Request for Proposals

Phase 2

Clean Heavy-Duty Equipment and Vehicle Program

GMS Program ID: NCDEQDAQ0013

Contents

I. Request for Proposals (RFP) Timeline

Release of RFP	May 16, 2022
Application open in DAQ Grants Management System	May 16, 2022
NCDAQ Grant Management System new users webinar	May 23-27, 2022
Program RFP information session Information sessions will be online, and registration is required. Dates and times will be posted on our website, https://deq.nc.gov/VW-CleanHDV-RFP.	May 30 – June 15, 2022
Deadline to request access to the DAQ Grants Management System to guarantee access before application deadline	**August 1, 2022**
Proposal applications due date	August 15, 2022
Proposal application evaluations	August – September 2022
Phase 2 project selections	October 2022
Grant awards announced	October 2022

Timeline changes: NCDEQ reserves the right to adjust the dates listed above. Any changes or additional information regarding the RFP schedule, including responses to questions, will be posted on the NC VW Settlement RFP website at: https://deq.nc.gov/VW-CleanHDV-RFP.

II. Overview

Summary

The North Carolina Division of Air Quality (NCDAQ) in the North Carolina Department of Environmental Quality (NCDEQ) is soliciting proposal applications for participation in Phase 2 of the NC Volkswagen Mitigation Settlement Program. Approximately $12.9 million will be available in Phase 2 for the Clean Heavy-Duty Equipment and Vehicle Program.

This program is designed to achieve significant reductions in diesel emissions by replacing old diesel-powered vehicles and heavy-duty equipment with new, cleaner technology, particularly electric vehicles. Repowers for freight switchers and ferries/tugs may also be funded, as may projects that add shorepower to ocean-going vessels.

This Request for Proposal (RFP) will assist interested parties in applying for funds to mitigate nitrogen oxide (NOx) emissions from mobile sources, as described by the North Carolina VW Mitigation Plan (https://deq.nc.gov/VWsettlement). This document includes information on who may apply for funding, the funding levels for the program, project eligibility, funding priorities for Phase 2, fund match

requirements, activities eligible for funding, and other information that will help applicants plan their project and submit a competitive application.

The Clean Heavy-Duty Equipment and Vehicle Program application instructions will be available on the NC VW Settlement webpage, https://deq.nc.gov/VW-CleanHDV-RFP. All applications must be submitted on the DAQ Grant Management System (GMS) website, at https://www.ebs.nc.gov/irj/portal, **no later than 11:59 p.m. Eastern Time on August 15, 2022**.

Eligible Applicants

For Phase 2, eligible projects for this RFP include projects submitted by:

- Local, state, and tribal government organizations.
- Public or private nonprofit organizations (incorporated nonprofit – organizations as described in section 501(c)(3) of the Federal Internal Revenue Code of 1954, as amended. The organization must be incorporated under NC law or registered with the NC Department of the Secretary of State).
- Public-private partnerships where the lead applicant represents a public sector, public or private nonprofit organization.

Ineligible Applicants

Organizations that are currently debarred by the State of North Carolina[1] and/or federal government[2] are ineligible applicants.

NCDEQ may also deem an applicant ineligible because of, but not limited to, environmental compliance issues, labor standards issues, tax status or other such legally enforceable issues.

III. Funding

This RFP is part of Phase 2 (2022 – 2024) of the NC VW Settlement Program which combines funding for previously proposed Phases 2 and 3 with a total amount of $67.9 million available. This final phase of funding represents the remaining step in achieving our multi-year goals for the program.

NCDEQ may fund projects for Phase 2 up to 100% of the cost of the replacement or repower[3] of equipment or vehicles for government projects (subject to the availability of funds, quality of evaluated proposal applications, and other applicable considerations). NCDEQ reserves the right to partially fund proposal applications by funding discrete portions of proposed projects. Additionally, NCDEQ reserves the right to make additional awards under this announcement if additional funding becomes available after the original project selections.

Public and private nonprofit projects are subject to a cost share based on the vehicle/equipment type, as defined in the Cost Share Requirements section below. Note that Government is defined in Appendix D-2 of the VW State Trust Agreement and Appendix G of this document.

[1] North Carolina Department of Administration, https://ncadmin.nc.gov/government-agencies/procurement/contracts/debarred-vendors

[2] United States Department of Labor, https://www.dol.gov/ofccp/regs/compliance/preaward/debarlst.htm

[3] Only freight switchers and ferries/tugs are eligible for repower projects. Repowers for other vehicle types will not be funded.

Funding Type

NCDEQ anticipates awarding a total of approximately $12.9 million toward clean heavy-duty equipment and vehicle replacement projects in Phase 2. Applications will be prioritized by the urban-suburban/rural split described in the NC VW Mitigation Plan using the NC Rural Center[4] classification for counties, allocating 68% (~$8,784,587) of the funds for urban and suburban counties and 32% (~$4,133,924) for rural counties in Phase 2. Funding for infrastructure included as part of an all-electric vehicle replacement will be capped at a maximum of $75,000 per vehicle.

Funding Levels for Clean Heavy-Duty Vehicle Program

NC Grant Program	Eligible Action Category	Eligible Fuels*	Phase 2 Funding Levels	
			Targeted Percent**	Targeted Program Funding Amount
Clean heavy-duty equipment & vehicle program	Class 4-8 local freight trucks, switcher locomotives, ferries, tugs, forklifts, port cargo handling equipment, ocean-going vessel shorepower, airport ground support equipment	All (diesel, propane, natural gas, electric)	20%	$12,918,511
	Total:			**$12,918,511**

*Electrification projects are a priority in Phase 2.
**Infrastructure cost will be funded at a maximum amount of $75,000 per all-electric vehicle or equipment.

Cost Share Requirements

Maximum funding percentages for selected projects depend on the Eligible Mitigation Action type, the fuel type of the replacement/repower (diesel, alternative fuel[5], and all-electric), and whether it is a government (public) or nonprofit (private) owned fleet; however, maximum funding for any project proposal application is not guaranteed. NCDEQ may partially fund a proposal application by funding a portion of a proposed project. Applicants receiving funding will be notified of the actual amount awarded for their project. Applicants awarded funding have the option to accept or decline the award. The Trustee may only disburse funds for Eligible Mitigation Actions as outlined in the Volkswagen Consent Decree Appendix D-2.

