ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

NORTH CAROLINA
Environmental Quality

August 22, 2018

The Honorable Tim Moore, Co-Chairman
The Honorable Philip E. Berger, Co-Chairman
Joint Legislative Commission on Governmental Operations

House Committee on Appropriations
Chairs: Representative Nelson Dollar, Representative Dean Arp, Representative Justin P. Burr, Representative John Faircloth, Representative Linda P. Johnson, Representative Donny Lambeth, Representative Chuck McGrady

Senate Committee on Appropriations/Base Budget
Chairs: Senator Harry Brown, Senator Kathy Harrington, Senator Brent Jackson

Re: Volkswagen Settlement Funds

Dear Speaker Moore, President Pro Tempore Berger, Chairs of the House Appropriations Committee, and Co-Chairs of the Senate Appropriations/Base Budget Committee

Pursuant to Section 13.2 of S.L. 2017-57, amended by Section 13.11 of S.L. 2018-5, the Department of Environmental Quality has developed a Beneficiary Mitigation Plan for the distribution of the State's share of the Volkswagen settlement funds.

Sincerely,

Anderson Miller

Enclosure

cc: Michael Regan, Secretary
Sheila Holman, Assistant Secretary of the Environment
Michael Abraczinskas, Director, Division of Air Quality

North Carolina Department of Environmental Quality
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State of North Carolina

Volkswagen Mitigation Plan

Department of Environmental Quality

Division of Air Quality

August 2018

The following represents North Carolina's mitigation plan for the first phase of funding under the Volkswagen Environmental Mitigation Trust. The Department of Environmental Quality received comments on this draft plan from March 19, 2018, to May 3, 2018. Several stakeholder meetings were held to take additional input from the public. The dates, times and locations of those meetings can be found on pages 14-15 of this document.

Contents

I) Background and Summary of Volkswagen Settlement

On September 18, 2015, the U.S. Environmental Protection Agency cited the Volkswagen Group of America, Inc. with a Notice of Violation for noncompliance of Section 203(a)(3)(B) of the Clean Air Act (CAA), 42 U.S.C. §75229(a)(3)(B). This NOV was issued because VW manufactured and installed emissions defeat devices in certain model year 2009 – 2015 2.0-liter diesel engine light-duty vehicles that circumvented EPA's nitrogen oxide (NOx) emissions standard. The complaint filed by EPA alleges the defeat devices operated during emissions testing to give the appearance of acceptable NOx emissions. During normal driving conditions, the software rendered certain emission control systems inoperative resulting in increased NOx emissions that exceed the EPA standards.

On November 2, 2015, an additional NOV, citing the same Clean Air Act noncompliance, was issued to VW from EPA because the 3.0-liter diesel engine vehicles from model years 2009-2016 were found to have emissions defeat devices installed as well.

In November 2015, EPA referred this matter to the U.S. Department of Justice (DOJ) for initiation of appropriate enforcement action. The resulting DOJ complaint led to a pair of settlements with VW and the establishment of an Environmental Mitigation Trust in 2017. Wilmington Trust, N.A. was officially appointed by the court as the Trustee of the Environmental Mitigation Trust.

North Carolina submitted the Certification for Beneficiary Status paperwork to the trustee on December 1, 2017, and was officially named a state beneficiary on January 31, 2018.

Partial Settlement

In the first partial settlement, VW and related entities have agreed to spend up to $14.7 billion to settle the allegations. VW is required to spend up to $10 billion to offer the owners of affected 2.0 vehicles buy backs at fair replacement value or lease terminations at no cost. VW must achieve an overall recall rate of at least 85% of the affected vehicles by June 2019. VW must pay additional funds into the mitigation trust in an amount equal to $85 million for each percentage point by which it falls short of the national recall target. VW is also required to spend $4.7 billion to mitigate pollution and make investments that support zero emission vehicle (ZEV) technology.

In the second partial settlement, VW must offer to buy back affected 3.0-liter vehicles or grant lease terminations for 100% of the generation 1 vehicles and must offer an Emissions Compliant Recall for generation 2 vehicles. VW must meet the 85 percent recall for generation 1 vehicles and pay additional funds into the mitigation trust in an amount equal to $5.5 million for each percentage point by which it falls short of the national recall target. If VW fails to reach the 85 percent recall rate for the generation 2 vehicles, VW must pay additional funds into the mitigation trust in an amount equal to $21 million for each percentage point by which it falls short of the national recall target.

Mitigation Trust

$2.9 billion will be used to fund projects across the U.S. that will reduce NOx emissions where the 2.0-liter and 3.0-liter diesel engines were, are or will operate. These funds will be placed in a mitigation trust over three (3) years and will be administered by an independent trustee, Wilmington Trust. All 50 states, Puerto Rico, the District of Columbia and federally recognized Native American tribes may elect to become beneficiaries of the mitigation trust. Each participating beneficiary will be allocated funds from the $2.9 billion that can be used for eligible mitigation projects. The purpose of the mitigation projects is to reduce NOx emissions from eligible diesel vehicles. States can develop programs and fund projects that

make the most sense for them, within the boundaries set by the settlement. The purpose of this plan is to outline how the state intends to fund projects that mitigate the excess emissions caused by the subject VW diesel vehicles from the North Carolina's allocation of the mitigation trust.

Zero Emission Vehicle Investment

Another $2 billion will be invested toward improving the nation's infrastructure, access and education to support and advance the adoption of zero-emission vehicles. The investments will be made over 10 years, with $1.2 billion directed toward a national EPA-approved investment plan and $800 million directed toward a California-specific investment plan. A VW subsidiary, Electrify America, will solicit formal comments and suggestions regarding Electrify America's ZEV Investment Plans in 30-month cycles.

II) NOx Emissions in North Carolina

The beneficiary states must ensure that selected projects will support the mitigation plan goal. This goal will be achieved by establishing project selection priorities and criteria, project planning and the overall project selection process. The categories of eligible mitigation projects deemed appropriate to achieve the plan's goal are based on North Carolina state-wide mobile NOx emissions sources for 2014 shown in Figure 1 and Table 1.

Figure 1: Breakdown of Mobile NOx Emissions in North Carolina (2014 NEIv2)

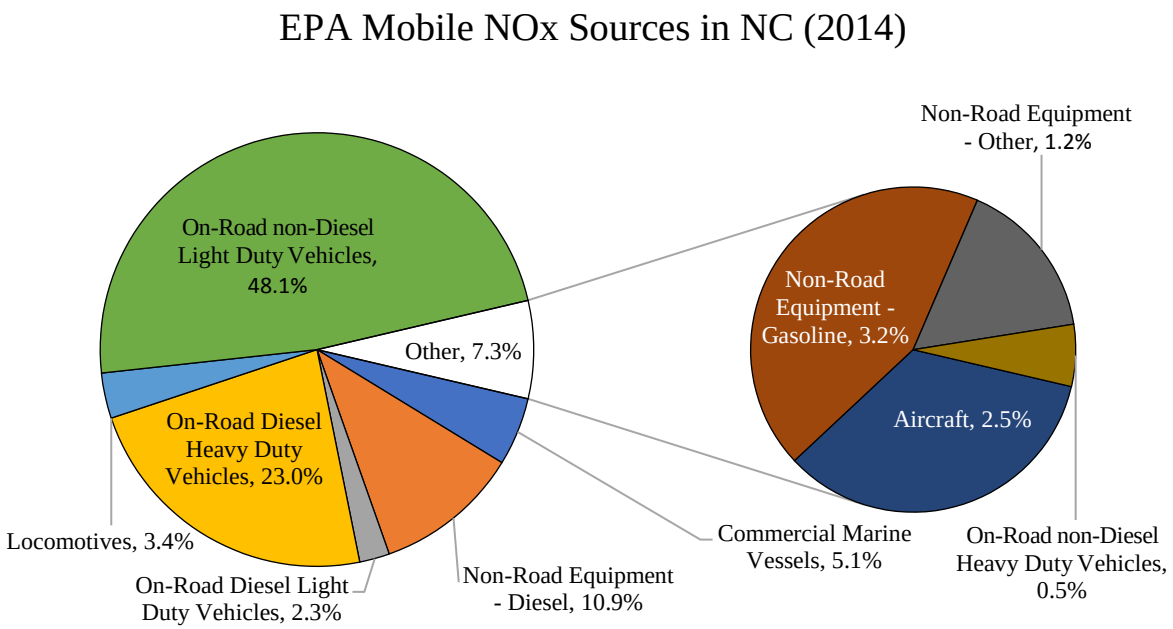


Table 1: Mobile Sector NOx Emissions by Source (Data from 2014 NEIv2)

Mobile NOx Emissions Source	Eligible	Emissions (tons/year)	Percentage
Commercial Marine Vessels	Y	10,953	5.08%
Non-Road Equipment – Diesel	Y	23,439	10.86%
On-Road Diesel Light-Duty Vehicles	Y	4,850	2.25%
On-Road Diesel Heavy-Duty Vehicles	Y	49,716	23.04%
Locomotives	Y	7,304	3.39%
	Subtotal	96,262	44.62%
On-Road Non-Diesel Heavy-Duty Vehicles	N	981	0.45%
Aircraft	N	5,417	2.51%
Non-Road Equipment – Gasoline	N	6,846	3.17%
Non-Road Equipment – Other	N	2,514	1.17%
On-Road Non-Diesel Light-Duty Vehicles	N	103,753	48.08%
	Subtotal	119,511	55.38%
	Total	215,775	

To better understand the impact of the excess emissions from the VW vehicles in North Carolina, it is important to understand the current emissions inventory in North Carolina. According to the EPA's 2014v2 National Emission Inventory, emissions from eligible highway and non-road diesel-powered mobile sources accounted for approximately 96,262 tons per year of NOx in North Carolina in 2014. New EPA standards for diesel-powered vehicles and equipment with model year 2007 and newer engines, will ensure that newer medium and heavy-duty diesel engines are less polluting. Many older diesel engines, however, can operate for 25 to 30 years before replacement is necessary. Therefore, it may be many years before existing equipment is replaced with newer, cleaner equipment based on typical fleet turnover and it is likely that many older diesel engines, which are not subject to the new federal emissions standards will continue to operate in the state for the near future. While older engines will continue to be used, the mitigation plan may speed up the replacement of older, dirtier engines. The EPA Diesel Emission Reduction Act (DERA) projects are one of the eligible categories deemed appropriate under the VW Mitigation Trust. The state currently uses funds awarded from DERA as a cost-effective strategy to reduce diesel NOx emissions from diesel mobile source vehicles[1].

