CAPE MAY CITY

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.<br><br>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.<br>Up to 80% to purchase, install and maintain infrastructure if available to public at *non-government owned* property.<br>Up to 60% to purchase, install and maintain infrastructure at a workplace or multi-unit dwelling that is not available to the general public.<br>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 Cape May |
| Organization Address | City Hall, 643 Washington Street |
| City, State Zip Code | Cape May, NJ 08204 |
| Contact Person | Neil Young |
| Title/Position | City Manager |
| Phone | (609) 884-9592 |
| E-mail | nyoung@capemaycity.com |

| | |
|---|---|
| **PROJECT NAME** | EVCS Installation in Cape May City |

**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.

The City would like to install two dual EVCSs on publicly owned property, City Transportation Center and Elementary School and a single EVCS on private property at Cape May Lutheran Church, 509 Pittsburg Avenue.

**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 ~~3~~ 3

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? 0.43 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?<br>City of Cape May and Cape May City Green Team |
| 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.<br>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.<br><br>Installation should be completed within four months of grant approval. |
| Demonstrated success in implementing similar projects?<br>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.<br>This project has been supported by the governing body and the Cape May City Green Team. |

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

The sites of the proposed installation are described below. All locations selected in Cape May 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.

Cape May City Transportation Center (609 Lafayette Street)

A dual Level 2, pedestal charging station will be installed on Lafayette Street in front of the Transportation Center. Electrical service will be run from the building to the 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 Transportation Center also serves as a tourist center and is served by NJ Transit. It is owned by the City of Cape May.

Cape May City Elementary School (921 Lafayette Street)

A dual Level 2, pedestal charging station will be installed at the side of the Cape May City Elementary School located at 921 Lafayette Street. The charging stations will be located in the parking lot adjacent to the School 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. The School parking lot is used during the high season for tourist parking and trolleys take visitors from the parking lot to points of interest throughout the City.

Cape May Lutheran Church (509 Pittsburg Avenue)

A single Level 2 pedestal changing station will be installed in the parking lot of Cape May Lutheran Church at 509 Pittsburg Avenue. The Church is a sustainable building with rooftop solar arrays and the EVCS will add to the church's mission of sustainability. The Church is located on the other side of the City from the Elementary School, so this will offer another option to residents and visitors of Cape May City and the church's congregation.

**NJDEP, VW Settlement Grant**

**Installation of Electric Vehicle Charging Stations (EVCSs)**

**Cape May City**

**Requested Funding - $60,000**

**Brief Project Description**

The City of City is a national destination with distinctive historic homes, an attractive pedestrian shopping mall, and dozens of cultural amenities, historic sites, and restaurants. The City consistently draws thousands of visitors year-round. Cape May City is recognized as one America's top 10 beaches by the Travel Channel. The entire city is designated a National Historic Landmark due to its concentration of Victorian buildings.

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. 159-07-2017, formalizing its support for pursuing grants to fund the installation of Electric Vehicle Charging Stations.

EVCSs have been installed throughout the State of New Jersey; however, there is a significant deficiency of stations, especially in destination locations like Cape May City. The nearest public charging stations is in the Borough of Avalon, 13 miles north of Cape May City.

The sites of the proposed installation are described below. All locations selected in Cape May 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.

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the EVCS will add to the church's mission of sustainability. The Church is located on the other side of the City from the Elementary School, so this will offer another option to residents and visitors of Cape May City and the church's congregation.

**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 towns installing EVCSs for several years. In 2016 the City was awarded a "It Pays to Plug In" Grant; however, this grant was limited to $10,000 and additional funding was not available.

This grant will not only help to make Cape May City an energy leader but will also accommodate and attract electric vehicle owners to our beautiful City. This action will add to other steps taken in the City to reduce reliance on fossil fuels including the energy audits and Energy Saving Improvement Plan that have been completed for all the City's buildings and the elementary school and the installation of a wind turbine at the school. By implementing this project, the City will qualify for the Public Electric Vehicle Charging Infrastructure Action through Sustainable Jersey. Cape May City has led the State on four occasions in receiving the most points in New Jersey for a small community.

**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).**

Funding is requested to purchase, install and maintain two dual head Level 2 EVCS and one single head Level 2 EVCS, all will be rated at 25 mph or more. The cost be EVCS is $20,000 for a total cost of $60,000. This cost includes a 5 year network and maintenance fee.

