

New Jersey Volkswagen Environmental Mitigation Trust Program

STATE OF NEW JERSEY

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Project Solicitation

RE: Manalapan-Englishtown Regional School District – Electric School Bus Project

Manalapan-Englishtown Regional School District
54 Main Street Englishtown NJ, 07726

To Whom It May Concern,

The Manalapan-Englishtown Regional School District appreciates the opportunity to present our response for the grant funding opportunity with the New Jersey Volkswagen Environmental Mitigation Trust Program. We are looking forward to being selected for four (4) all-electric Type C school buses. Manalapan-Englishtown Regional School District is responding to this Project Solicitation with the hope to accelerate adoption and deployments of zero-emissions vehicles in New Jersey; thus, improving the lives of our students, faculty and citizens the State of New Jersey.

The Manalapan-Englishtown Regional School District, located in Monmouth County, services the regions of Manalapan and Englishtown, New Jersey. Manalapan and Englishtown formally joined as a regional elementary school district in 1963. Within the District there are eight different educational institutions. As of January 2017, the district had 5,085 students: 4,811 from Manalapan and 271 from Englishtown. In our district we utilize various forms of standards-based data and implement targeted action plans to increase student achievement and reduce achievement gaps. We applied instructional and assessment practices to reflect strategic thinking in our 2019-2020 school year and began expanding our current tiered response to intervention programs of support that include cognitive, affective and behavioral skills.

For the deployment of our all-electric school buses, Manalapan-Englishtown Regional School District will be partnering with The Lion Electric Co. (Lion), Lion's authorized dealer and Clipper Creek – charging infrastructure vendor, to supply our region with all our fleet electrification needs. As a regional elementary school district, one bus would take care of a Kindergarten, Elementary, and Middle School route, twice a day. In total, one bus would transport a minimum of 270 students per day.

To date, our equipment manufacturing partner, The Lion Electric Co. has over 300 electric school buses deployed in North America, with 6,000,000 proven and driven miles on its current batteries, electric components and heavy-duty chassis. All associated performance data has been traced and documented. Designing, building and delivering electric heavy-duty vehicles is Lion's daily mandate; their experience and success will reflect on the Manalapan-Englishtown Regional School District, through measurable performance, real-life client references, 100% on-time deliveries and way beyond the "early adopter" experience.

The Manalapan-Englishtown Regional School District strongly supports the Volkswagen Project Solicitation and thanks the New Jersey Department of Environmental Protection for its work to date on zero-emission vehicle implementation. We hope that our response will successfully demonstrate that Manalapan-Englishtown can fulfill New Jersey's goals by delivering and operating quality, zero-emission vehicles in a short amount of time.

We look forward to working with the New Jersey Department of Environmental Protection to implement this project.



State of New Jersey

PHILIP D. MURPHY
Governor

Department of Environmental Protection
Commissioner

SHEILA Y. OLIVER
Lt. Governor

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 <i>government owned</i> property. Up to 80% to purchase, install and maintain infrastructure if available to public at <i>non-government owned</i> 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	Manalapan-Englishtown Regional School District
Applicant Address	54 Main Street
City, State, Zip Code	Englishtown, New Jersey, 07726
Contact Person	Veronica Wolf
Title/Position	Business Administrator/Board Secretary
Phone	Phone: (732) 786-2514 Fax: (732) 786-2541
E-mail	vwolf@mersnj.us
Owner Name	Manalapan-Englishtown Regional School District
Owner Address	54 Main Street
City, State, Zip Code	Englishtown New Jersey, 07726
Contact Person	Veronica Wolf
Title/Position	Business Administrator/Board Secretary
Phone	(Phone: (732) 786-2514 Fax: (732) 786-2541
E-mail	vwolf@mersnj.us

PROJECT NAME	Manalapan-Englishtown Regional School District - Electric School Bus Project								
PROJECT CATEGORY OR CATEGORIES (choose from 1-9 in "Eligible Projects" section above)									
1 <input type="checkbox"/>	2 <input checked="" type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>	8 <input type="checkbox"/>	9 <input type="checkbox"/>	

PROJECT PRIORITY	Priority # 1	of 1	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 amount of grant request is 100%.