III) Location of VW Diesel Vehicles in North Carolina

The DEQ identified the number of vehicles per county that are subject to the VW settlement. Then a breakdown of county type (urban vs. rural) was determined using NC Rural Center county classifications. Combining these data, DEQ allocated subject vehicle by county type. These methods are shown graphically in the next few figures.

The following figures show where the subject VW diesel vehicles were registered in North Carolina for both the model year 2009 – 2015 2.0 liter and model year 2009 – 2016 3.0-liter vehicles based on 2016 NC Division of Motor Vehicles registration data.

[1] https://deq.nc.gov/about/divisions/air-quality/motor-vehicles-air-quality/mobile-source-emissions-reduction-grants

Figure 2: 2009 – 2015 2.0 Liter VW Diesel Vehicles

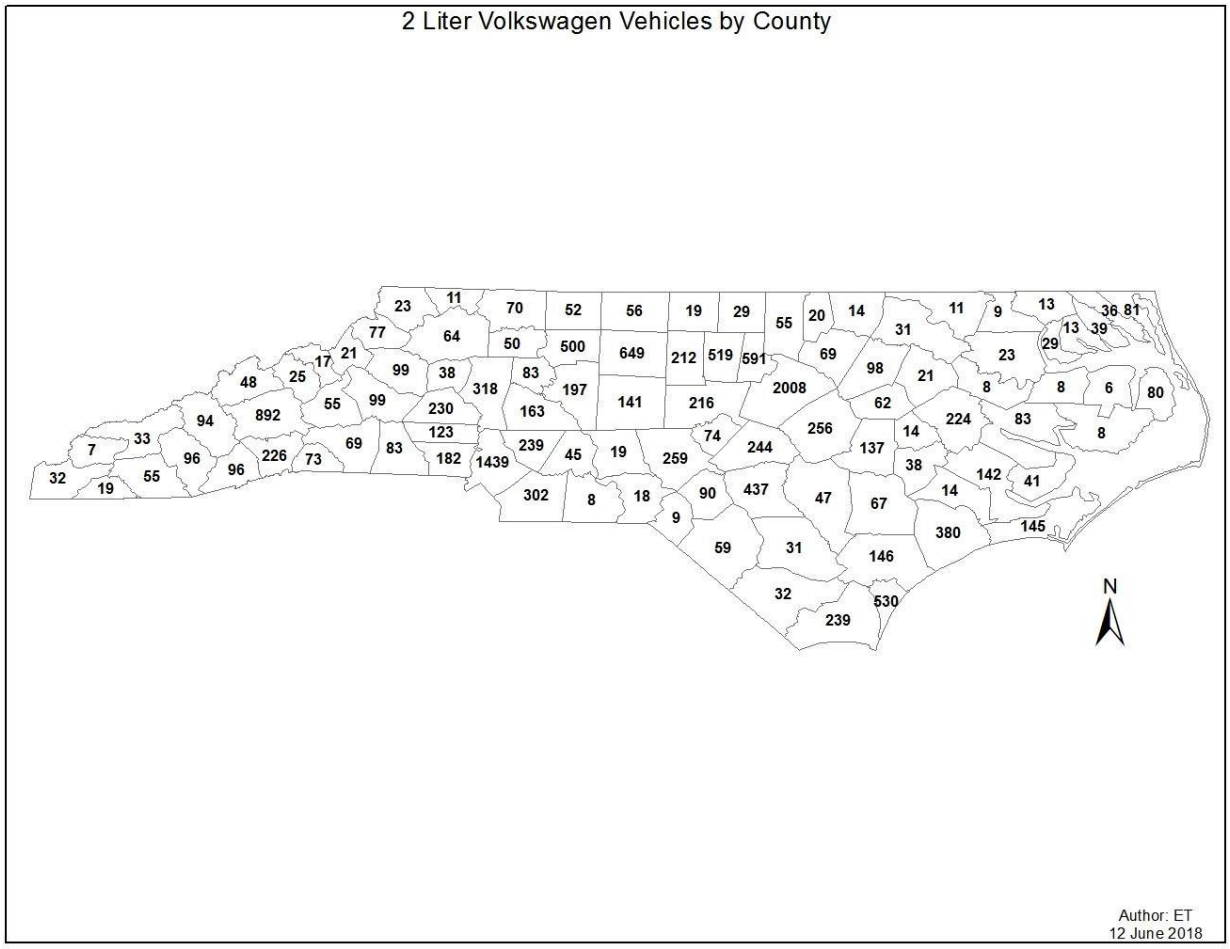


Figure 3: 2009 – 2016 3.0 Liter VW Diesel Vehicles

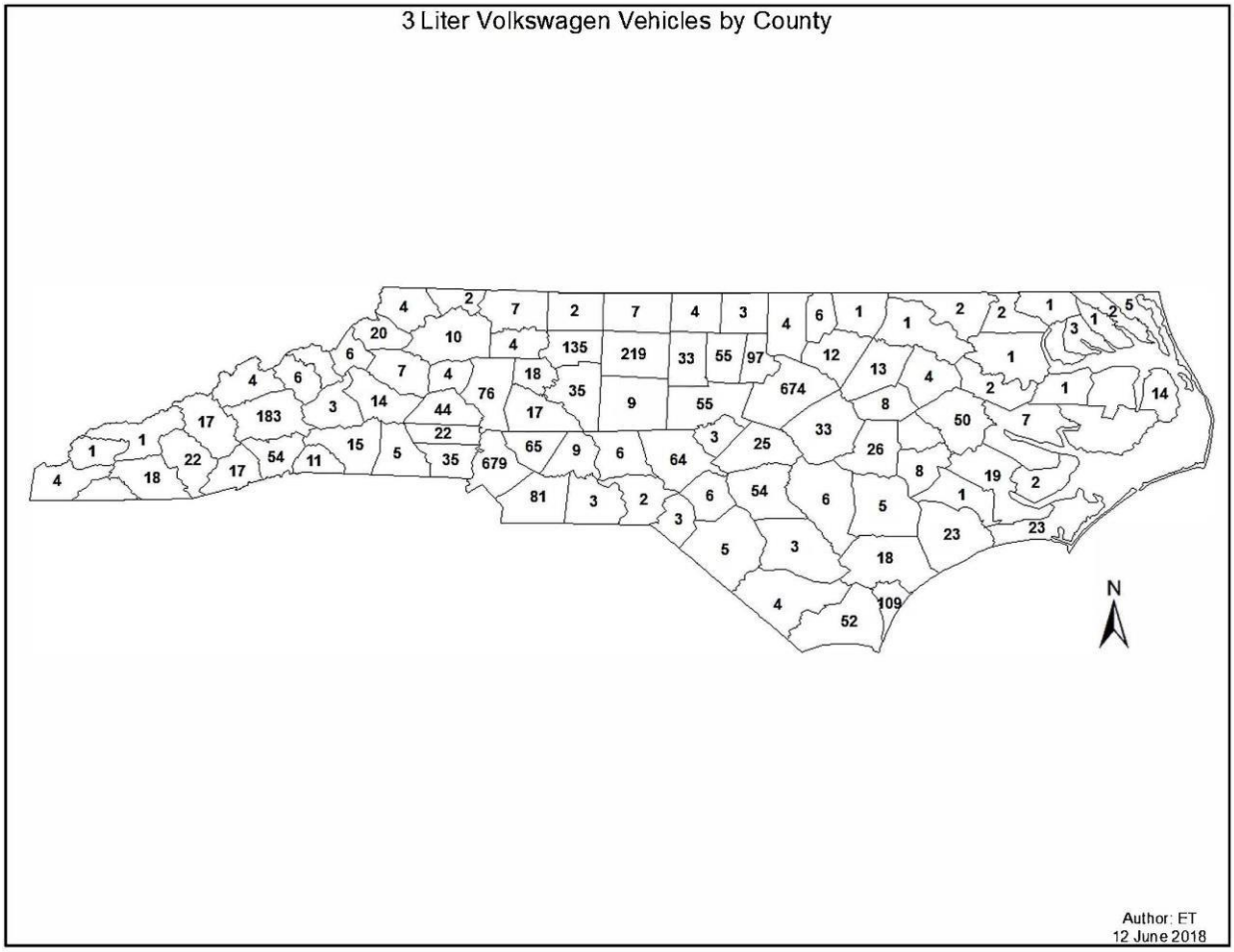
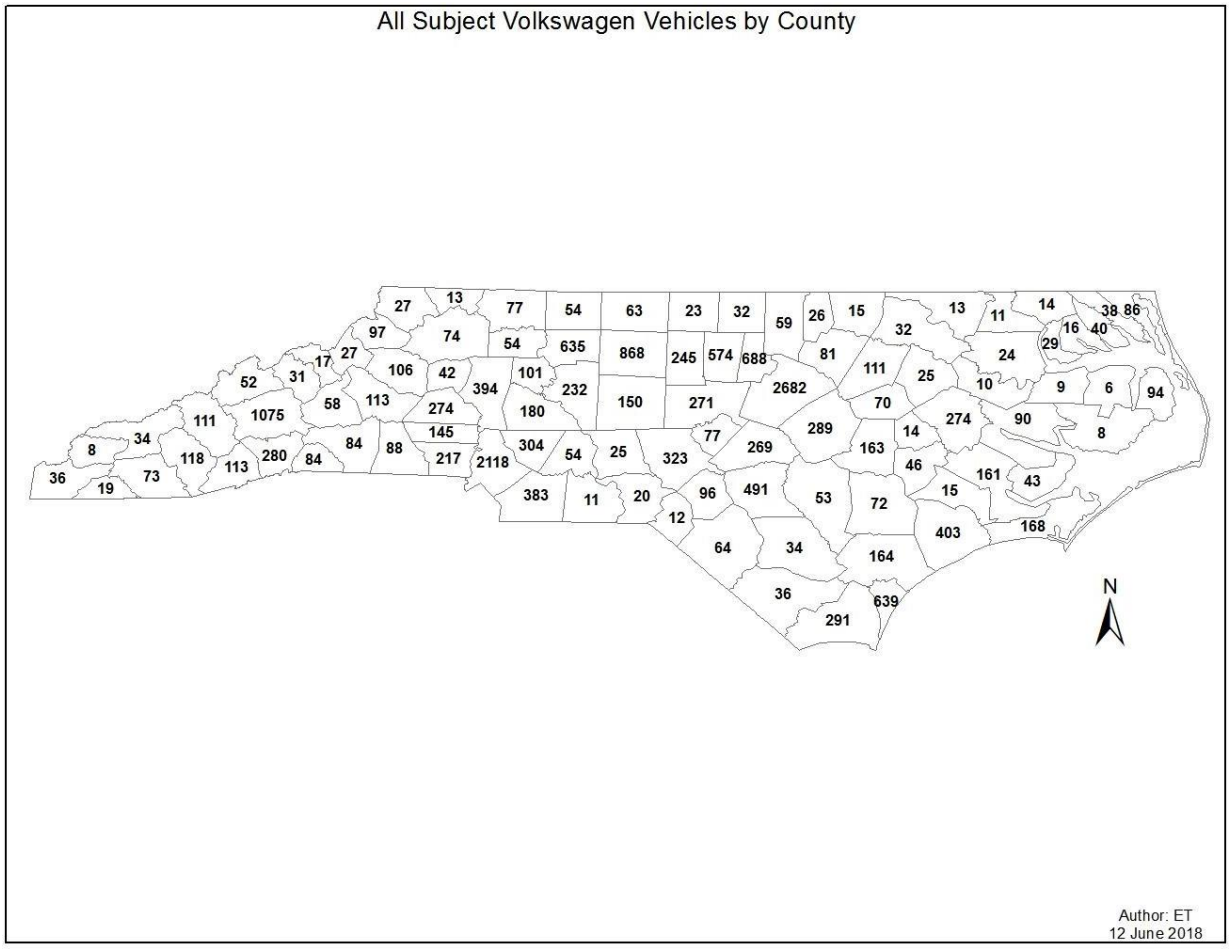
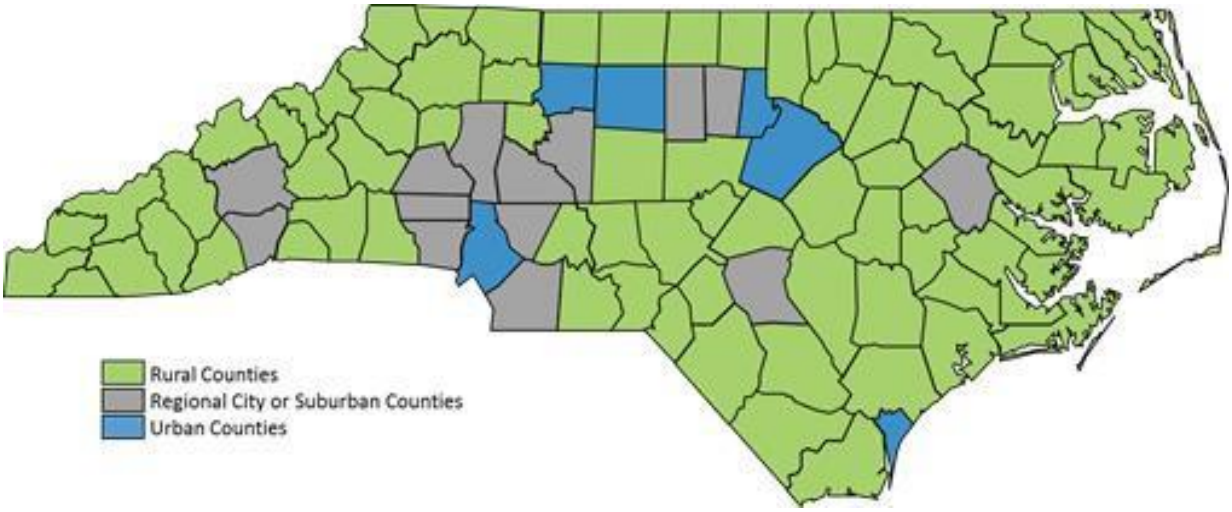