**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 3 EVCS = **23,760 grams/year**
$PM_{2.5}$: 0.013 x 24,000 = **312 grams/year** x 3 EVCS = **936 grams/year**

Project Lifetime Emission Benefit (ten years):
NOX: 23,760 grams/year x 10 = **237,600 grams**
$PM_{2.5}$: 936 grams/year x 10 = **9,360 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: 36,760 grams/year x 10 = **237,600 grams = .26**
$PM_{2.5}$: 936 grams/year x 10 = **9,360 grams = 0.010**

**NOX: $60,000/0.26 tons = $230,769/ton**
**$PM_{2.5}$: $60,000/0.01 tons = $6,000,000/ton**

Since this grant submission is for five EVCS, the proposed project will result in lifetime emissions reductions of 0.43 tons for NOX and 0.017 tons for $PM_{2.5}$. When the project cost is divided by the emission benefit, a cost effectiveness of $230,769/ton for NOX and $6,000,000/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.**

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.

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.**

This project will provide critically needed EVCSs throughout the City. This project will add needed alternative fuel infrastructure to not only serve Cape May 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.**

Yes, the City has was awarded a NJDEP Workplace Charging Grant for $10,000.

**Please provide any additional information that supports this project.**

This project has been supported by the governing body and the Cape May City Green Team.

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 the fact that many of the visitors to Cape May City come from Southeast Pennsylvania, the City anticipates a higher traffic volume of electric vehicles in the region's future.

**CITY OF CAPE MAY, COUNTY OF CAPE MAY, STATE OF NEW JERSEY**

**RESOLUTION NO. 159-07-2017**

**RESOLUTION OF SUPPORT FROM LOCAL GOVERNING BODY AUTHORIZING THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION GRANT APPLICATION**

**MOTION: Mahaney** **SECOND: Meier**

**WHEREAS,** the New Jersey Department of Environmental Protection provides grants to municipalities to offset the cost of purchasing and installing electric vehicle charging stations; and

**WHEREAS,** this grant program is designed to support and encourage individuals to purchase and drive electric vehicles, which reduces vehicle emissions; and

**WHEREAS,** the City of Cape May strives to save tax dollars, assure clean land, air and water, and improve working and living environments; and

**WHEREAS,** a sustainable community seeks to optimize quality of life for its residents by ensuring that its environmental, economic and social objectives are balanced and mutually supportive; and

**WHEREAS,** the City of Cape May is participating in the Sustainable Jersey Program and is one of only 33 communities in the State to be Silver Certified.

**NOW, THEREFORE, BE IT RESOLVED,** that governing body of the City of Cape May, State of New Jersey, authorizes the submission of the aforementioned grant.

**BE IT FURTHER RESOLVED,** that the mayor be authorized to execute grant agreements for the aforementioned grant.

I hereby certify the foregoing to be an original resolution adopted by the City Council of the City of Cape May at a meeting held on July 5, 2016.

Louise Cummiskey, City Clerk

| Roll Call | Ayes | Nays | Absent | Abstain |
|---|---|---|---|---|
| Furlin | X | | | |
| Meier | X | | | |
| Pessagno | X | | | |
| Swain | X | | | |
| Mahaney | X | | | |

State of New Jersey

CHRIS CHRISTIE
*Governor*

KIM GUADAGNO
*Lt. Governor*

Department of Environmental Protection
AIR QUALITY, ENERGY AND SUSTAINABILITY
Division of Air Quality
Bureau of Mobile Sources
Mail code 401-02E
Post Office Box 420
Trenton, NJ 08625-0420
Tel: (609) 292-7953, Fax: (609) 633-8236
DriveGreen.nj.gov

BOB MARTIN
*Commissioner*

July 27, 2016

Bruce MacLeod
City Manager, Cape May City
643 Washington Street
Cape May City, NJ 08204

Dear Mr. MacLeod:

Congratulations! Your workplace has been approved for an It Pays to Plug In: NJ's Electric Vehicle Workplace Charging Grant in the amount of $10,000. We will be drafting a Grant Agreement for your signature promptly and will be sending it to you via Certified Mail with instructions.
To ensure reimbursement under this program, you should not undertake construction of a charging station until the Grant Agreement is finalized.

Sincerely,

Brittany Pfeiffer
(609) 633-7237
Brittany.Pfeiffer@dep.nj.gov