Public-private partnerships are agreements that involve a contract between a public-sector authority and a private party, in which the private party provides a public-sector service or project and assumes substantial financial, technical and operational risk in the project. For projects that are public-private partnerships, the ownership of the original and replacement equipment or vehicle will determine the maximum funding percentages. Public-private partnership projects where the original and replacement equipment or vehicle is owned by the public entity will be eligible for the maximum funding percentages

[4] https://www.nccommerce.com/blog/2015/07/09/rural-center-expands-its-classification-north-carolina-counties

[5] Alternative fuels include biodiesel, compressed natural gas, diesel hybrid-electric, liquid natural gas, and liquid propane gas or liquefied petroleum gas.

allowed under government-owned vehicle categories found in the tables below. Public-private partnership projects where the original and replacement equipment or vehicle is owned by the private entity will be eligible for the maximum funding percentages allowed under non-government categories found in the tables below.

Clean Heavy-Duty Vehicle and Equipment Program Maximum Funding Amounts

Class 8 Local Freight Trucks and Port Drayage Trucks*

Replacement	Diesel		Alternative Fuel		All-Electric	
	Local Freight	Drayage	Local Freight	Drayage	Local Freight	Drayage
Government	100%	NA	100%	NA	100%	NA
Non-Government	25%	50%	25%	50%	75%	

*Eligible trucks include 1992-2009 engine model year Class 8 Local Freight trucks with a minimum of 7,000 annual miles or Drayage trucks.

Class 4-7 Local Freight Trucks*

Replacement	Diesel	Alternative Fuel	All-Electric
Government	100%	100%	100%
Non-Government	25%	25%	75%

*Eligible trucks include 1992-2009 engine model year Class 4-7 Local Freight Trucks with a minimum of 7,000 annual miles. Eligible trucks may be replaced with any new diesel or alternate fuel or all-electric vehicle, with the engine model year in which the eligible trucks mitigation action occurs or one engine model year prior.

Freight Switchers*

Replacement	Diesel	Alternative Fuel	All-Electric
Government	100%	100%	100%
Non-Government	25%	25%	75%

Repower	Diesel	Alternative Fuel	All-Electric
Government	100%	100%	100%
Non-Government	40%	40%	75%

*Eligible freight switchers include pre-Tier 4 switcher locomotives that operate 1,000 or more hours per year.

Ferries/Tugs*

Repower	Diesel	Alternative Fuel	All-Electric
Government	100%	100%	100%
Non-Government	40%	40%	75%

*Eligible ferries and/or tugs include unregulated, Tier 1 or Tier 2, marine engines.

Ocean Going Vessels (OGV) Shorepower*

Shorepower	All-Electric
Government	100%
Non-Government	25%

*Marine shorepower systems must comply with international shorepower 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) and should be supplied with power sourced from the local utility grid.

Airport Ground Support Equipment*

Replacement	All-Electric
Government	100%
Non-Government	75%

*Eligible airport ground support equipment includes: 1) Tier 0, Tier 1 or Tier 2 diesel-powered airport ground support equipment and 2) uncertified or certified to 3g/bhp-hr. or higher emissions, spark ignition engine powered airport support equipment.

Forklifts and Port Cargo Handling Equipment*

Replacement	All-Electric
Government	100%
Non-Government	75%

*Eligible forklifts include forklifts with greater than 8,000 pounds lift capacity. Eligible port cargo handling equipment includes rubber-tired gantry cranes, straddle carriers, shuttle carriers, and terminal tractors, including yard hostlers and yard tractors that operate within ports.

IV. How to Apply

NCDEQ will only accept applications submitted through the NCDAQ Grant Management System (GMS) website, at https://www.ebs.nc.gov/irj/portal. Prior to using the GMS, applicants must obtain an NCID and complete and return the NCDEQ-AQ-GMS-ACCESS-AUTHORIZATION-FORM and the State of North Carolina Substitute W-9 Form to get registered in the system. **Applicants not currently registered in the GMS should request access well before August 1, 2022**. The GMS contains tutorials on how to use the system, submitting applications and submitting claims. The application will not be viewable in the GMS until May 16, 2022. **The Program ID in the DAQ Grants Management System for the Clean Heavy-Duty Equipment and Vehicle Program is NCDEQDAQ0013.**

All applications will require the following information, at minimum, to be submitted via GMS:

1. Organization name, address, Organization Tax ID number, contact information
2. Project location
    a. Address
    b. County
    c. GPS coordinates (decimal format)
3. Project Type
    a. Government
    b. Non-Government
    c. Non-Profit
4. Itemized project quotes
5. For electrification projects only:
    a. Charging unit information
    b. Manufacturer
    c. Model
    d. Charging capacity in kW
    e. Warranty period
6. Identification of any additional rebates, grants, or other financial incentives applied for or received for project.

Applications, all required attachments, and supporting documentation must be submitted electronically using the GMS website, at https://www.ebs.nc.gov/irj/portal, to be considered for funding. Incomplete applications will be returned. This application and any supplemental information provided will serve as the primary means by which all applications are evaluated and approved for funding.

If you have any questions about this RFP, please contact NCDEQ at daq.NC_VWGrants@ncdenr.gov with Subject line: “Clean Heavy-duty Vehicle Program RFP” prior to submitting your application.

Application Requirements

Applications, copies of quotes, required pictures and supporting documentation must be submitted electronically using GMS. Applicants must completely fill out the application form to be considered for funding. Applicants must include a price quote on letterhead from the original equipment manufacturer (OEM) for any vehicles or equipment to be purchased. The quote must be dated within six months immediately preceding the date the application is submitted. **Incomplete applications will not be considered**. This application and any supplemental information provided will serve as the primary means by which all applications are evaluated, and projects selected. NCDEQ may contact you or your organization for clarification and/or supplemental information, so please ensure the contact information you provide is accurate; applicants will have 10 business days to respond to any such requests.