Figure 4: All VW Subject Diesel Vehicles



The North Carolina Rural Center has grouped counties into three categories: rural, urban and regional city or suburban based on population density as shown in Figure 5 below.

Figure 5: N.C. Rural Center County Classifications[2]



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).

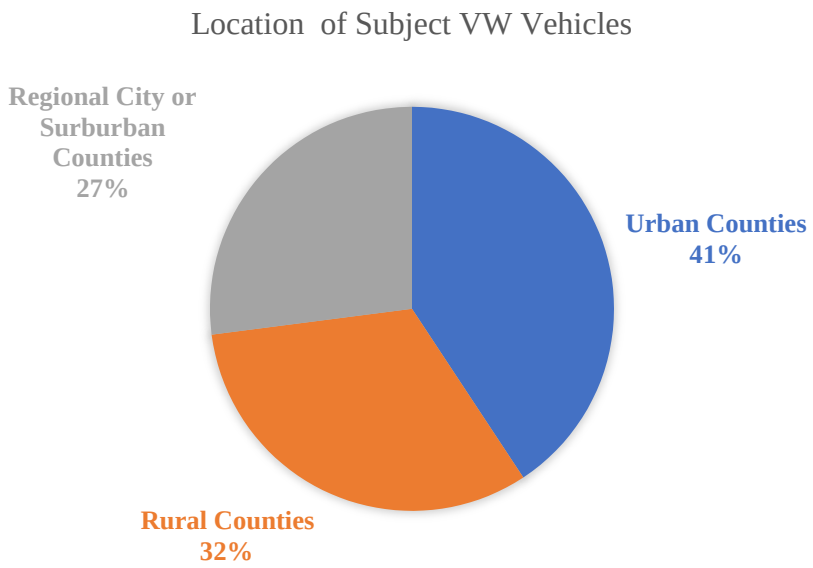
Regional city or suburban counties: There are 14 counties with population densities between 250 and 750 people per square mile. These counties account for 2.4 million people (25% of the state population).

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.

[2] https://www.nccommerce.com/lead/research-publications/the-lead-feed/artmid/11056/articleid/123/rural-center-expands-its-classification-of-north-carolina-counties

Figure 6: Location of Subject VW Vehicles by County Classification



IV) Overall Goals for the Use of the VW Mitigation Trust Funds

The DEQ solicited input from North Carolinians across the state on how the VW mitigation trust funds should be spent in the state, and used the public feedback to set goals to guide the DEQ on how to allocate the funds over the duration of the program. The DEQ will use the funds to achieve significant NOx emissions reductions across the state. Based on the distribution of violating vehicles registered across the state (see Figure 6 above), the DEQ proposes splitting the funds between urban / suburban counties (68%) and rural counties (32%). The DEQ will submit requests to the Trustee of the Environmental Mitigation Trust to use funds for eligible projects throughout the state that will reduce or eliminate emissions of NOx focusing on the most cost-effective projects, the quantity of NOx emission reductions and other factors.

The following list summarizes the DEQ's overall goals in selecting eligible projects for funding, but is not meant to be exclusive. The DEQ may consider other qualifications and factors when determining whether to submit projects to the Trustee of the Environmental Mitigation Trust for funding approval.

Elements Required in Beneficiary Mitigation Plan

Section 4.1 of the Trust Agreement (Appendix A of the Final Trust Agreement) specifies several elements that a Beneficiary Mitigation Plan (the Plan) must address:

1. The beneficiary's overall goal for the use of the funds;
2. The categories of Eligible Mitigation Actions the beneficiary anticipates will be appropriate to achieve the stated goals and the preliminary assessment of the percentages of funds anticipated to be used for each type of Eligible Mitigation Action;
3. A description of how the beneficiary will consider the potential beneficial impact of the selected Eligible Mitigation Actions on air quality in areas that bear a disproportionate share of the air pollution burden within its jurisdiction; and
4. A general description of the expected ranges of emission benefits that would be realized by implementation of the Eligible Mitigation Actions identified in the Beneficiary Mitigation Plan.

Additionally, the Plan shall explain the process by which the beneficiary shall seek and consider public input on the Plan. Information about public input is described separately, in Section X of this document.

Consideration will be given to distributing project funds statewide, as appropriate, primarily based on the cost-effectiveness and the quantity of NOx emission reductions. The DEQ anticipates the following:

1. Maximize the air quality benefits in North Carolina on a dollar per NOx ton basis (i.e., capital cost-effectiveness in dollar/ton);
2. Distribute settlement funds within the time allotted;
3. Award funds through a transparent public process;
4. Fully account for all funds and comply with legal requirements;
5. Focus on vehicles, engines and equipment operating in or near areas that bear a disproportionate share of the air pollution burden;
6. Devote 15% of trust funds to light-duty zero emission vehicle (ZEV) supply equipment;
7. Enhance efficiency by utilizing, or building on, existing processes and programs to select projects;
8. Minimize administrative costs associated with overseeing the mitigation trust; and
9. Complement any investments in light-duty ZEV supply equipment, access or education that Electrify America makes in North Carolina through the nationwide $2 billion Zero Emissions Vehicle Investment Commitment.

V) Funding Breakdown

North Carolina's allocation is set at $87,177,373.87 or 3.23% of the $2.9 billion settlement based on the number of registered subject vehicles in the state for the 2.0-liter subject vehicles and $4,868,284.13 or 2.16% of the $225 million settlement for the 3.0-liter subject vehicles for a total of $92,045,658.00. This value could increase if other states do not spend 80% of their allotted money by the 10-year anniversary of the Trust Effective Date (October 2, 2027). This value could also decrease if North Carolina does not spend at least 80% of the allotted funds by the 10-year anniversary of the Trust Effective Date. Per the consent decree, the DEQ may apply up to 15% of its allocation from the mitigation trust funds for actual administrative expenditures associated with implementing Eligible Mitigation Actions. Administrative costs may include personnel costs, fringe benefit costs, supply costs, contractual costs and other eligible costs allowed in the consent decree.

The DEQ may request one-third of its total allocation during the first year, or two-thirds of its allocation during the first two years after the trust is initially funded. Project funding will be awarded through a competitive process in accordance with North Carolina General Statutes.

The DEQ will maintain and make publicly available via our web page all documentation submitted in the support of the funding request and all records supporting all expenditures of eligible mitigation project funds.

VI) Eligible Project Funding

Based on comments received during the DEQ's Request for Information (RFI) in late 2017, there is interest in all eligible mitigation project categories. This feedback resulted in all categories being considered moving forward. The public input also revealed a significant interest in devoting the maximum allowed (15% of the total allocation) to light-duty zero emission vehicle (ZEV) supply equipment. Based on this feedback North Carolina is proposing to dedicate 15% of the total allocation to light duty ZEV supply equipment.

Under the settlement agreement, non-government and government entities are eligible to apply for funding to implement mitigation projects. However, based on the information received during the RFI in 2017, the public sector needs in the eligible mitigation categories far outweigh the available funding. Therefore, only public projects are proposed in this first phase of the plan. Public projects include (a) projects submitted by local, state, and tribal government organizations, (b) projects submitted by public or private nonprofit organizations and (c) projects submitted by a public entity for a public-private partnership. Conversely, both public and private projects will be eligible for the light-duty ZEV infrastructure program.