The total estimated project budget will be \$1,749,188.00, for the purchase of four (4) all-electric school buses and four (4) charging stations, and the cost of the charging infrastructure installation

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

The Manalapan-Englishtown Regional School District Electric School Bus Project will see four (4) diesel school buses, from our current fleet, scrapped and rendered inoperable. These school buses will then be replaced with four (4) all-electric, zero-emission, Type C school buses.. For the purposes of this application we have included the necessary information for each vehicle that we will be scrapping on a separate PDF page further down in our application. Below you will find the information for 1/4 buses that we will be scrapping.

Geographic area where emissions reductions will occur? **Monmouth County**

Estimated size of population benefitting from the emission reductions? **618,795**

Estimated useful life of the project? **Maximum of 15 years**

Number of engines/vehicles/vessels/equipment included in the project? **Four (4) all-electric school buses**

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

Model Year ^{see attached spreadsheet}

Horsepower

Annual hours of use

Annual amount of fuel used

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

The project will benefit the following communities: Manalapan and Englishtown. Although the air quality in the State of New Jersey has improved, it still ranks among the worst in the nation because of high concentrations of ground-level ozone pollution, according to the American Lung Association. In 2017 Monmouth County was ranked number eight out of 11 counties in New Jersey that have the worst smog levels in the State. We were given an "F" grade and had 11 unhealthy "orange alert" days, those in which the air quality is considered unhealthy for children, active adults, and anyone with asthma or other respiratory ailments. We have since progressed to a "C" grade, but had a total of four "orange alert" days in 2019. Looking at the report card that the American Lung Association published for Monmouth County, we have 131,723 children under the age of 18, and of this group 9,545 of these children suffer from pediatric asthma.

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

The following project partners will be involved in this project: Manalapan-Englishtown Regional School District, The Lion Electric Co. – original equipment manufacturer, Clipper Creek – electric vehicle charging infrastructure vendor, and The Lion. Electric Co. licensed dealer – H.K. Truck Center. ****Subject to compliance with all New Jersey school district purchasing laws and regulations.****

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

Project Period- We will take possession of our vehicles 180 days after a purchase order has been emitted to a licensed dealer for the purchase of four (4) electric school buses. ****Subject to compliance with all New Jersey school district purchasing laws and regulations.****

Demonstrated success in implementing similar projects?

As these will be our first zero-emission vehicles we are very confident in our equipment manufacturer, The Lion Electric Co., capabilities and proven success in implementing and demonstrating success with similar projects.

Lion has deployed over 300 electric school buses, with more than six million miles of service and counting, including leading the world's largest deployment of zero-emission school buses in the US. They are global leaders in commercializing zero-emission heavy-duty vehicles and the only manufacturer to have proven capable of Vehicle-to-Grid. Lion is in a unique position to have operating data and a history of advancing technology as other OEM's are just beginning their zero-emission journey. Students across America ride Lion buses safely to-and-from school when it is in session. Lion is the most experienced in the deployment of heavy-duty electric vehicles field starting with on-time delivery, to customer service, and infrastructure support.

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

We are currently operating diesel and gasoline school buses, and so these vehicles will be our first zero-emission options. We do not currently have adequate charging infrastructure to power our new all-electric buses and will therefore request funding support from the Department of Environmental Protection to purchase and install these units. As per the project requirement, we will scrap four (4) diesel school buses and replace them with all-electric school buses, we also have plans to install the same number of charging infrastructure stations so that each bus has the required access to the electricity it needs.

To note, the project budget presented in this proposal includes the following estimated costs: charging station unit, as well as the costs to install the charging station infrastructure. With the assistance of our project partners, they have provided us with these estimations for the purposes of this application. However, we are aware that based on our utility and the site we would choose for the placement of the charging station, these numbers could vary. Should the New Jersey Department of Environmental Protection award a grant to us for this project we would like to include all costs in the funds allocated to us.