This is a competitive application process. To be considered for funding in Phase 2 (2022 to 2024), completed applications must be submitted in the GMS **no later than 11:59 p.m. Eastern Time on August 15, 2022**. The application will open in the GMS on May 16, 2022. A sample application will be available on https://deq.nc.gov/VW-CleanHDV-RFP. If you have any questions about this application, please contact NCDEQ at daq.NC_VWGrants@ncdenr.gov with Subject line "Clean Heavy-duty Vehicle Program RFP" prior to submitting your application and well in advance of the submission deadline.

Projects initiated prior to submitting a proposal application and having a signed executed contract are not eligible for funding. Project initiation activities that can disqualify an application include approving the total cost of the project in a budget, ordering vehicles/equipment or hiring a contractor/vendor to complete the project. Submittal of a proposal application is not a guarantee that a proposed project will be funded.

Additional required information for applications:

- Actual quotes from OEM for vehicle being replaced including quotes for infrastructure for all-electric vehicle projects.
- Pictures of original vehicle.

Awarded applicants must:

- Unless otherwise stipulated, procure the new vehicles or equipment and take delivery no later than two years from the date of a signed executed contract with NCDEQ;
- Render the replaced vehicles inoperable by cutting a 3-inch hole in the engine block for all engines and disabling the chassis by cutting the vehicle's frame rails completely in half which must be completed within six months of delivery of the new vehicle (see instructions on NCDAQ Form 001, Certificate of Destruction[6]);
- Agree to keep the replaced vehicle operational in North Carolina, with emission controls in place, for a minimum of five years;
- Provide NCDEQ with all documentation required for reimbursement; and
- Submit a semi-annual progress report starting no later than six months after execution of a contract with NCDEQ for the duration of contract. The report shall include a summary of the current project status (including the actual or projected termination date, project development and implementation activities, and any modifications to the project).

General Requirements

[6] NC DAQ Form 001 can be found at https://deq.nc.gov/vw-settlement/forms

The following are general requirements that applicants will be expected to certify or describe in the narrative or in additional documentation uploaded as attachments to the online application form.

- Existing on-road vehicles must be registered in North Carolina for operation on public highways. This includes vehicles registered in North Carolina under the Division of Motor Vehicles' International Registration Plan (IRP).
- Eligible tugs and ferries must be registered with the U.S. Coast Guard.
- Applications must demonstrate that the applicant has the financial resources to cover the cost of the vehicle or equipment purchases included in the application and explain the funding source that will cover the cost of project expenditures until reimbursement from the grant is approved.
- Current Use: Applications must describe how, when and where the vehicles or equipment are currently used in normal duty service, including any seasonal changes in operation or periods when not in use. If operated on routes that regularly take the vehicles into counties that are not listed as priority counties for this program, explain the percentage of use that occurs outside the priority counties. If the project includes drayage trucks, identify the ports and intermodal facilities the drayage trucks haul cargo to and from.
- New Use: Applications must describe any differences between how the replacement vehicles or equipment will be used, compared to how the current vehicles or equipment are used.
- Alternative Fuel Availability: Applications must explain the availability of electric charging stations or the alternative fuel in the areas where the vehicle will be most frequently driven or operated. If the applicant does not own a charging or fueling station on site, give the location of the publicly available charging or fueling station most likely to be used, or document that the fleet has been granted access to some other charging or fueling station.
- The costs of preparing and submitting proposals in response to this RFP are solely the responsibility of the applicant. The program shall not reimburse or contribute, in any way, to the cost of the preparation and submittal of the proposal.

Ineligible costs include but may not be limited to:

- Operating expenses and fuel costs, including incremental costs of fuel.
- Any project required by any law or other legally binding agreement.
- Work done or purchases made prior to signing of fully executed contract with NCDEQ.
- Costs incurred for work or purchases not included in the approved project scope.
- Installation costs incurred from in-kind services or by an unauthorized vendor.
- Administrative costs.

Emissions Reductions Quantification

NCDEQ will quantify the emission reductions resulting from the project by using the information included in a complete application. If information on emission reductions from a specific piece of equipment/engine is available from the vendor, this should be included as an attachment to the application. Emission reductions will be quantified using the USEPA Diesel Emission Quantifier [7]. While there are other tools for quantifying emissions, NCDEQ will use the EPA tool as the standard for this process. If you are having trouble gathering the required information for this application, please contact NCDEQ at daq.NC_VWGrants@ncdenr.gov with subject line: "Clean Heavy-duty Vehicle Program RFP" well in advance of the submission deadline as we may be able to provide some assistance.

[7] The USEPA Diesel Emission Quantifier is available at: https://cfpub.epa.gov/quantifier

Project Awards

Applicants selected for funding shall have two years to complete their project from the date of a signed executed contract with NCDEQ. If an application shows that the project cannot be completed in two years, it will not be selected for funding. Finally, the majority of Eligible Mitigation Actions require the existing vehicle and/or engine to be rendered permanently inoperable. From Appendix D-2 of the VW State Trust Agreement:

> "Scrapped" shall mean 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.

Public Data

All applications are public record per North Carolina General Statutes §132-1, except for "confidential" or "trade secret" data as defined and classified in North Carolina General Statutes §66-152(3) and must be indicated as such by the applicant at the time of the initial application submittal.