The DEQ is proposing a phased approach for North Carolina's $92 million allocation. A phased approach will allow the DEQ to:

- Build in transparency and involve the public in reviewing and revisiting the plan between phases;
- Learn which projects work best in North Carolina, and modify our requests for proposals in subsequent phases to emphasize the most effective projects;
- Identify areas in need of additional consideration as we request proposals; and
- Evolve with the constantly changing vehicle/equipment technology and invest in the most effective technology at the time.

The first phase of funding represents the beginning step in achieving our multi-year goals for the program. The proposed three phases of funding are:

- Phase 1: $30.68 million (33% of overall funds) – 2018 – 2020 – Phase 1 is the period addressed in this plan; eligible public projects include (a) projects submitted by local, state, and tribal government organizations, (b) projects submitted by public or private nonprofit organizations and (c) projects submitted by public-private partnerships where the lead applicant represents a public sector, public or private nonprofit entity. Conversely, both public and private projects will be eligible for the light-duty ZEV infrastructure program. We will solicit input and review and revise the plan for Phase 2 prior to the conclusion of Phase 1.
- Phase 2: $30.68 million (33% of overall funds) – 2020 – 2022 – We will develop the spending plan for Phase 2 after further public input. We will solicit input on spending priorities for Phase 3 and review and revise the plan prior to the conclusion of Phase 2.
- Phase 3: $30.68 million (33% of overall funds) – 2022 – 2024 – Remaining funds allocated.

Phase 1 of funding (2018 - 2020)

During the initial 2018 – 2020 period, the DEQ will allocate 33% ($30.68 million) of North Carolina's overall funding. The state's ability to fund projects in each category at the target levels will depend on the applications received. The exact percentages may shift with demand. Table 2 reflects Phase 1 funding based on feedback received in the RFI and the public comment period on the draft plan. It should be noted that nothing in this table is binding, and the information is intended to only provide a reasonable amount of detail such as to provide the public with a high-level vision for the use of the mitigation funds. If the DEQ does not receive sufficient applications in a category, the DEQ would shift funds between categories in Phase 1 or move funds into the next funding phase. A complete list of eligible mitigation actions can be found in Appendix A.

Table 2: Summary of Phase 1 Funding Programs for 2018 – 2020

NC Grant Programs (2018-2020)	Eligible Action Category	Eligible Fuels	2018-2020 Funding (Phase 1)	
			Targeted Percent*	Targeted Funding Amount
School bus replacement program	School buses	Diesel – 25% Propane & Natural Gas – 10% All-electric – 5%	40%	$12,272,754
Transit bus replacement program	Transit buses	All (diesel, propane, natural gas, electric)	20%	$6,136,377
Clean heavy-duty on-road equipment program	Class Local Freight 4-8 trucks	All (diesel, propane, natural gas, electric)	10%	$3,068,189
Clean heavy-duty off-road equipment program	Switcher locomotives, ferries, tugs, forklifts, port cargo handling equipment, ocean-going vessel shore power, airport ground support equipment, Diesel Emission Reduction Act (DERA)	All (diesel, propane, natural gas, electric)	10%	$3,068,189
ZEV infrastructure program		Not Applicable	15%	$4,602,283
DEQ administrative costs		Not Applicable	5%	$1,534,094
	Total:			$30,681,886

*Percentage of available settlement funds targeted in these eligible categories for 2018 – 2020.

Estimated Emission Reductions

To get a sense of the magnitude of emission reductions that could be achieved by making investments as outlined in Table 2 above, and allow a comparison of replacing vehicles with various fuel options, data is provided on a per vehicle basis. Parameters and equations used in the emissions calculations are in Appendix D. Example emissions estimates are shown in the tables below.

The estimated emissions reductions for school bus replacements are calculated for the available fuel options. Table 3 below shows the estimated emission reductions and cost-effectiveness for school buses. Estimated NOx emissions reductions are calculated assuming the new vehicle replaces an older diesel school bus.

Table 3: Estimated NOx Emissions Reductions for School Buses

School Bus Type	Estimated Cost (per vehicle) *	Number of Buses	Estimated Lifetime NOx Emission Reductions (tons per vehicle)	Lifetime Effectiveness ($/ton NOx reduced) **
Diesel	$86,800	1	0.664	$130,723
Propane	$96,000	1	0.777	$123,552
Natural Gas	$113,500	1	0.792	$143,308
Electric	$360,000	1	0.919	$391,730

* Estimated costs per vehicle fuel type is based on average 2018 model costs and are subject to change. The electric school b us estimate includes estimated average cost for infrastructure of $25,000. Infrastructure costs are site specific based on the accessibility of electric power to the site.
**G.S. 115C-249 makes most school buses eligible for replacement at 250,000 miles or 20 years of age.

The estimated emissions reductions for the transit bus replacement program are calculated for the different available fuel options. Table 4 below shows the estimated emissions reductions and cost-effectiveness of transit buses. Estimated NOx emissions reductions are calculated assuming the new vehicle replaces an older diesel transit bus.

Table 4: Estimated NOx Emissions Reductions for Transit Buses

Transit Bus Type	Estimated Cost (per vehicle)	Number of Buses	Estimated Lifetime NOx Emission Reductions (tons per vehicle)	Lifetime Effectiveness ($/ton NOx reduced)
Diesel	$500,000	1	0.351	$1,424,501
Natural Gas	$540,000	1	1.10	$490,909
Electric	$800,000	1	0.725	$1,103,448

The estimated emissions reductions for the clean heavy-duty on-road equipment replacement program are calculated for refuse trucks for available fuel types. Table 5 below shows the estimated emissions reductions and cost-effectiveness of refuse trucks. Estimated NOx emissions reductions are compared to replacing an older diesel refuse truck.

Table 5: Estimated NOx Emissions Reductions for On-road Vehicles

Vehicle Type	Estimated Cost (per vehicle)	Number of Vehicles	Estimated Lifetime NOx Emission Reductions (tons per vehicle)	Lifetime Effectiveness ($/ton NOx reduced)
Diesel-Refuse truck	$250,000	1	0.660	$378,788
Natural Gas – Refuse truck	$270,000	1	0.873	$309,278
Electric – Refuse truck	$400,000	1	1.19	$336.134

The estimated emissions reductions for the clean heavy-duty off-road equipment replacement program are calculated. Table 6 below shows the estimated emissions reductions and cost-effectiveness of various off-road equipment. Estimated NOx emissions reductions are compared to replacing older diesel off-road equipment.

Table 6: Estimated NOx Emissions Reductions for Off-road Equipment

Vehicle Type	Estimated Cost (per vehicle)	Number of Vehicles	Estimated Lifetime NOx Emission Reductions (tons per vehicle)	Lifetime Effectiveness ($/ton NOx reduced)
Diesel Excavator	$160,875	1	0.699	$230,150
Diesel Ferry Engine Repower	$398,800	1	4.194	$95,088
Propane Mower	$27,220	1	0.034	$800,588

Funding Process

The DEQ may establish more than one process to fund projects. Projects may be funded by a competitive grant process or a voucher system. The DEQ will develop a set of criteria and process for scoring projects and selecting those that best align with the plan goals.

The settlement allows various cost-sharing amounts based on project type and owner of the original equipment (see Appendix A for allowable matches).

VII) Environmental Justice Plan

Environmental Justice, Equity, and Inclusion definition:

Environmental justice is 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.

North Carolina has this goal for all communities and persons across the state. It will be achieved when everyone enjoys:

- The same degree of protection from environmental and health hazards, and
- Equal access to the decision-making process to have a healthy environment in which to live, learn and work.

This mitigation plan will not discriminate against:

- Varying demographics, which may include but are not limited to race, ethnicity, color, national origin, income, age, sex, poverty level, limited English proficiency or disability,
- Native American tribes which are made up of North Carolina tribes and organizations: Coharie Tribe, Eastern Band of Cherokee Nation, Haliwa-Saponi Tribe, Lumbee Tribe of North Carolina, Meherrin Indian Tribe, Occaneechi Band of Saponi Nation, Sappony, Waccamaw Siouan Tribe, and the Urban Indian Organizations that reside across North Carolina, as well as the North Carolina Commission of Indian Affairs, and
- Tier one counties that are categorized as less than 12,000 people or a population less than 50,000 people and a poverty rate of 19% or greater.

Assistance

The DEQ will consult with Environmental Justice stakeholders in the consideration of areas that bear a disproportionate share of air pollution.

VIII) Project Selection Process

A combination of evaluation factors will be considered for the selection process to ensure the success of North Carolina's mitigation plan. These factors will guide the DEQ in giving priority to projects that perform the highest overall. The DEQ will consider factors such as, but not limited to:

- **Cost Effectiveness** (VW$ funded per NOx tons reduced)**:** cost-effectiveness is based on applicant provided information using an accepted calculation tool and if applicable, matching funds
- **NO_x Emissions Reductions:** NOx emission reduction calculation based on applicant provided information using an accepted calculation tool
- **Location of project:** how many subject vehicles were registered in project area
- **Co-Benefits:** e.g. other emission reductions (SOx, $PM_{2.5}$, VOC, GHG and CO)
- **Sustainability of the Project:** longevity of the funded equipment and additional long-term benefits
- **Timeliness:** ability to complete project within two years of award, e.g., project complete and providing emission reductions
- **Useful life of vehicle replaced:** Vehicle should have at least 3-5 years of useful life remaining
- **Other Selection Criteria:** employed as necessary for the selection of proposals, e.g., located in an environmental justice area, innovative technology or approaches.

IX) Measuring Environmental Benefits

The expected emission benefits will mainly depend upon the nature, operation and age of the vehicle or equipment being replaced or repowered more so than on the vehicle or equipment that is purchased. The DEQ anticipates significant reductions in NOx, CO_2, particulate matter and air toxic emissions, which is dependent upon the engine size, category and age. The DEQ anticipates public health and environmental benefits over the wide range of impacts associated with exposure to exhaust from older diesel engines. The DEQ expects that most of the replacement vehicles and equipment will result in reduced fuel consumption because of advances in technology.

X) Public Involvement

In addition to the elements described in Section III of this Beneficiary Mitigation Plan, Section 4.1 of the trust agreement (Appendix D of the First Partial Consent Decree) also requires that the Plan explain the process by which public input is considered for the Beneficiary Mitigation Plan. This section describes the public input process the DEQ implemented to inform the development of the Plan, as well as the public input process to be employed when revising the Plan.

