BURLINGTON

State of New Jersey

Department of Environmental Protection

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

BOB MARTIN
Commissioner

PROJECT SOLICITATION

OVERALL GOAL

The State of New Jersey, as a potential 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. Additional opportunities will be provided for public input during the upcoming months.

Submissions must be received by January 31, 2018 and 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 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 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)

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 (up to 100% if government owned). Electric charging infrastructure costs are eligible expense.
8. Forklifts and Port Cargo Handling Equipment	Repower and replacement	Up to 75% to repower or replace with electric (up to 100% if government owned). Electric charging infrastructure costs are 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 up to 25% for lower volume.

PROJECT PROPOSALS

Proposals must be submitted by close of business on January 31, 2018. 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

Organization Name	City of Burlington
Organization Address	City Hall, 525 High Street
City, State Zip Code	Burlington, NJ 08016
Contact Person	David Ballard
Title/Position	City Administrator
Phone	609-386-0200
E-mail	dballard@burlingtonnj.us

PROJECT NAME	EVCS Installation in Downtown Burlington

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 1 proposals

If submitting more than one proposal, what is the sponsor's priority of this proposal?

PROJECT BUDGET

Provide total estimated project budget, include source and amount of cost share if applicable.

Since the City has already entered into an agreement with the Electric Vehicle Institute to provide two double-sided Level 2 chargers at no cost, the City total amount requested is $20,000 .

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

Geographic area where emissions reductions will occur? New Jersey & Pennsylvania

Estimated size of population benefitting from the emission reductions? 5 million

Estimated useful life of the project? 10 years

Number of engines/vehicles/vessels/equipment included in the project? 4 EVCSs 2

Estimated emission benefits should be expressed in tons per year (TPY) of emission reduced for NOx and for PM 2.5 over the lifetime of the project. Identify methodology used.

Estimated NOx benefits? 0.04 TPY

Methodology Used? CMAQ analysis

Particulate matter (PM 2.5) benefits? 0.00 TPY

Methodology Used? CMAQ Analysis

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

NA

Project partners, if any? Electric Vehicle Institute and the City of Burlington, Sustainable Jersey
Explain how the project will provide cost effective and technically feasible emission reductions. Cost effectiveness should be expressed in dollars per ton per year of emissions reduced for NOx and for PM 2.5. Electric cars produce fewer greenhouse gases, depending on the source of the electric power. Even when generated from coal-burning plants, electric cars would reduce carbon dioxide emissions by as much as 22 percent when compared to cars. Increase use of electric cars reduce the amount of smog-forming pollutants by as much as 32 to 99 percent.
Estimated timeframe for implementation? Include a project timeline that identifies start and end dates, as well as the timeframe for key milestones. Since all approvals have been issued, installation should be completed within one month of grant approval.
Demonstrated success in implementing similar projects? There are many demonstrated successes in implementing similar projects. For example, Hunterdon Medical Center installed a dual charging station at the hospital in collaboration with Raritan Township using a $10,000 Sustainable Jersey grant. It is available 24 hours a day and it used by hospital employees and those who work or frequent the area. The demand exists in that there are 10,000 electric vehicles on the road in New Jersey and fewer than 1,000 charging stations.
If your proposed project involves alternative fuels, provide a demonstration of current or future plans to provide adequate refueling infrastructure.
Has your organization been approved to receive and expend any other grant funds related to this project? If so, please provide details.
Please provide any additional information that supports this project. This project has been supported by the governing body, the historic commission and the land use board of Burlington City.

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

Installation of Electric Vehicle Charging Stations (EVCS) at the Hoskins House and Lyceum Hall

Brief Project Description

he City of Burlington has made great strides toward installing EVCSs at various locations in the City. City Council has adopted Resolution No. 141-2017 stating that the City believes that the economic development of the community will benefit from the installation of Electric Vehicle Charging Stations by attracting new motorists to the downtown district.
The City has entered into an agreement with the Electric Vehicle Institute (EVI) to provide two double-sided Level 2 Charger at no cost to the City of Burlington. This grant provides for a three-year maintenance and repair warranty. Established in 2010, the Electric Vehicle Institute is a highly-focused electric vehicle (EV) and EV supply equipment (EVSE) company based in Baltimore, Maryland. EVI offers practical, comprehensive engineering and business solutions to organizations in the US and overseas in their implementation of EV infrastructure and initiatives entities by providing a range of cutting edge products, services and solutions in the constantly evolving world of EVs. EVI prides itself on its track record of success and unique team of personnel with over 100 years of EV and project management experience to confidently provide exceptional service to implement an EV infrastructure, programs and initiative to promote electric drive and mass adoption of EVs locally and around the world.