V. Use of Funds - Restrictions

1. **Original Equipment/Vehicle:** No funds awarded under this RFP shall be used to cover expenses to replace non-diesel equipment or vehicles.
2. **Replacement Equipment/Vehicle:** All replacement equipment and vehicles must be EPA or CARB certified/verified to be eligible for funding.
3. **Original vehicle minimum annual mileage:** All original on-road vehicles must have a minimum annual mileage of 7,000 or more miles to be eligible for replacement.
4. **Expenses Incurred Prior to the Project Period:** No funds awarded under this RFP shall be used to cover expenses incurred prior to the project period set forth in any contract agreement funded under this RFP.
5. **Emissions Testing:** No funds awarded under this RFP shall be used for emissions testing and/or air monitoring activities (including the acquisition cost of emissions testing equipment) or for research and development activities.
6. **Fueling Infrastructure:** No funds awarded under this RFP shall be used for fueling infrastructure, such as that used for the production and/or distribution of biodiesel, compressed natural gas, liquefied natural gas, and/or other fuels (except for projects where an all-electric vehicle or equipment with charging infrastructure is replacing a diesel vehicle or equipment).
7. **DERA Option**: Pursuant to 42 U.S.C. 16132(d)(2), no funds awarded under the DERA Option shall be used to fund the costs of emission reductions that are mandated under federal law. Trust funds shall not be used to meet non-federal mandatory cost share requirements, as defined in applicable DERA program guidance, of any DERA grant. Projects are subject to all DERA program requirements[8].

[8] US EPA Clean Diesel State Allocations, https://www.epa.gov/cleandiesel/clean-diesel-state-allocations

8. **Fleet Expansion:** Funding under this RFP cannot be used for the purchase of vehicles, engines, or equipment to expand a fleet. Engine, vehicle, and equipment replacement projects are eligible for funding on the condition that all of the following criteria are satisfied:
    a. The replacement vehicle or equipment will continue to perform the same function and operation as the vehicle, engine, or equipment that is being replaced.
    b. The replacement vehicle or equipment will be of the same type and similar gross vehicle weight rating or horsepower as the vehicle or equipment being replaced.
9. **Equipment/Vehicle Operation Requirements**: Original equipment or vehicle must have been in operation in North Carolina for the previous 12 months to be eligible. Funding under this RFP cannot be used for original and replacement equipment or vehicles that do not operate in the state of North Carolina for at least 70% of the time.
10. No funds awarded under this RFP shall be used to retrofit, replace, upgrade or install idle reduction technologies for non-DERA Option projects.
11. Third-party administrative costs will not be permitted as part of this mitigation.
12. Long haul truck (trucks that travel more than 200 miles) replacement are not eligible for funding.
13. No project under this award is eligible to receive funding for a project that is already receiving funding from another state's share of the VW Trust funds.
14. Auxiliary Power Units (APUs) are only eligible for off-road equipment and vehicles under the DERA Option.
15. All replacement equipment and vehicles must be purchased and not leased.
16. No funds awarded under this RFP shall be used for paper studies or research projects.

VI. Proposal Application Review Process

A combination of evaluation factors will be considered during the proposal application review process. NCDEQ will consider the overall cost effectiveness and the potential for early implementation and completion of each proposal application. Project proposal applications will be selected for funding based on a set of criteria reflecting funding priorities for the program. These factors will guide NCDEQ in giving priority to projects that perform highest overall. To properly compare projects, the proposal applications will be categorized by urban/suburban and rural based on the NC Rural Center Classification[9] found in Appendix A.

The NCDEQ will consider factors such as, but not limited to:

- **Lifetime Cost Effectiveness (VW$ funded per NOx tons reduced):** Lifetime cost effectiveness is based on applicant-provided information using the USEPA Diesel Emission Quantifier tool and if applicable, matching funds.
- **Lifetime NOx Emissions Reductions**: Lifetime NOx emission reduction calculation based on applicant-provided information using the USEPA Diesel Emission Quantifier tool.
- **Location of Project:** Number of VW subject diesel vehicles registered in project area.
- **Environmental Justice Areas:** Projects in environmental justice (EJ) areas and other communities that have historically borne a disproportionate share of the adverse impacts of air pollution from sources including, but not limited to, transportation hubs/corridors, ports, rail yards, truck stops, airports, terminals and bus depots (see Appendix B).

[9] https://www.nccommerce.com/blog/2015/07/09/rural-center-expands-its-classification-north-carolina-counties

- **Other Selection Criteria:** Additional criteria employed as necessary for the selection of proposal applications (e.g., innovative technology or approaches).

Although cost-sharing/matching is not required as a condition of eligibility under this competition except as outlined in the Cost Share Requirements section above, NCDEQ will evaluate proposal applications based on a leveraging criterion. Leveraging is generally when an applicant proposes to provide its own additional funds/resources or those from third-party sources to support or complement the project they are awarded. Any leveraged funds/resources, and their source, must be identified in the proposal application. Leveraged funds and resources may take various forms.

Voluntary cost share is a form of leveraging. Voluntary cost sharing is when an applicant proposes to legally commit to provide contributions to support the project when a cost share is not required. Applicants who propose to use a voluntary cost share must include the contributions for the voluntary cost share in the project budget.

If an applicant proposes a voluntary cost share, the following apply:

- A voluntary cost share may not be used on ineligible costs.
- The recipient may not use other sources of federal funds to meet a voluntary cost share unless the statute authorizing the other federal funding allows.
- 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, NCDEQ may reconsider the legitimacy of the award and take appropriate action as authorized.

VII. Project Scoring Criteria

A 100-point scale will be used to evaluate eligible proposal applications. Scores will be used to develop final recommendations. Proposal applications will be evaluated and ranked according to the following criteria:

Lifetime Cost Effectiveness (VW$ funded per NOx tons reduced): Lifetime cost effectiveness is based on applicant provided information using the USEPA Diesel Emission Quantifier10 and if applicable, matching funds. Under this criterion, projects are ranked from most cost effective to least cost effective (i.e. $/amount of Lifetime NOx reduced). Urban/Suburban projects and Rural Projects will be ranked separately.	30
Lifetime NOx Emissions Reductions: Ranked highest to lowest; Lifetime NOx emission reduction calculation based on applicant-provided information using the USEPA Diesel Emission Quantifier tool. Urban/suburban projects and rural projects will be ranked separately.	30
Environmental Justice: See Appendix B for county scores and a detailed description of how county scores are determined.	15
County NOx and VW concentration: Number of registered subject VW vehicles and the mobile NOx emissions for a county. See Appendix C for county scores and a detailed description of how county scores are determined.	15
Vehicle Electrification Project	10
Bonus Points	
Project is located in a Historically Under-Resourced County[11]	10
Total Points Possible	**110**

[10] The USEPA Diesel Emission Quantifier is available at: https://cfpub.epa.gov/quantifier/index.cfm?action=main.home

[10]Historically under-resourced counties are counties that have an underserved population greater than 15% and are designated as a Tier 1 by the NC Department of Commerce as shown in Appendix D.