The DEQ is committed to using the VW settlement funds in ways that reflect the input and interests of North Carolinians. The DEQ will have an open and transparent process that includes the input of a wide range of citizens. The DEQ has been soliciting and listening to public and stakeholder input to help inform the development of the draft and final plans. The DEQ will also provide opportunities to receive input throughout the 10-year period of the settlement program. Information on how to provide input and summaries of responses the DEQ has received so far, is located on our VW settlement website:

https://deq.nc.gov/about/divisions/air-quality/motor-vehicles-and-air-quality/volkswagen-settlement/volkswagen.

The DEQ sought input from community members and stakeholders through the release of an RFI on November 22, 2017. The RFI was announced through DEQ's VW email distribution list, the Division of Air Quality's rule-making and outside involvement email distribution lists, a press release, and social media (Facebook and Twitter). The RFI consisted of 14 questions on the design of the Plan and allowed for stakeholders to submit preliminary project proposals to allow the DEQ to better understand the types of projects to expect during the actual Request for Proposals. The comment period was open from November 22, 2017, to December 31, 2017. The DEQ received 872 total comments with preliminary project proposals totaling over $409 million ($317 more than NC's funding allotment). The DEQ received a wide variety of input emphasizing the importance of various issues and needs. Some project ideas received were not eligible under the provisions of the VW consent decree. The DEQ posted a summary of comments and copies of all comments received from the RFI on our webpage https://deq.nc.gov/about/divisions/air-quality/motor-vehicles-and-air-quality/volkswagen-settlement.

The DEQ has met with stakeholders with expertise in heavy-duty vehicles, mobile source equipment, electric charging stations and air pollution health impacts. The DEQ has also presented to the Joint Legislative Committee on Energy Policy, the State Energy Policy Council, the DAQ Outside Involvement Committee, Clean Cities Coalitions and several in-state conferences with interest in the VW Settlement. The DEQ is also using the VW stakeholders as a conduit to promote the VW Settlement to ensure all interested parties across the state have an opportunity to provide input. The DEQ held several stakeholder's meetings across the state to seek input on the draft Plan. The meeting dates were:

March 26, 2018
7PM – 9PM
Land of Sky Regional Council,
339 New Leicester Hwy, Suite 140,
Asheville, NC 28806
Facilitator: Bill Eaker / 828-734-7434

March 27, 2018
3PM – 5PM
Kannapolis Train Station,
Train Station Multi-Purpose Room,
201 South Main Street,
Kannapolis, NC 28081
Facilitator: Jason Wager

April 16, 2018
5PM – 7PM
Lenoir Community College
Bullock Building Room 150
Kinston NC 28502
Chet Jarman, administrative contact
252-527-6223 x 360
Facilitator: Andrea Eilers

April 17, 2018
1PM – 3PM

Triangle J Council of Governments
4307 Emperor Boulevard, Suite 110,
Durham, NC 27703
Facilitator: Andrea Eilers

April 20, 2018
9AM – 11AM
Cape Fear Community College
Union Station Bldg., Room 512
502 N. Front Street
Wilmington, NC 28401
Onsite contact: Debi Causey, 910-362-7488
Facilitator: TBD

VW Stakeholders can also join the DEQ VW email distribution list. In addition to the VW Stakeholder email distribution list, the DEQ has used social media to promote the DEQ's efforts to receive public input and other activities related to the VW Settlement.

To provide transparency and accountability, the DEQ will continue to post information in accordance with North Carolina's Public Records Law on its VW website, https://deq.nc.gov/about/divisions/air-quality/motor-vehicles-and-air-quality/volkswagen-settlement, which is further described in the section below.

1. Public Input – The DEQ sought public input on the Plan through the following public participation process. The DEQ anticipates that it will follow a similar process for future revisions to the Plan for Phases 2 and 3.

    a. Draft Beneficiary Mitigation Plan – Notice of the opportunity for public comment on the plan was published in a press release and on the DEQ's web page before the Plan was finalized and submitted to the Trustee of the Environmental Trust. The DEQ also shared the information through various public and industry outreach methods. The draft plan was also available for public review on the DEQ's VW website, https://deq.nc.gov/about/divisions/air-quality/motor-vehicles-and-air-quality/volkswagen-settlement.

    b. Public Informational Meetings and Comments – The public notice and agency webpage included information about submitting comments during a 45-day public comment period and details for public informational meetings and/or webinars that were held concerning the draft Beneficiary Mitigation Plan. **Comments on this draft plan for Phase 1 were accepted via email to** daq.NC_VWGrants@ncdenr.gov **through May 3, 2018.**

    c. Final Beneficiary Mitigation Plan – The DEQ considered all comments received during the comment period, reviewed any new or revised requirements the trustee developed, made any relevant revisions, and posted the final Plan on the DEQ's VW website, https://deq.nc.gov/about/divisions/air-quality/motor-vehicles-and-air-quality/volkswagen-settlement. After revisions, the final Plan will be submitted to the Trustee of the Environmental Mitigation Trust.

2. Periodic Evaluation - The DEQ will periodically evaluate the implementation of the Plan and implementation of the Eligible Mitigation Actions after the initial round of funding and will

determine whether any revisions to the Plan or funding levels are appropriate or necessary for future phases. If future revisions to the Plan are necessary, the DEQ will seek public input on major plan revisions generally consistent with the process outlined above, including publishing a notice for public comment and providing a 45-day public comment period regarding the proposed revisions. Public information sessions may also be held given interest.

3. Department VW Website – The DEQ has created a public website as a clearinghouse for information relating to the VW Partial Consent Decrees, mitigation plans, and implementation information, which can be accessed at https://deq.nc.gov/about/divisions/air-quality/motor-vehicles-and-air-quality/volkswagen-settlement. Information relating to both the Mitigation Trust and VW's ZEV Investment Plan will be posted here. The DEQ will post the following:
    a. General information on the Partial Consent Decrees, including a link to the documents;
    b. North Carolina's draft and final Plans, including information about the public participation process for the Plan;
    c. Information about new and existing funding programs the DEQ uses to distribute funding from the Mitigation Trust;
    d. All public records supporting funding requests the DEQ submits to the Trustee of the Environmental Mitigation Trust, and all public records supporting all expenditures of the Trust Fund, subject to North Carolina Public Records Law and confidentiality laws, until the termination dates of the Partial Consent Decrees;
    e. DEQ contact information; and
    f. Information about Electrify America's National ZEV Investment Plan:
        i. The DEQ does not submit requests for project funding under the National ZEV Investment Plan; it can only make suggestions for projects.
        ii. Electrify America will make the final National ZEV project selections.
        iii. The DEQ may provide links to the project submission portal established by Electrify America and may provide technical assistance or support for proposal development.

4. Project Planning

This section identifies the mechanisms available to the DEQ to fund projects and the potential local, state, and regional partners working with the DEQ on educational outreach and project development. Any programs the DEQ develops under the Plan will be designed to:

    a. Be consistent with all requirements of the trust agreement;
    b. Require appropriate documentation to ensure accountability; and
    c. Comply with the state laws, regulations, and policies.

5. Funding Mechanisms

All funding award decisions are made by the Trustee of the Environmental Mitigation Trust. The state will employ funding mechanisms and programs to determine which projects are submitted to the trustee for a final decision on funding.

    1. The DEQ may use a variety of funding mechanisms to evaluate funding requests for the Eligible Mitigation Actions, including but not limited to:
        a. Competitive grant awards - Funds awarded based on scoring of specific criteria;
        b. Sole-source grant awards - Funds awarded based on restrictions of location, product, service, or time;

c. Rebate programs - Funds awarded based on proof of purchase of a specific product or service;
d. Pilot projects - Funds awarded in a variety of formats, and
e. Memoranda of Understanding or Letters of Understanding (MOU/LOU) - Funds awarded as an agreement between the DEQ and other state agencies or local governments.

2. The DEQ will determine the most appropriate funding mechanism and programs to evaluate proposals for Eligible Mitigation Actions and will modify existing or develop new programs to evaluate eligible projects for the Mitigation Trust. The DEQ will incorporate any eligibility requirements contained in the Partial Consent Decrees into existing programs and into new programs as they are developed.

6. Project Partners

In addition to the general public, the DEQ has identified several local, state, regional and national organizations as potential project partners. The DEQ may work with these organizations on educational outreach and eligible project development. Organizations other than those listed here may also be considered as partners.

1. State Partners – The DEQ may partner with organizations within the state to identify and complete projects. Below are examples of the types of organizations within the state that may have experience in participating in grant or other funding programs, are linked to government agencies, and/or have knowledge of local fleets and interest in Eligible Mitigation Actions within their jurisdictions. Organizations other than those listed here may also be considered as partners.
    a. Other state agencies;
    b. Local air pollution control agencies (Forsyth County Office of Environmental Assistance and Protection, Mecklenburg County Air Quality and Western North Carolina Regional Air Quality Agency);
    c. Municipal governments, authorities and regional councils of government;
    d. Metropolitan and rural planning organizations;
    e. The North Carolina Rural Center;
    f. Clean Cities Coalitions;
    g. Environmental advocacy groups, and
    h. Clean transportation advocacy groups.
2. Regional and National Partners – The DEQ may partner with organizations located inside and outside of the state. Below are examples of organizations that may be useful to identify and complete projects involving vehicles or equipment involved in interstate transport or multi-state transportation corridors, such as rail projects, port projects, airport projects, and light-duty ZEV supply equipment development. Organizations other than those listed here may also be considered as partners.
    a. The Mid-Atlantic Regional Air Management Association;
    b. The Southeast Diesel Collaborative;
    c. The Association of Air Pollution Control Agencies;
    d. The National Association of Clean Air Agencies, or
    e. Neighboring states.

3. Business and Industry Partners – In addition to public and non-profit organizations, the DEQ may also partner with private businesses or industry groups that have an interest in, or information about, the Eligible Mitigation Actions.