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

We will solely apply for this funding opportunity to replace our diesel vehicles with all-electric school buses.

Please provide any additional information that supports this project.

These zero-emission school buses will fit perfectly into our daily operations because they will mimic what the scrapped diesel buses would have accomplished but without the extra fumes and incurred costs. The buses will mostly charge overnight, during non-peak hours, and midday if needed, therefore reducing our operational costs.

During a pre-COVID-19 school year one bus would travel around 40-45 miles per day and would be in operation roughly six hours each day. Understanding that changes may be coming to the 2020-2021 school year, and that the number of routes we may need to complete could be doubled, we are confident that the Lion buses we would like to purchase factor in potential changes to the established school day and will go above and beyond our needs.

The utilization of these new school buses will also reduce our maintenance costs by about 60% and energy costs up to 80% based on our preliminary evaluation. This is since the buses have no fuel, no transmission and very few moving parts. With the help of the New Jersey Department of Environmental Protection, our return on investment will occur in a minimal time frame allowing us to significantly reduce greenhouse gas emissions while providing economic and environmental benefits to our community. In fact, one bus will reduce the amount of CO₂ in the air by approximately 25 tons per year and will also reduce the noise pollution in the area.

As we are a school district that operates our vehicles year-round, the diesel school buses that are currently in use contribute to the air pollution in our community, and to the number of "orange alert" days in the county, which typically fall in June and September. That said, we wish to see this number drastically reduced and are committed to the electrification of our fleet. Our hope is that with the purchase of these buses, we will one day have little to no unhealthy air days.

Two additional pages have been provided as supplemental space to answer any of the questions above.

Supplemental Page 1

We have chosen to partner with The Lion Electric Co. licensed dealer in the State of New Jersey; to bring four purpose built all-electric Lion school buses to our community, thus ensuring zero emissions throughout the state. Lion builds their own chassis, body, battery packs and designs their own proprietary operating software. The buses are not retrofitted diesel vehicles; they are born to be electric.

Investing in a Lion vehicle will allow us to track our progress by calculating our average consumption through the smart charging system, and collect data through the onboard telematics touchscreen, which is unique to Lion vehicles. The operator will simply select their charging preferences through the screen to maximize charging efficiency. The onboard touch screen will serve many purposes to our operators: it registers power usage, driving efficiency through the driving interface, maintenance interface, battery state, charging interface, parameters, smart charge, and preheat. All information on the onboard touchscreen is recorded and can be extracted as a report on a regular basis to perform multiple analyses and to understand the efficiency and cost of each electric bus.

The vehicles are also equipped with electronic modules that monitor and record data from various systems, including the motor, batteries, braking, and electrical systems. The electronic modules record information about various driving and vehicle conditions, including braking, acceleration, trip distance and other related information regarding the vehicle. These modules record information about the vehicle's features such as charging events and status, the enabling/disabling of various systems, diagnostic trouble codes, VIN, speed, direction, and location.

The success of the project will be enhanced by the number of miles driven per year on the all-electric buses. The more we will use the buses, the more we will save and the better it will be for our environment and community. We will be the grantee of this grant and will operate the buses daily while analyzing the reports generated by the vehicles.

In our case, electric school buses are new to us and we will require the necessary training to help bridge our knowledge gap from diesel to electric. To ensure that our operators are comfortable using the new all-electric school buses, they will take part in the Lion Academy Training Program. The training program will be available to a wide range of stakeholders, and most importantly our transportation professionals. The training curriculum will be extremely detailed and can last up to six hours to ensure that all parties are comfortable working on the buses once they are delivered and operational. The interactive classes cover various topics such as safety, troubleshooting, electric chargers, EV components, maintenance, repairs, warranty work, driver tips, accessories, etc.