There is a $20,000 fee to install the double-sided Level 2 units at two locations, the Hoskins House located at 202 High Street and Lyceum Hall located at 432 High Street. In addition, there is a one-time network fee of $6,400 to initialize/connect the POS system, credit card reader and to establish merchant services for both installations. It is expected that there may also be some minor electrical work required estimated to cost $3,600. Hence, the total cost to the City will be $30,000.

The City has applied to the NJDEP Workplace Charging Grant Program for a $5,000 grant to leverage this project. In addition, the City has applied for a $10,000 grant from the Sustainable Jersey Gardinier Environmental Fund.

Supplemental Page 2

NJDEP, VW Settlement Grant

Installation of Electric Vehicle Charging Stations (EVCS) at the Hoskins House and Lyceum Hall

Burlington

Funding Requested - $20,000

Brief Project Description

The City of Burlington is a regional destination with a distinctive historic main street, more than twenty unique shops, and dozens of cultural amenities, historic sites, and restaurants. The City consistently draws thousands of visitors year-round and is the first recorded European settlement in New Jersey. The City is making great strides toward installing EVCSs at various locations in the City and is seeking to complement its rich history with environmentally-friendly, state-of-the-art visitor amenities. City Council adopted Resolution No. 141-2017, formalizing its belief that the economic development of the community will benefit from the installation of Electric Vehicle Charging Stations by attracting new motorists to the downtown district.

The City has entered into an agreement with the Electric Vehicle Institute (EVI) to provide Level 2 Chargers at no cost to the City of Burlington. This grant provides for a three-year maintenance and repair warranty. Alongside additional grants through NJDEP and Sustainable Jersey for which the City has applied, Burlington is seeking funding to complete the funding gap. EVCSs have been installed throughout the State of New Jersey; however, there is a significant deficiency of stations, especially in destination locations like Burlington City. The nearest charging stations are at a car dealership located far outside of the City's business district or at a Walmart located more than a mile outside the City.

The sites of the proposed installation are described below. Both locations selected in Burlington City are adjacent to areas where people work, live, and visit. Employees spend one-third of their day with their car sitting in the parking lot while working. This makes workplaces ideal locations for electric vehicle owners to charge throughout the workday.

Hoskins House Installation (202 High Street)

Two (2) Level 2, pedestal charging stations will be installed on West Pearl Street, adjacent to the Hoskins House. Electrical service will be run from the building to the on-street parking spaces. The charging station will be installed on a concrete base and two parking spaces will be marked for use by electric vehicles. The Hoskins House is a federal style, brick rowhouse that is owned and operated as a museum by the City of Burlington.

Lyceum Hall Installation (432 High Street)

A dual Level 2, pedestal charging station will be installed at the side of Lyceum Hall located at 432 High Street. Lyceum Hall was built in 1839 and renovated in 1910 by architect Henry Armitt Brown and it is the most prominent Classical Revival building in the City. Originally constructed as a public lecture hall, theater and cultural center, it was used from 1851 to 1991 as the Burlington City Hall. It is currently used as an art center and was recently renovated.

The charging stations will be located in the parking lot adjacent to the Hall near the electric room and they will be relatively unobtrusive. The charging stations will be installed on a concrete base and two parking spaces will be marked for use by electric vehicles.

Action Plan & Timeline

Impact of Project - Describe how the completion of this project will advance your energy conservation, energy efficiency, energy resilience or renewable energy efforts. Also address how the project will augment existing green team efforts and/or be a catalyst to advance your energy initiatives.