Appendix A - Eligible Mitigation Actions

Eligible Mitigation Actions and Mitigation Action Expenditures

1. Class 8 Local Freight Trucks and Port Drayage Trucks (Eligible Large Trucks)
    a. Eligible Large Trucks include 1992-2009 engine model year Class 8 Local Freight or Drayage. For beneficiaries that have State regulations that already require upgrades to 1992-2009 engine model year trucks at the time of the proposed Eligible Mitigation Action, Eligible Large Trucks shall also include 2010-2012 engine model year Class 8 Local Freight or Drayage.
    b. Eligible Large Trucks must be scrapped.
    c. Eligible Large Trucks may be repowered with any new diesel or alternate fueled engine or all-electric engine, or may be replaced with any new diesel or alternate fueled or all-electric vehicle, with the engine model year in which the Eligible Large Trucks Mitigation Action occurs or one engine model year prior.
    d. For Non-Government Owned Eligible Class 8 Local Freight Trucks, beneficiaries may only draw funds from the trust in the amount of:
        1. Up to 40% of the cost of a repower with a new diesel or alternate fueled (e.g. compressed natural gas (CNG), propane, hybrid) engine, including the costs of installation of such engine.
        2. Up to 25% of the cost of a new diesel or alternate fueled (e.g. CNG, propane, hybrid) vehicle.
        3. Up to 75% of the cost of a repower with a new all-electric engine, including the costs of installation of such engine, and charging infrastructure associated with the new all-electric engine.
        4. Up to 75% of the cost of a new all-electric vehicle, including charging infrastructure associated with the new all-electric vehicle.
    e. For Non-Government Owned Eligible Drayage Trucks, Beneficiaries may only draw funds from the trust in the amount of:
        1. Up to 40% of the cost of a repower with a new diesel or alternate fueled (e.g. CNG, propane, hybrid) engine, including the costs of installation of such engine.
        2. Up to 50% of the cost of a new diesel or alternate fueled (e.g. CNG, propane, hybrid) vehicle.
        3. Up to 75% of the cost of a repower with a new all-electric engine, including the costs of installation of such engine, and charging infrastructure associated with the new all-electric engine.
        4. Up to 75% of the cost of a new all-electric vehicle, including charging infrastructure associated with the new all-electric vehicle.
    f. For Government Owned Eligible Class 8 Large Trucks, beneficiaries may draw funds from the trust in the amount of:
        1. Up to 100% of the cost of a repower with a new diesel or alternate fueled (e.g. CNG, propane, hybrid) engine, including the costs of installation of such engine.
        2. Up to 100% of the cost of a new diesel or alternate fueled (e.g. CNG, propane, hybrid) vehicle.
        3. Up to 100% of the cost of a repower with a new all-electric engine, including the costs of installation of such engine, and charging infrastructure associated with the new all-electric engine.
        4. Up to 100% of the cost of a new all-electric vehicle, including charging infrastructure associated with the new all-electric vehicle.

2. Class 4-8 School Bus, Shuttle Bus, or Transit Bus (Eligible Buses)
    a. Eligible buses include 2009 engine model year or older class 4-8 school buses, shuttle buses, or transit buses. For beneficiaries that have State regulations that already require upgrades to 1992-2009 engine model year buses at the time of the proposed Eligible Mitigation Action, eligible buses shall also include 2010-2012 engine model year class 4-8 school buses, shuttle buses, or transit buses.
    b. Eligible buses must be scrapped.
    c. Eligible buses may be repowered with any new diesel or alternate fueled or all-electric engine, or may be replaced with any new diesel or alternate fueled or all-electric vehicle, with the engine model year in which the Eligible Bus Mitigation Action occurs or one engine model year prior.
    d. For Non-Government Owned Buses, beneficiaries may draw funds from the trust in the amount of:
        1. Up to 40% of the cost of a repower with a new diesel or alternate fueled (e.g. CNG, propane, hybrid) engine, including the costs of installation of such engine.
        2. Up to 25% of the cost of a new diesel or alternate fueled (e.g. CNG, propane, hybrid) vehicle.
        3. Up to 75% of the cost of a repower with a new all-electric engine, including the costs of installation of such engine, and charging infrastructure associated with the new all-electric engine.
        4. Up to 75% of the cost of a new all-electric vehicle, including charging infrastructure associated with the new all-electric vehicle.
    e. For Government Owned Eligible Buses, and Privately-Owned School Buses Under Contract with a Public-School District, beneficiaries may draw funds from the trust in the amount of:
        1. Up to 100% of the cost of a repower with a new diesel or alternate fueled (e.g. CNG, propane, hybrid) engine, including the costs of installation of such engine.
        2. Up to 100% of the cost of a new diesel or alternate fueled (e.g. CNG, propane, hybrid) vehicle.
        3. Up to 100% of the cost of a repower with a new all-electric engine, including the costs of installation of such engine, and charging infrastructure associated with the new all-electric engine.
        4. Up to 100% of the cost of a new all-electric vehicle, including charging infrastructure associated with the new all-electric vehicle.

3. Freight Switchers
    a. Eligible freight switchers include pre-Tier 4 switcher locomotives that operate 1,000 or more hours per year.
    b. Eligible freight switchers must be scrapped.
    c. Eligible Freight Switchers may be repowered with any new diesel or alternate fueled or all-electric engine(s) (including generator sets), or may be replaced with any new diesel or alternate fueled or all-electric (including generator sets) freight switcher, that is certified to meet the applicable EPA emissions standards (or other more stringent equivalent State standard) as published in the CFR for the engine model year in which the Eligible Freight Switcher Mitigation Action occurs.
    d. For Non-Government Owned Freight Switchers, beneficiaries may draw funds from the Trust in the amount of:
        1. Up to 40% of the cost of a repower with a new diesel or alternate fueled (e.g. CNG, propane, hybrid) engine(s) or generator sets, including the costs of installation of such engine(s).
        2. Up to 25% of the cost of a new diesel or alternate fueled (e.g. CNG, propane, hybrid) freight switcher.

3. Up to 75% of the cost of a repower with a new all-electric engine(s), including the costs of installation of such engine(s), and charging infrastructure associated with the new all-electric engine(s).
4. Up to 75% of the cost of a new all-electric freight switcher, including charging infrastructure associated with the new all-electric freight switcher.

e. For Government Owned Eligible Freight Switchers, beneficiaries may draw funds from the trust in the amount of:
1. Up to 100% of the cost of a repower with a new diesel or alternate fueled (e.g. CNG, propane, hybrid) engine(s) or generator sets, including the costs of installation of such engine(s).
2. Up to 100% of the cost of a new diesel or alternate fueled (e.g. CNG, propane, hybrid) freight switcher.
3. Up to 100% of the cost of a repower with a new all-electric engine(s), including the costs of installation of such engine(s), and charging infrastructure associated with the new all-electric engine(s).
4. Up to 100% of the cost of a new all-electric freight switcher, including charging infrastructure associated with the new all-electric freight switcher.

4. Ferries/Tugs
a. Eligible ferries and/or tugs include unregulated, Tier 1, or Tier 2 marine engines.
b. Eligible ferry and/or tug engines that are replaced must be scrapped.
c. Eligible ferries and/or tugs may be repowered with any new Tier 3 or Tier 4 diesel or alternate fueled engines, or with all-electric engines, or may be upgraded with an EPA Certified Remanufacture System or an EPA Verified Engine Upgrade.
d. For Non-Government Owned Eligible Ferries and/or Tugs, beneficiaries may only draw funds from the trust in the amount of:
1. Up to 40% of the cost of a repower with a new diesel or alternate fueled (e.g. CNG, propane, hybrid) engine(s), including the costs of installation of such engine(s).
2. Up to 75% of the cost of a repower with a new all-electric engine(s), including the costs of installation of such engine(s), and charging infrastructure associated withthe new all-electric engine(s).
e. For Government Owned Eligible Ferries and/or Tugs, beneficiaries may draw funds from the trust in the amount of:
1. Up to 100% of the cost of a repower with a new diesel or alternate fueled (e.g. CNG, propane, hybrid) engine(s), including the costs of installation of such engine(s).
2. Up to 100% of the cost of a repower with a new all-electric engine(s), including the costs of installation of such engine(s), and charging infrastructure associated with the new all-electric engine(s).
5. Ocean-Going Vessels (OGV) Shore Power
a. Eligible marine shore power includes systems that enable a compatible vessel's main and auxiliary engines to remain off while the vessel is at berth. Components of such systems eligible for reimbursement are limited to cables, cable management systems, shore power coupler systems, distribution control systems, and power distribution. Marine shore power systems must comply with international shore power 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. Eligible Marine Shorepower includes equipment for vessels that operate within the Great Lakes.
b. For Non-Government Owned Marine Shorepower, beneficiaries may only draw funds from the trust in the amount of up to 25% for the costs associated with the shore-sidesystem,

including cables, cable management systems, shore power coupler systems, distribution control systems, installation, and power distribution components.

c. For Government Owned Marine Shorepower, beneficiaries may draw funds from the trust in the amount of up to 100% for the costs associated with the shore-side system, including cables, cable management systems, shore power coupler systems, distribution control systems, installation, and power distribution components.

6. Class 4-7 Local Freight Trucks (Medium Trucks)
    a. Eligible medium trucks include 1992-2009 engine model year class 4-7 local freight trucks, and for beneficiaries that have State regulations that already require upgrades to 1992-2009 engine model year trucks at the time of the proposed Eligible Mitigation Action, eligible trucks shall also include 2010-2012 engine model year class 4-7 local freight trucks.
    b. Eligible medium trucks must be scrapped.
    c. Eligible medium trucks may be repowered with any new diesel or alternate fueled or all-electric engine, or may be replaced with any new diesel or alternate fueled or all-electric vehicle, with the engine model year in which the Eligible Medium Trucks Mitigation Action occurs or one engine model year prior.
    d. For Non-Government Owned Eligible medium trucks, beneficiaries may draw funds from the trust in the amount of:
        1. Up to 40% of the cost of a repower with a new diesel or alternate fueled (e.g. CNG, propane, hybrid) engine, including the costs of installation of such engine.
        2. Up to 25% of the cost of a new diesel or alternate fueled (e.g. CNG, propane, hybrid) vehicle.
        3. Up to 75% of the cost of a repower with a new all-electric engine, including the costs of installation of such engine, and charging infrastructure associated with the new all-electric engine.
        4. Up to 75% of the cost of a new all-electric vehicle, including charging infrastructure associated with the new all-electric vehicle.
    e. For Government Owned Eligible Medium Trucks, beneficiaries may draw funds from the trust in the amount of:
        1. Up to 100% of the cost of a repower with a new diesel or alternate fueled (e.g. CNG, propane, hybrid) engine, including the costs of installation of such engine.
        2. Up to 100% of the cost of a new diesel or alternate fueled (e.g. CNG, propane, hybrid) vehicle.
        3. Up to 100% of the cost of a repower with a new all-electric engine, including the costs of installation of such engine, and charging infrastructure associated with the new all-electric engine.
        4. Up to 100% of the cost of a new all-electric vehicle, including charging infrastructure associated with the new all-electric vehicle.
7. Airport Ground Support Equipment
    a. 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 3 g/bhp-hr or higher emissions, spark ignition engine powered airport ground support equipment.
    b. Eligible airport ground Support Equipment must be scrapped.
    c. Eligible airport ground support equipment may be repowered with an all-electric engine or may be replaced with the same airport ground support equipment in an all-electric form.
    d. For Non-Government Owned eligible airport ground support equipment, beneficiaries may only draw funds from the trust in the amount of:

1. Up to 75% of the cost of a repower with a new all-electric engine, including costs of installation of such engine, and charging infrastructure associated with such new all-electric engine.
2. Up to 75% of the cost of a new all-electric airport ground support equipment, including charging infrastructure associated with such new all-electric airport ground support equipment.

e. For Government Owned eligible airport ground support equipment, beneficiaries may draw funds from the trust in the amount of:
1. Up to 100% of the cost of a repower with a new all-electric engine, including costs of installation of such engine, and charging infrastructure associated with such new all-electric engine.
2. Up to 100% of the cost of a new all-electric airport ground support equipment, including charging infrastructure associated with such new all-electric airport ground support equipment.