VIII. Reimbursement of Expenses

Grant payments will be disbursed as **reimbursements after the work is completed, verified and approved**. Verification will occur via site visits by NCDEQ staff and/or photographs supplied by the grantee verifying the scrappage of the original equipment/vehicle. Before reimbursement, awardees must submit the information listed below after project completion. After NCDEQ approval of the final documentation, NCDEQ will process the application for payment.

Required documentation:

- A signed payment request, on letterhead, for the amount to be reimbursed (a template will be provided on our webpage, https://deq.nc.gov/vw-settlement/forms).
- Copies of detailed invoices of all eligible project cost.
- Proofs of payment of all eligible project costs associated with the project.
- Evidence that the replaced vehicles have been rendered inoperable by cutting a 3-inch hole in the engine block for all engines and, if a vehicle is being replaced, disabling the chassis by cutting the vehicle's frame rails completely in half which must be completed within six months of delivery of the new vehicle or engine replacement (see instructions on NCDAQ Form 001, Certificate of Destruction) provided on our webpage, https://deq.nc.gov/vw-settlement/forms.
- Submit delivery or registration documents showing the VINs and engine serial numbers for the new vehicles.
- Confirm that the project is completed, and the vehicle(s) is/are operating satisfactorily for the intended purpose.
- For all-electric vehicle replacements projects where charging infrastructure is part of the project, submit documentation for accompanying EV charging infrastructure:
    - Submit a photo of the EV charging infrastructure, including the charging station and any other associated auxiliary equipment; and
    - Certify that the EV charging infrastructure is fully operational.

IX. Reporting Requirements

Quarterly Reporting Requirement

All project award recipients will be required to submit quarterly reports on the status of their project to NCDEQ until the final project report is submitted. Quarterly reports must be submitted to NCDEQ within 14 days after the end of each reporting month (March 31, June 30, September 30, and December 31). Failure to submit required reports will result in NCDEQ suspending the acceptance of any new applications from the applicant. A template for the quarterly report will be provided on the website, https://deq.nc.gov/vw-settlement/forms.

Final Report Requirements

Grantees are required to submit a final project report to NCDEQ. A template for the final project report will be made available by NCDEQ on our webpage, https://deq.nc.gov/vw-settlement/forms.

X. Program Contact Information

Inquiries related to the project requirements, application, application requirements, and other aspects of this RFP should be directed to: Daq.NC_VWGrants@ncdenr.gov.

Appendix A: Urban/Suburban and Rural County Designations in North Carolina

The Rural Center has defined the counties in North Carolina based on population densities as either urban, suburban, or rural. The Rural Center uses the following definitions in classifying counties:

Rural: There are 80 counties with population densities of 250 people per square mile or less, according to 2014 U.S. Census population estimates. These counties are home to a little more than 4 million people (41% of the state population).

Regional city or suburban counties: There are 14 counties with population densities between 250 and 750 people per square mile. These counties account for 2.4 million people (25% of the state population).

Urban: There are six counties with population densities between 750 and 1,933 people per square mile. These counties account for 3.3 million people (34% of the state population).

Using the Rural Center classification for counties, urban counties account for the largest population of subject VW vehicles with 41% of the total. Rural counties account for 32% of the vehicles and regional city or suburban counties account for 27% of the VW vehicle population.

Table A-1 is a list of all 100 North Carolina counties with their designation based on the above definitions.

Table A-1: County Classifications in North Carolina

County Name	County Classification
Alamance	Suburban
Alexander	Rural
Alleghany	Rural
Anson	Rural
Ashe	Rural
Avery	Rural
Beaufort	Rural
Bertie	Rural
Bladen	Rural
Brunswick	Rural
Buncombe	Suburban
Burke	Rural
Cabarrus	Suburban
Caldwell	Rural
Camden	Rural
Carteret	Rural
Caswell	Rural
Catawba	Suburban
Chatham	Rural
Cherokee	Rural
Chowan	Rural
Clay	Rural
Cleveland	Rural
Columbus	Rural
Craven	Rural
Cumberland	Suburban
Currituck	Rural
Dare	Rural
Davidson	Suburban
Davie	Rural
Duplin	Rural
Durham	Urban
Edgecombe	Rural
Forsyth	Urban
Franklin	Rural
Gaston	Suburban
Gates	Rural
Graham	Rural
Granville	Rural
Greene	Rural
Guilford	Urban
Halifax	Rural
Harnett	Rural
Haywood	Rural
Henderson	Suburban
Hertford	Rural

County Name	County Classification
Hoke	Rural
Hyde	Rural
Iredell	Suburban
Jackson	Rural
Johnston	Rural
Jones	Rural
Lee	Rural
Lenoir	Rural
Lincoln	Suburban
McDowell	Rural
Macon	Rural
Madison	Rural
Martin	Rural
Mecklenburg	Urban
Mitchell	Rural
Montgomery	Rural
Moore	Rural
Nash	Rural
New Hanover	Urban
Northampton	Rural
Onslow	Rural
Orange	Suburban
Pamlico	Rural
Pasquotank	Rural
Pender	Rural
Perquimans	Rural
Person	Rural
Pitt	Suburban
Polk	Rural
Randolph	Rural
Richmond	Rural
Robeson	Rural
Rockingham	Rural
Rowan	Suburban
Rutherford	Rural
Sampson	Rural
Scotland	Rural
Stanly	Rural
Stokes	Rural
Surry	Rural
Swain	Rural
Transylvania	Rural
Tyrrell	Rural
Union	Suburban
Vance	Rural
Wake	Urban

County Name	County Classification
Warren	Rural
Washington	Rural
Watauga	Rural
Wayne	Rural
Wilkes	Rural
Wilson	Rural
Yadkin	Rural
Yancey	Rural

Appendix B: Environmental Justice Scoring

The Environmental Protection Agency defines environmental justice (EJ) as "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies." (USEPA). Historically, people of color and people of low-income, along with other vulnerable populations, have been disproportionately exposed to harmful pollutants.

