State of New Jersey
Department of Environmental Protection

PHILIP D. MURPHY
Governor

SHEILA Y. OLIVER
Lt. Governor

CATHERINE R. McCABE
Commissioner

PROJECT PROPOSAL

OVERALL GOAL

The State of New Jersey, as a beneficiary of the Trust established pursuant to the national Volkswagen settlement, intends to use its allocation from the mitigation trust to efficiently implement projects that reduce oxides of nitrogen (NOx) emissions in a cost effective and technically feasible manner. The implemented projects must meet the criteria of the Consent Decree. New Jersey is issuing this solicitation for project ideas to ensure a broad range of project ideas are considered.

NJDEP anticipates primarily funding pilot electrification projects, including the replacement of heavy-duty vehicles/engines such as buses, trucks, and non-road equipment in urban areas disproportionately impacted by diesel emissions, as well as electric vehicle charging/fueling infrastructure installation in strategic locations across the state.

Submissions must contain all the information outlined in the "Project Proposals" section of this document.

ELIGIBLE PROJECTS

A general summary is below. Click here for comprehensive list and associated definitions.

Source Category	Emission Reduction Strategy	Allowed Expenditure Amount
1. Class 8 local freight trucks & port drayage trucks	Repower and replacement	Up to 40% for repower with diesel or alternative fuel or up to 75% (up to 100% if government owned) for repower with electric. Electric charging infrastructure costs are an eligible expense. Up to 25% for replacement with diesel or alternative fuel or up to 75% (up to 100% if government owned) for electric replacement. Electric charging infrastructure costs are an eligible expense.
2. Class 4-8 school bus, shuttle bus or transit bus	Repower and replacement	Same as row 1
3. Freight switching locomotives	Repower and replacement	Same as row 1
4. Ferries/Tugs	Repower	Same as row 1
5. Oceangoing vessels	Shorepower	Up to 25% for shore side infrastructure if non-government owned (up to 100% if government owned)

Source Category	Emission Reduction Strategy	Allowed Expenditure Amount
6. Class 4-7 local freight trucks	Repower and replacement	Same as row 1.
7. Airport ground support equipment	Repower and replacement	Up to 75% to repower or replace with electric (100% if government owned). Electric charging infrastructure costs are an eligible expense.
8. Forklifts and Port Cargo Handling Equipment	Repower and replacement	Up to 75% to repower or replace with electric (100% if government owned). Electric charging infrastructure costs are an eligible expense.
9. Electric vehicle charging stations or hydrogen fueling stations for light duty vehicles only		Up to 100% to purchase, install and maintain infrastructure if available to public at *government owned* property. Up to 80% to purchase, install and maintain infrastructure if available to public at *non-government owned* property. Up to 60% to purchase, install and maintain infrastructure at a workplace or multi-unit dwelling that is not available to the general public. Up to 33% to purchase, install and maintain infrastructure for publicly available hydrogen dispensing that is high volume or 25% for lower volume.

PROJECT PROPOSALS (Open with Adobe Reader)

Electronic submittals are preferred and should be sent to VWComments@dep.nj.gov, however paper submittals will also be accepted and should be sent to:

NJDEP
Division of Air Quality
Mail code 401-02E
Trenton, NJ 08625-0420
Attn: VW Settlement

All proposals must contain the following information; incomplete applications will not be considered. If your project is selected, you may be contacted for additional detailed information. Send questions to VWComments@dep.nj.gov

To enter information electronically, use Adobe Reader

CONTACT INFORMATION

Applicant Name	City of Englewood, New Jersey
Applicant Address	175 South Van Brunt Street
City, State, Zip Code	Englewood, NJ 07631
Contact Person	Mr. Edroy Jenkins
Title/Position	Director of Public Works
Phone	201-568-3401
E-mail	ejenkins@cityofenglewood.org and to jsherman@ccmtdg.com
Owner Name	Same
Owner Address	
City, State, Zip Code	
Contact Person	
Title/Position	
Phone	
E-mail	

PROJECT NAME	Revised City of Englewood Fleet Electrification Project - Phase 1

PROJECT CATEGORY OR CATEGORIES (choose from 1-9 in "Eligible Projects" section above)

1 ■ **2** ☐ **3** ☐ **4** ☐ **5** ☐ **6** ☐ **7** ☐ **8** ☐ **9** ☐

PROJECT PRIORITY Priority # 1 of 2 proposals
If submitting more than one proposal, what is the sponsor's priority of this proposal?