8. Forklifts and Port Cargo Handling Equipment
a. Eligible forklifts include forklifts with greater than 8,000 pounds lift capacity.
b. Eligible forklifts and port cargo handling equipment must be scrapped.
c. Eligible forklifts and port cargo handling equipment may be repowered with an all-electric engine or may be replaced with the same equipment in an all-electric form.
d. For Non-Government Owned eligible forklifts and port cargo handling equipment, beneficiaries may draw funds from the trust in the amount of:
1. Up to 75% of the cost of a repower with a new all-electric engine, including costs of installation of such engine, and charging infrastructure associated with such new all-electric engine.
2. Up to 75% of the cost of a new all-electric forklift or port cargo handling equipment, including charging infrastructure associated with such new all-electric forklift or port cargo handling equipment.
e. For Government Owned eligible forklifts and port cargo handling equipment, beneficiaries may draw funds from the trust in the amount of:
1. Up to 100% of the cost of a repower with a new all-electric engine, including costs of installation of such engine, and charging infrastructure associated with such new all-electric engine.
2. Up to 100% of the cost of a new all-electric forklift or port cargo handling equipment, including charging infrastructure associated with such new all-electric forklift or port cargo handling equipment.

9. Light Duty Zero Emission Vehicle Supply Equipment. Each beneficiary may use up to 15% of its allocation of trust funds on the costs necessary for, and directly connected to, the acquisition, installation, operation and maintenance of new light-duty zero emission vehicle supply equipment for projects as specified below. Provided, however, that trust funds shall not be made available or used to purchase or rent real estate, other capital costs (e.g., construction of buildings, parking facilities, etc.) or general maintenance (i.e., maintenance other than of the supply equipment).
a. Light duty electric vehicle supply equipment includes Level 1, Level 2 or fast charging equipment (or analogous successor technologies) that is located in a public place, workplace, or multi-unit dwelling and is not consumer light duty electric vehicle supply equipment (i.e., not located at a private residential dwelling that is not a multi-unit dwelling).
b. Light duty hydrogen fuel cell vehicle supply equipment includes hydrogen dispensing equipment capable of dispensing hydrogen at a pressure of 70 megapascals (MPa) (or analogous successor technologies) that is located in a public place.

c. Subject to the 15% limitation above, each beneficiary may draw funds from the trust in the amount of:
    1. Up to 100% of the cost to purchase, install and maintain eligible light-duty electric vehicle supply equipment that will be available to the public at a government-owned property.
    2. Up to 80% of the cost to purchase, install and maintain eligible light-duty electric vehicle supply equipment that will be available to the public at a Non-Government Owned property.
    3. Up to 60% of the cost to purchase, install and maintain eligible light-duty electric vehicle supply equipment that is available at a workplace but not to the general public.
    4. Up to 60% of the cost to purchase, install and maintain eligible light-duty electric vehicle supply equipment that is available at a multi-unit dwelling but not to the general public.
    5. Up to 33% of the cost to purchase, install and maintain eligible light-duty hydrogen fuel cell vehicle supply equipment capable of dispensing at least 250 kg/day that will be available to the public.
    6. Up to 25% of the cost to purchase, install and maintain eligible light-duty hydrogen fuel cell vehicle supply equipment capable of dispensing at least 100 kg/day that will be available to the public.

10. Diesel Emission Reduction Act (DERA) Option. beneficiaries may use trust funds for their non-federal voluntary match, pursuant to Title VII, Subtitle G, Section 793 of the DERA Program in the Energy Policy Act of 2005 (codified at 42 U.S.C. § 16133), or Section 792 (codified at 42 U.S.C. § 16132) in the case of tribes, thereby allowing beneficiaries to use such trust funds for actions not specifically enumerated in this Appendix D-2, but otherwise eligible under DERA pursuant to all DERA guidance documents available through the EPA. Trust funds shall not be used to meet the non-federal mandatory cost share requirements, as defined in applicable DERA program guidance, of any DERA grant. The DERA program is a Congressionally-authorized project that enables the U.S. EPA to offer assistance for actions reducing diesel emissions. Thirty percent of the annual DERA funds are allocated to the DERA Clean Diesel State Grant Program. States and territories that match the base amount dollar per dollar receive an additional amount of EPA DERA funding to add to the grant (50% of the base amount). Trust funds can be used for states or territories non-federal match on a 1:1 basis. See Appendix B for EPAs Detailed Comparison of VW Eligible Mitigation Actions 1-9 and Eligible Mitigation Action #10 (DERA Option).

Appendix B - EPA Detailed Comparison of VW Eligible Mitigation Action 1-9 and Eligible Mitigation Action #10 (DERA Option)

Detailed Comparison of VW Eligible Mitigation Action 1-9 and Eligible Mitigation Action #10 (DERA Option)

Eligible Mitigation Actions 1-9* **Class 8 Local Freight Trucks and Port Drayage Trucks (Eligible Large Trucks)** **Class 4-7 Local Freight Trucks (Eligible Medium Trucks)** For, 1) Beneficiaries that have State regulations that already require upgrades to 1992-2009 engine model year trucks at the time of the proposed EMA, and 2) Eligible Trucks shall also include 2010-2012 engine model year trucks.				**Eligible Mitigation Action 10: DERA Option**** **Class 5-8 Medium and Heavy Duty Highway Vehicles (including Drayage Trucks)**		
Activity	Vehicle and Equipment Eligibility (Engine Model Year or Tier)	Trust Funding Limits		Activity	Vehicle and Equipment Eligibility (Engine Model Year or Tier)	DERA Funding Limits
		Non-Gov. Owned	Gov. Owned			
Engine replacement with new diesel or alternate fueled engine, MY (model year) in which the EMA occurs or one engine model year prior	1992-2009	40%	100%	Engine replacement with diesel or alternate fueled engine, 2017 MY or newer	1995-2006	40%
				Engine replacement with engine certified to CARB's Optional Low-NOx standards, 2017 MY or newer	1995-2006	50%
Engine replacement with new all-electric engine, engine MY in which the EMA occurs or one engine MY prior	1992-2009	75%	100%	Engine replacement with an electric motor or an electric power source, 2017 MY or newer	1995-2009	60%
Vehicle replacement with new diesel or alternate fueled vehicle, engine MY in which the EMA occurs or one engine MY prior	1992-2009	25% (50% for Drayage)	100%	Vehicle replacement with diesel or alternate fueled vehicle, 2017 MY or newer engine (2012 MY or newer engine for Drayage)	1995-2006	25% (50% for Drayage)
				Vehicle replacement with vehicle powered by engine certified to CARB's Optional Low-NOx standards, 2017 MY or newer engine	1995-2006	35% (50% for Drayage)
Vehicle Replacement with all-electric vehicle, engine MY in which the EMA occurs or one engine MY prior	1992-2009	75%	100%	Vehicle replacement with all-electric vehicle, 2017 MY or newer engine	1995-2009	45% (50% for Drayage)
				Retrofits with verified exhaust control technologies (SCR is the only eligible retrofit technology for vehicles with 2007-2009 MY engines)	1995-2009	100%
				Verified Aerodynamic Technologies and Low Rolling Resistance Tires (in conjunction with above activities)	1995-2009	100%
				Verified Idle Reduction Technologies (APUs and generators are not eligible on vehicles with 2007-2009 MY engines)	1995-2009	25%
				Clean Alternative Fuel Conversion	1995-2009	40%

Eligible Mitigation Actions 1-9*				Eligible Mitigation Action 10: DERA Option**		
Class 4-8 School Bus, Shuttle Bus, or Transit Bus (Eligible Buses) For, 1) Beneficiaries that have State regulations that already require upgrades to 1992-2009 engine model year buses at the time of the proposed EMA, and 2) Eligible Buses shall also include 2010-2012 engine model year class 4-8 school buses, shuttle buses, or transit buses.				**Type A, B, C, D Buses** **Class 5-8 Transit, Shuttle, or other buses**		
Activity	Vehicle and Equipment Eligibility (Engine Model Year or Tier)	Trust Funding Limits		Activity	Vehicle and Equipment Eligibility (Engine Model Year or Tier)	DERA Funding Limits
		Non-Gov. Owned	Gov. Owned			
Engine replacement with new diesel or alternate fueled engine, engine MY in which the EMA occurs or one engine model year prior	2009 and older	40%	100%	Engine replacement with diesel or alternate fueled engine, 2017 MY or newer	1995-2006	40%
				Engine replacement with engine certified to CARB's Optional Low-NOx standards, 2017 MY or newer	1995-2006	50%
Engine replacement with new all-electric engine, engine MY in which the EMA occurs or one engine MY prior	2009 and older	75%	100%	Engine replacement with an electric motor or an electric power source, 2017 MY or newer	1995-2009	60%
Vehicle replacement with new diesel or alternate fueled vehicle, engine MY in which the EMA occurs or one engine MY prior	2009 and older	25%	100%	Vehicle replacement with diesel or alternate fueled vehicle, 2017 MY or newer engine	1995-2006	25%
				Vehicle replacement with vehicle powered by engine certified to CARB's Optional Low-NOx standards, 2017 MY or newer engine	1995-2006	35%
Vehicle Replacement with all-electric vehicle with the engine MY in which the EMA occurs or one engine MY prior	2009 and older	75%	100%	Vehicle replacement with all-electric vehicle, 2017 MY or newer engine	1995-2009	45%
				Retrofits with verified exhaust control technologies (SCR is the only eligible retrofit technology for vehicles with 2007-2009 MY engines)	1995-2009	100%
				Verified Idle Reduction Technologies (APUs and generators are not eligible on vehicles with MY 2007-2009 engines)	1995-2009	25%
				Clean Alternative Fuel Conversion	1995-2009	40%