Defining Potentially Underserved Populations and Environmental Justice Scores

To determine environmental justice (EJ) scores for the purpose of ranking and rating vehicles and projects, the following analysis was done at the block group level using the 2019 American Community Survey (ACS) five-year estimates. The ACS is a demographic survey conducted each year by the U.S Census Bureau to collect detailed demographic information. For this analysis, aggregated five-year data from the 2017 and 2019 surveys was used to increase robusticity and reliability.

We imported, analyzed and aggregated the ACS data to determine a "percentage of underserved population" measure for each county. The percentage of underserved populations calculated for EJ project and vehicle scores was also used to determine inclusion in the Historically Under-Resourced County Outreach Program.

Percentages for the block group level, county level, and state level were calculated for the following two variables, "Race and Ethnicity" and "Poverty." After adding all county and state data to the block group data, we calculated the four variables utilized to identify potentially underserved block groups which included:

- Race and Ethnicity Compared to the State: ((Block group percent estimate for Non-white or Hispanic/Latino – State percent estimate for non-white or Hispanic/Latino) / State percent estimate for non-white or Hispanic/Latino) * 100
- Race and Ethnicity Compared to the County: ((Block group percent estimate for Non-white or Hispanic/Latino – County percent estimate for non-white or Hispanic/Latino) / County percent estimate for non-white or Hispanic/Latino) * 100
- Poverty Compared to the State: ((Block group percent estimate for poverty– State percent estimate for poverty)/ State percent estimate for poverty) * 100
- Poverty Compared to the County: ((Block group percent estimate for poverty – County percent estimate for poverty)/ County percent estimate for poverty) * 100

The current criteria that are used to determine potentially underserved populations is related to both poverty level within a block group and to race and ethnicity within a block group and is compared on both the county and the state level. To classify a block group as potentially underserved, it must meet both of the following criteria:

- The block group must have an estimated population in poverty that is at least a five percent increase from the state or county percent AND the block group must have an estimated population in poverty of at least 20%.
- The block group must have an estimated non-white or Hispanic population that is at least a ten percent increase from the state or county percent OR the block group must have an

estimated population of non-white or Hispanic residents that is greater than 50% of the total population of that block group.

After determining the percent underserved measure for each county, these percentages were ranked from highest to lowest and using natural breaks, 15 bins were created, and points were assigned accordingly. Statistically, utilizing natural breaks divides continuous values into clusters resulting in values that are grouped together in classes that are more like each other than to the values in any other class. \ See Table B-1 for a listing of these scores.

Table B-1: Final EJ Scores by County

County	NOx & VW Location Score	EJ Score
Alamance	8	6
Alexander	3	5
Alleghany	3	8
Anson	2	8
Ashe	3	3
Avery	3	4
Beaufort	4	8
Bertie	3	13
Bladen	3	11
Brunswick	7	3
Buncombe	11	4
Burke	5	7
Cabarrus	8	4
Caldwell	5	5
Camden	3	1
Carteret	5	3
Caswell	3	6
Catawba	8	5
Chatham	7	3
Cherokee	3	3
Chowan	3	6
Clay	3	5
Cleveland	5	9
Columbus	4	9
Craven	6	6
Cumberland	9	9
Currituck	4	1
Dare	4	3
Davidson	7	5
Davie	5	6
Duplin	5	11
Durham	10	8
Edgecombe	3	11
Forsyth	11	8
Franklin	4	6
Gaston	7	5
Gates	3	3
Graham	2	6
Granville	4	6
Greene	3	14
Guilford	11	8
Halifax	4	12
Harnett	7	2

County	NOx & VW Location Score	EJ Score
Haywood	5	4
Henderson	7	3
Hertford	3	14
Hoke	4	13
Hyde	2	9
Iredell	8	4
Jackson	4	8
Johnston	8	5
Jones	3	9
Lee	4	8
Lenoir	3	10
Lincoln	5	4
Macon	3	4
Madison	3	10
Martin	3	8
McDowell	4	4
Mecklenburg	14	6
Mitchell	3	4
Montgomery	3	7
Moore	7	3
Nash	5	7
New Hanover	9	6
Northampton	3	11
Onslow	8	3
Orange	9	4
Pamlico	3	2
Pasquotank	3	7
Pender	6	5
Perquimans	3	5
Person	3	5
Pitt	7	9
Polk	4	1
Randolph	7	5
Richmond	3	10
Robeson	6	15
Rockingham	4	6
Rowan	7	6
Rutherford	5	6
Sampson	4	11
Scotland	3	13
Stanly	4	2
Stokes	3	1
Surry	5	4

County	NOx & VW Location Score	EJ Score
Swain	3	3
Transylvania	4	4
Tyrrell	2	6
Union	8	3
Vance	3	9
Wake	15	3
Warren	2	14
Washington	3	11
Watauga	4	5
Wayne	6	9
Wilkes	5	4
Wilson	5	10
Yadkin	4	5
Yancey	3	7

Appendix C: NOx and Volkswagen Vehicle Concentration Scores

To determine the NOx scores, North Carolina Mobile NOx estimates from the 2017 EPA National Emissions Inventory (NEI) were imported and then ranked from highest to lowest. Using natural breaks, 5 bins were created for NOx concentration levels and points were assigned accordingly.

To determine VW concentration scores, registered VWs from each county at the time of the consent decree were assessed for each county and ranked. Using natural breaks, 10 bins were created for VW concentration and points were assigned accordingly.

The points for "NOx" and "VW concentration" were then added to get a composite score for each county for a total of 15 possible points. See Table B-1 for a listing of these scores.

Appendix D: Historically Under-Resourced Counties

Historically Under-Resourced Counties Outreach Program

Projects will be evaluated for potential benefits to under-served communities during the evaluation process. In order to ensure more communities are able to apply for funding, NCDEQ is developing an outreach program to help counties that historically do not have the resources to effectively identify eligible vehicles for grant programs and submit quality applications. Applications from these counties may also receive scoring bonuses.