NOTE FOR CATEGORY 9 PROPOSALS

If your proposal is for Category 9 (Light Duty Zero Emission Vehicle Supply Equipment), follow these instructions:

Electric Vehicle stations: Do not complete this form. Instead, go to *It Pay$ to Plug In* – NJDEP's Electric Vehicle Charging Grants Program, and apply for a Charging Grant. Volkswagen funds for charging stations will be administered through *It Pay$ to Plug In*.

Hydrogen fuel cell vehicle supply equipment: Complete all of the questions on this form.

PROJECT BUDGET

Provide total estimated project budget, include source, amount of cost share, and administrative costs if applicable:

The total estimated project budget is $1,301,065 for 2 battery electric Class 8 garbage trucks along with related charging equipment, telematics, and administrative costs for electrical design, installation, commissioning, and project management services. Since Englewood is a public entity, no cost share is required.

PROJECT DESCRIPTION (Briefly describe the project by completing the following questions)

This project is phase 1 of the City of Engelwood's Fleet Electrification Program and consists of acquisition 1 BYD 8R battery electric Class 8 side-loader and 1 rear-loader garbage trucks. The trucks will be charged using 40kW AC chargers.

Geographic area where emissions reductions will occur? 4.94 square miles

Estimated size of population benefitting from the emission reductions? 29,112

Estimated useful life of the project? 15

Number of engines/vehicles/vessels/equipment included in the project? 2

DEP will be modeling emission benefits for all projects. Please provide the necessary information below:

Model Year Vehicle No. 1: 1993 GMC Volvo; Vehicle No. 2: 1995 Volvo

Horsepower Vehicle No. 1: 280 hp; Vehicle No. 2: 280 hp

Annual hours of use Vehicle No. 1: 2,100 hours annually; Vehicle No. 2: 2,100 hours annually

Annual amount of fuel used Vehicle No. 1: 7,500 gallons; Vehicle No. 2: 7,800 gallons

Will the project benefit one or more communities that are disproportionately impacted by air pollution? If so, please describe?

Yes, this project will benefit the City of Paterson, a NJDEP EJAC Tier 1 city because the 2 garbage trucks involved in this project travel to Paterson 5 times per week to tip at the Covanta transfer station located at 30 Fulton Street in Paterson.

Only shovel ready projects will be considered. Please list project partners.

Project partners are the BYD Motors, Hudson County Motors, Climate Change Mitigation Technologies LLC, and the RSM Construction Group.

Estimated timeframe for implementation? Include a project timeline that identifies start and end dates, as well as the timeline for key milestones.

The garbage trucks will be delivered approximately 1 year from receipt of a signed sales order and downpayment. The chassis takes approximately 6 months and the packer-body another 4 months. Charging infrastructure will be installed during the intervening time so the trucks will be operational upon delivery.

Demonstrated success in implementing similar projects?

BYD Motors is the largest battery electric truck OEM in the world with over 12,000 battery electric trucks on the road worldwide and with over 100 sold in the US. Hudson County Motors in Secaucus is one of the largest truck dealers in northern New Jersey and is the first BYD electric truck dealer in New Jersey. Climate Change Mitigation Technologies LLC is a New Jersey based developer and manager of battery electric truck projects and is responsible for some of the first VW Consent Order projects in New Jersey. RSM Construction Group is expert in the design and installation of AC and DC charging systems.