Conclusion

As leaders in manufacturing and deploying zero-emission school buses and charging infrastructure equipment, The Lion Electric Co., their licensed dealer, and Clipper Creek are poised to immediately support Manalapan-Englishtown Regional School District. It is our strong desire to scrap four high pollutant diesel buses and replace them with zero-emission vehicles and the necessary charging infrastructure.

Having a shared goal of improving air quality and the health of children in all communities is what best aligns us and our project partners. Not only does our partner's value focus on safety and reliability, but also the health of the communities we serve. They have invested early and deeply to develop a zero-emission technology that supports the communities in which we serve and live.

With help from the Department of Environmental Protection this program will help us to permanently remove the previously mentioned high pollutant diesel vehicles that are currently operating in our fleet, which our students, faculty and community are presently exposed to. Additionally, it will give us the opportunity to pave the way for other educational institutions to join the electrification movement.

We would like to thank the Department of Environmental Protection in the State of New Jersey for allowing us to submit a project proposal for the Volkswagen settlement funds. We look forward to working with this Department so that we may be able to provide a healthy breathing environment to students, faculty and the communities we serve.



QUOTE

Quote No.

LIONC_MERSD_20200720

Date

2020-07-20

Customer Name Veronica Wolf
Company Manalapan-Englishtown Regional School Distri
Address 54 Main Street
City Englishtown
State New Jersey
ZIP 07726
Phone (732) 786-2641
Email vwolf@mersnj.us

	Model	Range	Unit Price	Quantity	Total
LION C 2020	AA9_AC	155 mi.	\$ 419,302.00	4	\$ 1,677,208.00
Capacity / Pass.	54				
Options - Sub-Total (See Page 2)			\$ 7,995.00	4	\$ 31,980.00
Tax		0.000%	\$ -	4	\$ -
Subtotal with tax			\$ 427,297.00	4	\$ 1,709,188.00
Total (Incl. tax)			\$ 427,297.00		
Select Purchase Incentives / Grants			\$ (427,297.00)	4	\$ (1,709,188.00)
Select Superseded Purchase Incentives / Grants*			\$ -	4	\$ -
SCHOOL DISTRICT BALANCE DUE TO VENDOR			\$0.00	4	\$0.00

Black wheels and black bumpers included

Approximate Delivery Date 120-180 Days After Receipt of P.O.

Customer Signature Indicating Acceptance of Quote: _____

Title/Position: _____

Date : _____

*Note : Price subject to change upon final P.O. acceptance

Quote valid for 90 days

Lion Authorized Dealer

H.K.
TRUCK CENTER



QUOTE - Page 2

Quote No.

LIONC_MERSD_20200720

Date

2020-07-20

OPTIONS

Options Description	Quantity	Price
BUMPERS - BLACK	1	INCLUDED
WHEELS - BLACK	1	INCLUDED
PRE-WIRE - 2-WAY TRACE/PULL LINES ONLY	1	INCLUDED
PRE-WIRE - CAMERA TRACE/PULL LINES ONLY - AT REQUESTED LOCATION	1	INCLUDED
CHARGING PORT - SINGLE - REAR ONLY	1	\$ 3,000.00
AIR BRAKES	1	\$ 4,995.00
Select Option	Quantity	Amount
Select Option	Quantity	Amount
Select Option	Quantity	Amount
Select Option	Quantity	Amount
Select Option	Quantity	Amount
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Options Total	\$ 7,995.00
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LIONC - BASE SPECIFICATIONS*