Historically Under-Resourced Counties are those identified as *economically distressed* with the highest percentages of *underserved populations*.

Underserved populations are those that meet certain racial and poverty criteria, as determined by the NCDEQ Environmental Justice Program. Using economic criteria, a county's *economic distress* is defined and ranked by the NC Department of Commerce (commonly referred to as "County Tiers").

Combining these two data sets, 37 Historically Under-Resourced Counties were selected as follows:

- List all counties with an underserved population greater than 15%.
- Remove from the list, any Tier 2 or Tier 3 counties (next and least distressed counties).

These counties may be eligible for the maximum funding amounts allowed by the Volkswagen Mitigation Consent Decree based on applicant and equipment/vehicle fuel types. Counties eligible for program are listed in Table 3. The final list of counties was updated using new data from the 2020 Census. Priority will be given to applications in counties where an application was not submitted, or VW funding not awarded, in Phase 1.

Table D-1: Eligible Historically Under-Resourced Counties

County Name				
Alexander		Lenoir		Wilson
Anson		Martin		
Bertie		Nash		
Bladen		Northampton		
Burke		Pasquotank		
Caldwell		Randolph		
Caswell		Richmond		
Cleveland		Robeson		
Columbus		Rockingham		
Cumberland		Rowan		
Duplin		Rutherford		
Edgecombe		Sampson		
Graham		Scotland		
Greene		Tyrrell		
Halifax		Vance		
Hertford		Warren		
Hoke		Washington		
Hyde		Wayne		

Appendix E: Estimated Emission Reductions

Estimated Emission Reductions

To get a sense of the magnitude of emission reductions that could be achieved by making investments as outlined in this RFP, a comparison of replacing vehicles with various fuel options. Data is provided on a per vehicle basis. Example emissions estimates are shown in the tables below.

Table E-1: Estimated Lifetime Emissions* for Refuse Trucks by Fuel Type**

Refuse Truck Fuel Type	Lifetime NOx Emissions (short tons)	Lifetime $PM_{2.5}$ Emissions (short tons)	Lifetime HC Emissions (short tons)	Lifetime CO Emissions (short tons)	Lifetime CO_2 Emissions (short tons)	Estimated Cost (per vehicle)***
Electric	0.000	0.000	0.000	0.000	0.000	$550,000
Natural Gas	0.008	0.002	0.008	1.24	39.4	$334,000
Diesel	0.115	0.002	0.008	0.034	39.4	$264,000
Propane	0.229	0.0003	0.005	0.175	39.4	$324,000

* Includes only tailpipe emissions and not fuel distribution or power-generation related emissions.
**Values were calculated using the EPA Diesel Emissions Quantifier (EPA-DEQ) on January 24, 2022 and may differ from previously calculated emission values due to updates in the EPA-DEQ.
*** Estimated costs per vehicle fuel type is based on average 2021 model costs and are subject to change.

Table 2 below shows the estimated lifetime emissions of various off-road equipment.

Table E-2: Estimated Lifetime Emissions* for Off-road Equipment and Vehicles by Fuel Type**

Vehicle Type	Lifetime NOx Emissions (tons per vehicle)	Lifetime $PM_{2.5}$ Emissions (short tons)	Lifetime HC Emissions (short tons)	Lifetime CO Emissions (short tons)	Lifetime CO_2 Emissions (short tons)	Estimated Cost (per vehicle)
Electric Forklift	0.000	0.000	0.000	0.000	0.000	$58,500
Diesel Forklift	0.079	0.001	0.037	0.019	90.0	$47,200
Diesel Excavator	0.236	0.006	0.110	0.059	47.8	$231,750
Diesel Ferry Engine Repower	8.48	0.174	0.264	6.88	5,777	$1,881,700

* Includes only tailpipe emissions and not fuel distribution or power-generation related emissions.
**Values were calculated using the EPA Diesel Emissions Quantifier (EPA-DEQ) on January 24, 2022 and may differ from previously calculated emission values due to updates in the EPA-DEQ.

Emission Reduction Calculations

The NCDEQ used the following methods and assumptions to calculate estimated emissions reductions for potential Phase 2 projects of the VW Settlement funding.

Heavy-duty On-Road Vehicles

The NCDEQ used the EPA Diesel Emissions Quantifier (EPA-DEQ) to estimate emissions from heavy-duty on-road vehicles. The EPA-DEQ is a web-based, data-driven estimator that enables users to evaluate replacement projects and upgrade options for heavy-duty diesel engines. It does so by asking for inputs on project specifics, (e.g., fleet information, usage, upgrade, or replacement details). Using this information and EPA-approved data sources, the EPA-DEQ estimates annual and lifetime baseline (pre-upgrade) emissions, post-upgrade emissions reductions, and cost effectiveness of the project. Diesel emissions and reductions are estimated for fine particulate matter (PM2.5), nitrogen oxides (NOx), hydrocarbons (HC), carbon monoxide (CO), and carbon dioxide (CO2).

EPA-DEQ Parameters

Table E-3 shows the parameters used for estimating the emissions for heavy duty refuse trucks vehicles. The EPA-DEQ was used to estimate emissions for diesel, propane, natural gas, and electric refuse trucks. Table 3 shows the combination of vehicle types and fuels modeled. The NCDEQ used average values from Phase 1 projects. The NCDEQ ran the EPA-DEQ for one vehicle in fuel type.

Table E-3: EPA-DEQ Parameters — Refuse Trucks

Predicted lifetime of vehicle	20 years
Model year of original vehicle	2006
Annual miles of old vehicle	20,000
Annual Fuel volume	700
Idling hour/year	50
Replacement Year	2021

Calculations

The EPA-DEQ outputs lifetime NOx emissions reduced in short tons per year.