This EVCS project will continue the City's effort to encourage alternative vehicles, to reduce emissions and to reduce the use of fossil fuels. The City has been working with the EV Institute for several years towards installing EVCSs in Downtown Burlington City. This will not only help to make Burlington City an energy leader but will also accommodate and attract electric vehicle owners to our beautiful downtown and riverfront. This action will add to other steps taken in the City to reduce reliance on fossil fuels including the energy audits that have been completed for all the City's schools. By implementing this project, the City will qualify for the Public Electric Vehicle Charging Infrastructure Action through Sustainable Jersey.

Budget Narrative - Describe how the grant funds will be spent. Eligible expenses include: salaries, consultant or contractor service fees, equipment, and supplies. If the total project budget is larger than your grant request, provide the total budget for the project and describe any in-kind or cash matches that have been approved or proposed in next year's budget and/or funding from other sources. Identify the specific NJCEP, utility sponsored, or other state sponsored incentives your program will utilize to fund the project (if applicable).

The City has entered into an agreement with the Electric Vehicle Institute to provide four (4) Level 2 Chargers at no cost to the City of Burlington. There is a $20,000 fee to install the Level 2 units. In addition, there is a one-time network fee of $6,400 to initialize/connect the POS system, credit card reader and to establish merchant services. It is expected that there may also be some minor electrical work required estimated to cost $3,600. Hence, the total cost to the City will be $30,000.

The City was recently awarded a $10,000 grant from the Sustainable Jersey Gardinier Environmental Fund for this project. Hence, the total amount requested from the Volkswagen settlement is $20,000.

The City has applied to the NJDEP Workplace Charging Grant Program for a $5,000 grant to leverage this project.

Evaluation - Describe how the impact of the project will be measured. This grant does not require a rigorous or formal evaluation process. However, grant recipients are expected to report on specific and/or measurable results or outcomes and other non-quantifiable impacts.

The EVCS will be part of a network of stations so if will be advertised via the internet and GPS.

Estimated emission benefits expressed in tons per year of emission reduced for NOx and for PM 2.5 over the lifetime of the project. Identify methodology used.

The following assumptions were used to calculate emissions benefits:

- EVCS will be used eight hours per day, 300 days per year
- EVCS charges 25 miles per hour

- Cost of EVCS is $20,000 per unit
- EVCS will offset four trips per day at 20 miles/trip for a conventional light-duty vehicle
- Each offset trip would have covered 20 miles at average speed of 35 mph
- The average fleet-level emission rates for travel at 35 miles per hour are 0.338 grams per mile for NOx and 0.013 grams per mile for $PM_{2.5}$;
- Project lifetime is ten years
- Emission rates are 0.33 grams/mile for NOX and 0.013 grams/mile for $PM_{2.5}$

Annual VMT Reduction: 20 miles/trip x 4 trips/day x 300 days per year = **24,000 miles**

Annual Emission Benefit (grams):
NOX: 0.33 x 24,000 = **7,920 grams/year** x 2 EVCS x 2 chargers per EVSE= **31,680 grams/year**
$PM_{2.5}$: 0.013 x 24,000 = **312 grams/year** x 2 EVCS x 2 chargers per EVSE= **1,248 grams/year**

Project Lifetime Emission Benefit (ten years):
NOX: 31,680 grams/year x 10 = **316,800 grams**
$PM_{2.5}$: 1,248 grams/year x 10 = **12,480 grams**

Explain how the EVCS will provide cost effective and technically feasible emission reductions. Cost effectiveness should be expressed in dollars per ton per year of emissions reduced for NOx and PM 2.5.

Project Lifetime Emission Benefit (ten years):
NOX: 31,680 grams/year x 10 = **316,800 grams = 0.349 tons**
$PM_{2.5}$: 1,248 grams/year x 10 = **12,480 grams = 0.013 tons**

NOX: $20,000/0.349 tons = $57,207/ton
$PM_{2.5}$: $20,000/0.013 tons = $1,238,461/ton

Since this grant submission is for four EVCS, the proposed project will result in lifetime emissions reductions of 0.349 tons for NOX and 0.013 tons for $PM_{2.5}$. When the project cost is divided by the emission benefit, a cost effectiveness of $85,959/ton for NOX and $2,307,692/ton for $PM_{2.5}$ is yielded.