*Specs to be compliant with New Jersey specification requirements

GROSS VEHICLE WEIGHT RATING (GVWR)	30,000 lbs.
SEAT ROWS	Up to 12 rows
PASSENGER CAPACITY	54
BODY WIDTH	96 in.
HEADROOM	78 in.
TIRE AND RIM	11R22.5
CHARGE PORT	FRONT (STANDARD)
SINGLE SPEED ELECTRIC MOTOR	UP TO 240 H.P. - 350 H.P. (230 kW) / 1200 - 1800 FT-LBS TORQUE
REGENERATIVE BRAKING SYSTEM	STANDARD
RANGE	155 mi.
HIGH VOLTAGE BATTERIES	LITHIUM-ION (NMC)
AC CHARGING	ON-BOARD CHARGER - 19.2 kW
SOUND GENERATOR	STANDARD (0-20 MPH)
12 V BATTERIES	2 X 950 CCA
BRAKE SYSTEM	AIR BRAKES
FRONT & REAR TOW HOOKS	STANDARD
POLYETHYLENE STEPWELL	STANDARD
POLYETHYLENE BATTERY BOX, TRAY AND WHEELHOUSES	STANDARD
COMPOSITE REAR EMERGENCY DOOR	STANDARD
COMPOSITE ABS EXTERIOR BOW CAP	STANDARD
INTEGRATED TRASH CAN	STANDARD
ONBOARD TOUCHSCREEN (TELEMATICS, STATS AND DIAGNOSTICS)	STANDARD
SMART CHARGE	STANDARD
PREHEAT SETTING	STANDARD
CHARGING INDICATORS AS CLEARING LIGHTS	STANDARD
CHARGE READY PILOT LIGHT	STANDARD
ON/OFF MASTER DISCONNECT SWITCHES	STANDARD
PRE-WIRE TRACE/PULL FOR CAMERA & 2WAY	STANDARD
CUP HOLDER	STANDARD
EXTERIOR LED LIGHTS	STANDARD
INTERIOR LED LIGHTS	STANDARD
ELECTRIC HORN	STANDARD
MIRRORS	REMOTE & HEATED
FLAPS	STANDARD
CERTIFICATE HOLDER	STANDARD
VISOR	ACRYLIC, ADJUSTABLE
STOP ARM	LED STOP ARM - FMVSS
REFLECTIVE MARKINGS	PER FMVSS
SCHOOL BUS SIGNS	PER FMVSS
FLOOR	PLYWOOD / BLACK FLOORING
HEATING	AUXILIARY HEATER
WINDOWS	TINTED
ROOF	WHITE COMPOSITE
BODY PANELS	YELLOW COMPOSITE
RUB RAILS	BLACK STEEL
BRAKES BRAND & MODEL	MERITOR, WABCO
TIRE BRAND	BF GOODRICH OR EQUIVALENT
DRIVER SEAT	GREY CLOTH - WITH - ARM REST
PASSENGER SEATS	39 in. - GREY - HIGH BACKS
SEAT BRAND & MODEL	HSM
TRI-KIT	STANDARD
FIRST AID KIT	STANDARD
FIRE EXTINGUISHER	STANDARD
CHILD CHECK MATE	STANDARD
CUP HOLDER	STANDARD

DRIVER JACKET HOOK
RADIO & 4 SPEAKERS

STANDARD
STANDARD

Manalapan-Englishtown Regional School District
New Jersey Department of Environmental Protection - Volkswagen Mitigation Application
Fleet Spreadsheet

Existing Vehicle					Replacement Vehicle				
Vehicle Number	Model Year	Horsepower	Annual Hours	Annual Fuel	Replacement Model Year	Replacement Fuel Type	Replacement Cost	Charging Infrastructure	Funding Request
1	2000	190	1,000 - 2,000	1,970 gallons	2021	All-electric	\$ 427,297.00	\$ 10,000.00	\$ 437,297.00
2	2001	190	1,000 - 2,000	2,200 gallons	2021	All-electric	\$ 427,297.00	\$ 10,000.00	\$ 437,297.00
3	2002	190	1,000 - 2,000	2,400 gallons	2021	All-electric	\$ 427,297.00	\$ 10,000.00	\$ 437,297.00
4	2002	190	1,000 - 2,000	1,700 gallons	2021	All-electric	\$ 427,297.00	\$ 10,000.00	\$ 437,297.00
						Totals:	\$ 1,709,188.00	\$ 40,000.00	\$ 1,749,188.00