer) designed to carry more than 10 individuals.

1. For the purposes of this application and guidance, the term bus includes school buses of Type A, B, C, and D. School buses are defined as “a passenger motor vehicle designed to carry a driver and more than 10 passengers, that the Secretary of Transportation decides is likely to be used significantly to transport preprimary, primary, and secondary school students to or from school or an event related to school. (49 U.S.C. 30125)
2. For the purpose of this application and guidance, the term bus also includes medium- and heavy-duty transit or urban buses. See ‘medium- and heavy-duty highway vehicle’ definition.

‘Business’ – corporations, partnerships, sole proprietorships, limited liability companies, business trusts or other legal business entities incorporated in or registered with the Pennsylvania Department of State, Bureau of Corporations and Charitable Organizations, to do business in the Commonwealth.

‘CARB’ - California Air Resources Board.

‘Cargo handling engines, equipment or vehicles’ – aerial lifts; airport ground support equipment; cranes; forklifts; off-highway tractors; off-highway trucks; other material handling equipment; skid steer loaders; straddle carriers; shuttle carriers; terminal tractors; and tractors/loaders/backhoes.

‘CFR’ - Code of Federal Regulations.

‘Closed Crankcase Ventilation System/CCV System’ - a system designed to channel the very small amount of the gases that leak by the compression rings on each cylinder during the ignition cycle of the engine (blow-by) from the combustion chambers of an internal combustion engine back into the combustion chamber, in order to thoroughly burn its contaminants which reduce the amount of pollution the engine produces and to utilize power derived by reigniting the fuel that had previously escaped.

‘Commonwealth’ - Commonwealth of Pennsylvania.

‘Construction engines, equipment or vehicles’ – Includes the following: bore/drill rigs; cement and mortar mixers; concrete/industrial saws; cranes; crawler tractors; crushing/processing equipment; dumpers/tenders; excavators; forklifts; graders; light commercial air compressors; light commercial gas compressors; light commercial generator sets; light commercial pressure washer; light commercial pumps; light commercial welders; off-highway tractors; off-highway trucks; other construction equipment; pavers; paving equipment; plate compactors; rollers; rough terrain forklifts; rubber tire loaders; scrapers; signal boards; skid steer loaders; surfacing equipment; sweepers/scrubbers; tampers/rammers (unused); tillers > 6 HP; tractors/loaders/backhoes; and trenchers.

‘Diesel fuel’ - a fuel that is commonly or commercially known, sold or represented as diesel fuel, including any mixture of primarily liquid hydrocarbons that is sold or represented as suitable for use in an internal combustion, compression-ignition engine.

‘Diesel Particulate Filter/DPF’ - exhaust after-treatment devices that significantly reduce emissions from diesel fueled vehicles and equipment. DPFs typically use a porous ceramic or cordierite substrate or metallic filter, to physically trap particulate matter (PM) and remove it from the exhaust stream.

‘Diesel Oxidation Catalyst/DOC’ - exhaust after-treatment devices that reduce emissions from diesel fueled vehicles and equipment. DOCs generally consist of a precious metal coated flow-through honeycomb structure contained in a stainless-steel housing. As hot diesel exhaust flows through the honeycomb structure, the precious metal coating causes a catalytic reaction that breaks down pollutants into less harmful components.

‘DEP’ - Pennsylvania Department of Environmental Protection.

‘DERA’ - Diesel Emission Reduction Act, a federal program that provides funding to support projects that reduce harmful emissions from diesel engines.

‘Drayage Truck’ - any Class 8 in-use on-road vehicle with a gross vehicle weight rating (GVWR) of greater than 33,000 pounds operating on or transgressing through port or intermodal rail yard property for the purpose of loading, unloading or transporting cargo, such as containerized, bulk or break-bulk goods.

‘Electric vehicle or equipment’ - A vehicle or engine that uses electric motors and motor controllers for propulsion or operation of mechanical equipment in place of more common power sources such as the internal combustion engine (ICE).

‘Energy production engines, equipment or vehicles’ – Includes the following: bore/drill rigs; cement and mortar mixers; concrete/industrial saws; cranes; crawler tractors; crushing/processing equipment; dumpers/tenders; excavators; forklifts; graders; light commercial air compressors; light commercial gas compressors; light commercial generator sets; light commercial pressure washer; light commercial pumps; light commercial welders; off-highway tractors; off-highway trucks; other energy production equipment; pavers; paving equipment; plate compactors; rollers; rough terrain forklifts; rubber tire loaders; scrapers; signal boards; skid steer loaders; surfacing equipment; sweepers/scrubbers; tampers/rammers (unused); tillers > 6 HP; tractors/loaders/backhoes; and trenchers.

‘Engine retrofit technologies’ - pollution control devices installed in the exhaust system (such as oxidation catalysts and particulate matter filters), or systems that include closed crankcase ventilation (CCV) filtration systems.