Data Source/Methodology: CMAQ Analysis
https://www.fhwa.dot.gov/ENVIRonment/air_quality/cmaq/reference/cost_effectiveness_tables/report/costeff02.cfm
https://www.rita.dot.gov/bts/sites/rita.dot.gov.bts/files/publications/national_transportation_statistics/html/table_04_43.html

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

Since all approvals have already been issued, installation should be completed within one month of approval.

Demonstrated success in implementing similar projects?

There are many demonstrated successes in implementing similar projects. For example, Hunterdon Medical Center installed a dual charging station at the hospital in collaboration with Raritan

Township using a $10,000 Sustainable Jersey grant. It is available 24 hours a day and it used by hospital employees and those who work or frequent the area.

Burlington City is a designated transit village, which represents the City's commitment to smart growth principles. The City views the adoption of electric vehicles as part of a smart growth strategy that decreases emissions and increases the quality of life for residents and visitors.

The demand exists in that there are 10,000 electric vehicles on the road in New Jersey and fewer than 1,000 charging stations, many of which are not accessible to the public.

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

The Downtown Burlington project will provide critically needed EVCSs in the business district of this destination community. This project will add needed alternative fuel infrastructure to not only serve Burlington City but the surrounding region as well.

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

No, however, the City has applied to the NJDEP Workplace Charging Grant Program for a $5,000 grant to leverage this project. In addition, the City has applied for a $10,000 grant from the Sustainable Jersey Gardinier Environmental Fund.

Please provide any additional information that supports this project.

This project has been supported by the governing body, the historic commission and the land use board of Burlington City.

Burlington is a community that faces environmental justice issues. With more than nine percent of its residents with incomes below the poverty level, 7.1 percent of families below the poverty level, 15% of households receiving food stamp/SNAP benefits, and ten percent of the population being foreign born as of 2016, a significant portion of the community has a vulnerable socioeconomic status. The presence of significant polluting sources in Burlington puts the City's and region's population at risk for health complications resulting from noxious emissions, particularly for vulnerable segments of the community. There are twelve sites on the Toxic Release Inventory with Burlington's zip code, including an active pipe foundry, natural gas- powered generation plant, and a PVC compound manufacturer. In addition, there are several brownfields in Burlington, and significant air pollution owing to its location near major highways and a toll plaza for an interstate bridge. The provision of electric vehicle charging stations may encourage additional electric vehicles in the community and region, thereby leading to marginally fewer emissions.

Burlington sees considerable vehicle and visitor traffic that bolsters its case for the installation of an EVSE. The one-way street on which Hoskins House is located has an AADT of 1,062 vehicles as measured in 2014. The section of street on which Lyceum Hall is located has an AADT of 7,710 vehicles. US-130 in Burlington has measured AADTs more than 30,000 vehicles throughout its length in the City. In addition, the heavily-trafficked Interstate 295 and New Jersey Turnpike are located just outside Burlington's boundaries (exits 47A/B and 5, respectively). There is considerable regional traffic passing through and around Burlington that would make the placement of an EVCS within the

City ideal and convenient for both City residents and visitors. This project may also result in more visitors to the City, such as electric vehicle owners traveling to Pennsylvania or along the Turnpike who would like to stop and charge their vehicles along the way. These visitors may be attracted to Burlington because of its considerable amenities, rather than merely use an EVCS closest to the highway exit.

The Delaware Valley Regional Planning Commission has released estimates for PHEV/AEV sales for southeast PA (https://www.dvrpc.org/Reports/12055A.pdf). Southeast Pennsylvania is closely connected to southern New Jersey and accounts for a large portion of visits and travel to the region. The Delaware Valley Regional Planning Commission predicts that by 2020 there will be more than 17,000 electric vehicles deployed in the five southeastern counties in Pennsylvania. These counties are anticipated to account for a higher proportion of EVs than any other region of Pennsylvania. Given Burlington's adjacency to this region, the City anticipates a higher traffic volume of electric vehicles in the region's future.