Appendix F: Acronyms and Abbreviations

CNG	Compressed Natural Gas
CO	Carbon Monoxide
DERA	Diesel Emission Reduction Act
g/bhp-hr	Grams per brake horsepower-hour
GHG	Greenhouse Gases
GIS	Geographic Information System
LNG	Liquid Natural Gas
LPG	Liquid Propane Gas
NCDAQ	North Carolina Division of Air Quality
NCDEQ	North Carolina Department of Environmental Quality
NOx	Oxides of Nitrogen
PM 2.5	Particulate matter 2.5 micrometers and smaller in diameter
RFP	Request for Proposals
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound
VW	Volkswagen
ZEV	Zero-Emissions Vehicle

Appendix G: Definitions[12]

Airport Ground Support Equipment: vehicles and equipment used at an airport to service aircraft between flights.

All-Electric: powered exclusively by electricity provided by a battery, fuel cell, or the grid.

Alternate Fueled: an engine, or a vehicle or piece of equipment which is powered by an engine, which uses a fuel different from or in addition to gasoline fuel or diesel fuel (e.g., CNG, propane, diesel-electric hybrid).

Class 4-7 Local Freight Trucks (Medium Trucks): trucks, including commercial trucks, used to deliver cargo and freight (e.g., courier services, delivery trucks, box trucks moving freight, waste haulers, dump trucks, concrete mixers) with a Gross Vehicle Weight Rating (GVWR) between 14,001 and 33,000 lbs.

Class 8 Local Freight, and Port Drayage Trucks (Eligible Large Trucks): trucks with a Gross Vehicle Weight Rating (GVWR) greater than 33,000 lbs. used for port drayage and/or freight/cargo delivery (including waste haulers, dump trucks, concrete mixers).

Diesel Gallon Equivalent (DGE): the amount of alternative fuel it takes to equal the energy content of one liquid gallon of diesel.

Drayage Trucks: trucks hauling cargo to and from ports and intermodal rail yards.

Engine Model Year: the "annual production period" for all models within an engine family of light-duty motor vehicles, heavy-duty motor vehicles and engines, and on-highway motorcycles begins either:

- when any vehicle or engine within the engine family is first produced; or
- on January 2 of the calendar year preceding the year for which the model year is designated, whichever date is later.

The annual production period ends either:

- When the last such vehicle or engine is produced; or
- on December 31 of the calendar year for which the model year is named, whichever date is sooner.[13]

Forklift: off-road equipment used to lift and move materials short distances; generally, includes tines to lift objects. Eligible types of forklifts include reach stackers, side loaders and top loaders.

Freight Switcher: a locomotive that moves rail cars around a rail yard as compared to a line-haul engine that move freight long distances.

Generator Set: a switcher locomotive equipped with multiple engines that can turn off one or more engines to reduce emissions and save fuel depending on the load it is moving.

[12] Source (unless otherwise noted): APPENDIX D-2 TO PARTIAL CONSENT DECREE MDL No. 2672 CRB (JSC) https://www.vwcourtsettlement.com/wp-content/uploads/documents/DOJ/Approved%20Appendix%20D-2.pdf

[13] US Code of Federal Regulations § 85.2304

Government: a state, local or federal government agency owning fleets purchased with government funds (including a school district, municipality, city, county, special district, transit district, joint powers authority or port authority), or a tribal government or native village. The term 'State' means the several States, the District of Columbia, and the Commonwealth of Puerto Rico.

Government may include any of the following entities:

1. Public school districts.
2. Municipal and county governments and municipal and county authorities.
3. Other NC state agencies.
4. Tribal government agencies.
5. Local, regional or multi-state air quality or transportation organizations
6. Metropolitan or rural planning organizations, as defined by the U.S. Department of Transportation at 49 U.S.C. § 5303(b), that are located in North Carolina.

Gross Vehicle Weight Rating (GVWR): the maximum weight of the vehicle, as specified by the manufacturer. GVWR includes total vehicle weight plus fluids, passengers, and cargo.

Class 1: ≤ 6000 lbs.
Class 2: 6001-10,000 lbs.
Class 3: 10,001-14,000 lbs.
Class 4: 14,001-16,000 lbs.
Class 5: 16,001-19,500 lbs.
Class 6: 19,501-26,000 lbs.
Class 7: 26,001-33,000 lbs.
Class 8: ≥ 33,001 lbs.

Hybrid: a vehicle that combines an internal combustion engine with a battery and electric motor.

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

Intermodal Rail Yard: a rail facility in which cargo is transferred from drayage truck to train or vice-versa.

Local Freight Trucks: trucks used to deliver cargo and freight within a 200-mile radius of their base.[14]

Model year (MY): means the manufacturer's annual new model production period which includes January 1 of the calendar year, ends no later than December 31 of the calendar year, and does not begin earlier than January 2 of the previous calendar year. Where a manufacturer has no annual new model production period, model year means calendar year.

Original Equipment Manufacturer (OEM): the entity that originally manufactures the engine or the vehicle for sale. Additional term defined by the state for purposes of administering this Program.

Plug-in Hybrid Electric Vehicle (PHEV): a vehicle that is similar to a hybrid but is equipped with a larger, more advanced battery that allows the vehicle to be plugged in and recharged in addition to

[14] Derived from definition of "long haul" from the Truck Carrier FLEET Tool: Data Collection Overview and Workbook, U.S. EPA SmartWay Transport Partnership

refueling with gasoline. This larger battery allows the car to be driven on a combination of electric and gasoline fuels.

Port Cargo Handling Equipment: rubber-tired gantry cranes, straddle carriers, shuttle carriers, and terminal tractors, including yard hostlers and yard tractors that operate within ports.

Port: shall refer to facilities along navigable water for the loading and unloading of cargo from ships; places from which aircraft operate that have paved runways and passenger and cargo terminals which include baggage movement and passenger transit operations; or nodes in the larger goods movement supply chain, to include cruise terminals, bulk terminals, container terminals and intermodal container transfer facilities.

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.

Tier 0, 1, 2, 3, 4: corresponding EPA engine emission classifications for off-road, locomotive and marine engines.

Tugs: dedicated vessels that push or pull other vessels in ports, harbors and inland waterways (e.g., tugboats and towboats).

Zero-Emission Vehicle (ZEV): a vehicle that produces no emissions from the on-board source of power (e.g., all-electric or hydrogen fuel cell vehicles).