If your proposed project involves alternative fuels, provide a demonstration of current or future plans to provide adequate refueling infrastructure.

The project uses electricity as an alternative fuel. In phase 1 grid electricity will be used to power the battery electric garbage trucks. In phase 2, Englewood will assess the viability of installing solar PV power systems to generate clean, green, renewable, low-cost zero carbon power to fuel the garbage trucks.

Has your organization been approved to receive and expend any other grant funds related to this project? If so, please provide details.

No

Please provide any additional information that supports this project.

According to 2017 U.S. Census Data, the City of Englewood is home to a resident population of 29,112. The City is home to 10,644 households all within its 4.94 square miles. The median household income is approximately $77,272 and the poverty rate has increased to 11.3% according to 2017 data. 45% of the population identifies as White, 32% as African-American, and 8.1% as Asian. Further, 27% of the population identifies as being of Hispanic or Latino descent of any race. According to the 2013-2017 American Community Survey 5 Year Estimate, 64.3% of the population speak only English, while 35.7% speak a language other than English of which 14.8% speak Spanish.

Englewood has an active Environmental Commission and active Sustainable Jersey Green Team. Englewood achieved its first Sustainable Jersey certification in 2010 and in 2019 was awarded bronze certification.

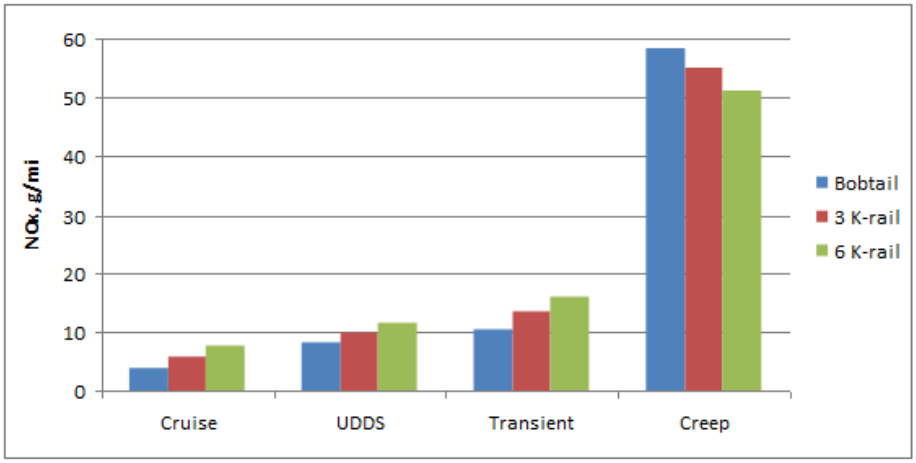
Please see the following page which has USEPA data documenting the fact that garbage trucks operating in normal start-and-stop mode, also known as "creep" mode, emits 7X the amount of local diesel air pollution including PM-2.5, than the same truck operating in "cruise" or "transient" modes.

Supplemental Information

The unique characteristics of garbage trucks are that they: (i) drive very slowly, where the engine efficiency is very low and emissions correspondingly high; and (ii) are frequently stopped in idling mode, continuing to emit pollutants while loading. This results in a diesel fuel consumption of only about 3 miles per gallon, whereas a drayage truck usually realizes about 5 or 6 miles per gallon of fuel consumed.

USEPA data for a 2008 truck shows that NOx emissions at slow speeds are seven times (7X) greater than for trucks moving at cruising speeds. Garbage trucks spend most of their duty cycle time driving through communities causing direct exposure at the receptor level to the carcinogenic by-products of diesel fuel combustion, made even worse by the slow speed of travel.

A USEPA document shows the difference in NOx emissions for a 15,326 pound 2008 truck, depending on differing modes of drive operation (note "creep" mode):



The same document also shows the following chart for a cyclical driving cycle of a garbage truck (speed vs. time):