‘Engine upgrade’ - the process of removing parts on a certified engine configuration and replacing them with parts that cause the engine to represent an engine configuration which is certified to meet more stringent federal emission standards. Generally, engines are able to be upgraded to a cleaner EPA-certified configuration through the application of a “kit.”

‘Federal Government Agency’ – Federal agencies that have custody, control, or management of land (including, but not limited to, Clean Air Act Class I and II areas) within or contiguous to the territorial boundaries of the Commonwealth.

‘Government’ – 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.

‘Grantee’ - an applicant that has an executed PA State Clean Diesel Grant Program grant agreement with DEP.

‘GVWR’ - Gross Vehicle Weight Rating - the value specified by the manufacturer as the loaded weight of a single vehicle.

‘Hybrid electric vehicle (HEV)’ - a motor vehicle that draws propulsion energy from onboard sources of energy that are both:

1. an internal combustion engine using combustible fuel, and
2. a rechargeable energy storage system.

‘Idle reduction technology’ - technologies that provide power to the vehicle that would otherwise be provided by idling of the main propulsion engine; this technology includes systems designed for stationary or mobile use.

‘Infrastructure’ – the equipment used to enable the use of electric powered vehicles (e.g., electric vehicle charging station).

‘Medium- and Heavy-Duty Highway Vehicles’ - includes Class 5-8 vehicles, based on GVWR

1. Class 5: 16,001 – 19,500 pounds GVWR
2. Class 6: 19,501 – 26,000 pounds GVWR
3. Class 7: 26,001 – 33,000 pounds GVWR
4. Class 8a: 33,001 – 60,000 pounds GVWR
5. Class 8b: 60,001 pounds GVWR and over

‘Metropolitan or Rural/Regional Transportation Planning Organizations’ – Organizations as defined by the U.S. Department of Transportation at 49 U.S.C. § 5303(b), that are located in Pennsylvania.

‘Mining engines, equipment or vehicles’ – Includes the following: bore/drill rigs; cement and mortar mixers; concrete/industrial saws; cranes; crawler tractors; crushing/processing equipment; dumpers/tenders; excavators; forklifts; graders; light commercial air compressors; light commercial gas compressors; light commercial generator sets; light commercial pressure washer; light commercial pumps; light commercial welders; off-highway tractors; off-highway trucks; other mining equipment; pavers; paving equipment; plate compactors; rollers; rough terrain forklifts; rubber tire loaders; scrapers; signal boards; skid steer loaders; surfacing equipment; sweepers/scrubbers; tampers/rammers (unused); tillers > 6 HP; tractors/loaders/backhoes; and trenchers.

‘MY’ - Model year

‘Non-Profit’ – An organization incorporated as a non-profit under Pennsylvania law or registered with the Pennsylvania Department of State, Bureau of Corporations and Charitable Organizations, to do business in the Commonwealth.

‘Non-road engine and equipment’ - an internal combustion engine or a gas turbine engine used for other purposes than being an engine of a vehicle operated on public roadways, or equipment utilizing such an engine.

‘Ozone’ - a pollutant formed by chemical reactions between oxides of nitrogen (NO_x) and volatile organic compounds (VOC) in the presence of sunlight.

‘PA State Clean Diesel Grant’ - monies allocated from the PA State Clean Diesel Grant Program fund for a project approved by DEP.

‘PM_{2.5}’ - fine particulate matter with particles that have a diameter of 2.5 microns or less and the precursor emissions that contribute to the formation of fine particulate matter.

‘Replacement’ - early replacement of non-road and highway diesel vehicles, engines and equipment with newer, cleaner vehicles, engines and equipment that operate on diesel, alternative fuels, or all-electric and use engines certified by EPA and/or CARB, if applicable, to meet a more stringent set of engine emissions standards.

‘Retrofit technology’ - technologies that can be installed on existing diesel-powered vehicles that reduce emission levels of one or more pollutants. Retrofit technologies include but are not limited to exhaust controls and engine upgrades.

‘School Bus’ – 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’ – 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.

‘Selective Catalytic Reduction/SCR’ - an advanced active emissions control technology system that injects a liquid-reductant agent through a special catalyst into the exhaust stream of a diesel engine. The reductant source is usually automotive-grade urea, otherwise known as Diesel Exhaust Fluid (DEF). The chemical reaction is known as "reduction" where the DEF is the reducing agent that reacts with NO_x to convert the pollutants into nitrogen, water and tiny amounts of CO₂.

‘TRU’ - transport refrigeration unit. Usually used in conjunction with a tractor hauling goods that require refrigeration or freezing.

Zero Tailpipe Emission Vehicle or Equipment – includes all electric vehicles and equipment (as defined above) powered by the electric grid, as well as vehicles and equipment powered by batteries or fuel cells.