Eligible Mitigation Actions 1-9*				Eligible Mitigation Action 10: DERA Option**		
Freight Switchers Must currently operate 1000+ hours per year.				**Line Haul (freight and passenger) and Switcher Locomotives** Must currently operate 1000+ hours per year		
Activity	Vehicle and Equipment Eligibility (Engine Model Year or Tier)	Trust Funding Limits		Activity	Vehicle and Equipment Eligibility (Engine Model Year or Tier)	DERA Funding Limits
		Non-Gov. Owned	Gov. Owned			
Engine replacement with new diesel or alternate fueled engine or generator sets that are EPA certified for the engine MY in which the EMA occurs	Pre-Tier 4	40%	100%	Engine replacement with 2017 MY or newer Tier 4 engine	Unregulated – Tier 2; Tier 2+ switcher	40%
Engine replacement with new all-electric engine	Pre-Tier 4	75%	100%	Engine replacement with 2017 MY or newer all-electric engine	Unregulated – Tier 2; Tier 2+ switcher	60%
Locomotive replacement with new diesel or alternate fueled freight switcher that is EPA certified for the engine MY in which the EMA occurs	Pre-Tier 4	25%	100%	Locomotive replacement with equipment powered by a 2017 MY or newer engine (diesel or alternate fuel)	Unregulated – Tier 2; Tier 2+ switcher	25%
Locomotive replacement with new all-electric freight switcher	Pre-Tier 4	75%	100%	Locomotive replacement with 2017 MY or newer all-electric equipment	Unregulated – Tier 2; Tier 2+ switcher	45%
				Certified Remanufacture System or Verified Engine Upgrade	Unregulated - Tier 2+	40%
				Retrofit with verified exhaust control technology	Unregulated - Tier 2+	100%
				Idle reduction technology, including shore power	Unregulated – Tier 2+	40%
Ferries/Tugs				**Marine Engines** Must currently operate 1000+ hours per year.		
Engine replacement with new Tier 3 or 4 diesel or alternate fueled engine	Pre-Tier 3	40%	100%	Engine replacement with a 2017 MY or newer Tier 3 or Tier 4 engine (diesel or alternative fuel)	Pre-Tier 3	40%
Engine replacement with new all-electric engine	Pre-Tier 3	75%	100%	Engine replacement with 2017 MY or newer all-electric engine	Pre-Tier 3	60%
Certified Remanufacture System or Verified Engine Upgrade	Pre-Tier 3	40%	100%	Certified Remanufacture System or Verified Engine Upgrade	Pre-Tier 3	40%

Eligible Mitigation Actions 1-9*				**Eligible Mitigation Action 10: DERA Option****		
Ocean Going Vessels (OGV) Shore Power				**Marine Shore Power Connection System**		
Activity	Vehicle and Equipment Eligibility (Engine Model Year or Tier)	Trust Funding Limits		Activity	Vehicle and Equipment Eligibility (Engine Model Year or Tier)	DERA Funding Limits
		Non-Gov. Owned	Gov. Owned			
Costs associated with shore-side system	n/a	25%	100%	Costs associated with shore-side system	n/a	25%
Airport Ground Support Equipment Forklifts and Port Cargo Handling Equipment				**Nonroad Diesel Engines**		
Engine replacement with new all-electric engine	GSE: Pre-Tier 3 diesel; 3 g/bhp-hr and higher spark ignition Forklifts and Port CHE: Greater than 8000 lbs lift capacity	75%	100%	Engine replacement with all-electric engine	0-50 HP = 2005 and newer; 51-300 HP = 1995 and newer; 301+HP = 1985 and newer; See FY2017 State Clean Diesel Program Guide for complete engine tier restrictions	60%
Equipment replacement with new all-electric equipment		75%	100%	Equipment Replacement with 2017 MY or newer all-electric equipment		45%
				Engine replacement with a 2017 MY or newer engine (diesel or alternative fuel)		40%
				Equipment replacement with equipment powered by 2017 MY or newer engine (diesel or alternative fuel)		25%
				Retrofit with verified exhaust control technologies		100%
				Verified Engine Upgrade		40%
				Electrified Parking Spaces (Truck Stop Electrification)		
				Labor and equipment of eligible EPA SmartWay verified electrified parking space technologies	n/a	30%
Light Duty Zero Emission Vehicle Supply Equipment Level 1, level 2, or fast charging equipment that is not consumer light duty electric vehicle supply equipment						
See Appendix D-2 for details						

* The term "Repower" in the Consent Decree has been changed to "Engine replacement" for ease of comparison.

** DERA Option eligibility and cost-shares are based on the FY2017 State Clean Diesel Program Guide. Subsequent years are subject to change.

Definitions/Glossary of Terms from Appendix D-2 to Partial Consent Decree MDL No. 2672 CRB (JSC)

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

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

"Alternate Fueled" shall mean 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).

"Certified Remanufacture System or Verified Engine Upgrade" shall mean engine upgrades certified or verified by EPA or CARB to achieve a reduction in emissions.

"Class 4-7 Local Freight Trucks (Medium Trucks)" shall mean 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 4-8 School Bus, Shuttle Bus, or Transit Bus (Buses)" shall mean vehicles with a Gross Vehicle Weight Rating (GVWR) greater than 14,001 lbs used for transporting people. See definition for School Bus below.

"Class 8 Local Freight, and Port Drayage Trucks (Eligible Large Trucks)" shall mean 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).

"Drayage Trucks" shall mean trucks hauling cargo to and from ports and intermodal rail yards.

"Forklift" shall mean nonroad 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" shall mean a locomotive that moves rail cars around a rail yard as compared to a line-haul engine that move freight long distances.

"Generator Set" shall mean 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.

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

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

> Class 1: < 6000 lb; Class 2: 6001-10,000 lb; Class 3: 10,001-14,000 lb; Class 4: 14,001-16,000 lb; Class 5: 16,001-19,500 lb; Class 6: 19,501-26,000 lb; Class 7: 26,001-33,000 lb; Class 8: > 33,001 lb

"Hybrid" shall mean a vehicle that combines an internal combustion engine with a battery and electric motor.

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

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

"Repower" shall mean to replace an existing engine with a newer, cleaner engine or power source that is certified by EPA and, if applicable, CARB, to meet a more stringent set of engine emission standards. Repower includes, but is not limited to, diesel engine replacement with an engine certified for use with diesel or a clean alternate fuel, diesel engine replacement with an electric power source (grid, battery), diesel engine replacement with a fuel cell, diesel engine replacement with an electric generator(s) (genset), diesel engine upgrades in Ferries/Tugs with an EPA Certified Remanufacture System, and/or diesel engine upgrades in Ferries/Tugs with an EPA Verified Engine Upgrade. All-Electric and fuel cell Repowers do not require EPA or CARB certification.

"School Bus" shall mean a Class 4-8 bus sold or introduced into interstate commerce for purposes that include carrying students to and from school or related events. May be Type A-D.

"Tier 0, 1, 2, 3, 4" shall refer to corresponding EPA engine emission classifications for nonroad, locomotive and marine engines.

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

"Zero Emission Vehicle (ZEV)" shall mean a vehicle that produces no emissions from the on-board source of power (e.g., All-Electric or hydrogen fuel cell vehicles).

Appendix C - Mobile NOx Emissions by County

SECTOR	STATE	COUNTY	POLLUTANT	POLLUTANT TYPE	EMISSIONS	UNIT OF MEASURE
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Alamance	Nitrogen Oxides	CAP	804.100584	TON
Mobile - Non-Road Equipment - Diesel	NC	Alamance	Nitrogen Oxides	CAP	262.0564107	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Alamance	Nitrogen Oxides	CAP	70.07413	TON
Mobile - Locomotives	NC	Alamance	Nitrogen Oxides	CAP	37.794	TON
Mobile - Aircraft	NC	Alamance	Nitrogen Oxides	CAP	5.3232509	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Alexander	Nitrogen Oxides	CAP	108.255025	TON
Mobile - Non-Road Equipment - Diesel	NC	Alexander	Nitrogen Oxides	CAP	70.5403377	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Alexander	Nitrogen Oxides	CAP	23.826144	TON
Mobile - Locomotives	NC	Alexander	Nitrogen Oxides	CAP	8.3939	TON
Mobile - Aircraft	NC	Alexander	Nitrogen Oxides	CAP	0.02540963	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Alleghany	Nitrogen Oxides	CAP	39.6885002	TON
Mobile - Non-Road Equipment - Diesel	NC	Alleghany	Nitrogen Oxides	CAP	35.65605842	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Alleghany	Nitrogen Oxides	CAP	10.816242	TON
Mobile - Aircraft	NC	Alleghany	Nitrogen Oxides	CAP	0.00219906	TON
Mobile - Locomotives	NC	Alleghany	Nitrogen Oxides	CAP	0	TON
Mobile - Locomotives	NC	Anson	Nitrogen Oxides	CAP	181.387	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Anson	Nitrogen Oxides	CAP	142.224643	TON
Mobile - Non-Road Equipment - Diesel	NC	Anson	Nitrogen Oxides	CAP	48.15462432	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Anson	Nitrogen Oxides	CAP	14.960174	TON
Mobile - Aircraft	NC	Anson	Nitrogen Oxides	CAP	0.3067157	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Ashe	Nitrogen Oxides	CAP	102.60928	TON
Mobile - Non-Road Equipment - Diesel	NC	Ashe	Nitrogen Oxides	CAP	65.66870195	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Ashe	Nitrogen Oxides	CAP	20.182475	TON
Mobile - Aircraft	NC	Ashe	Nitrogen Oxides	CAP	3.13343207	TON
Mobile - Locomotives	NC	Ashe	Nitrogen Oxides	CAP	0	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Avery	Nitrogen Oxides	CAP	86.878582	TON
Mobile - Non-Road Equipment - Diesel	NC	Avery	Nitrogen Oxides	CAP	59.2199548	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Avery	Nitrogen Oxides	CAP	15.715333	TON
Mobile - Aircraft	NC	Avery	Nitrogen Oxides	CAP	5.9197414	TON
Mobile - Locomotives	NC	Avery	Nitrogen Oxides	CAP	0	TON
Mobile - Commercial Marine Vessels	NC	Beaufort	Nitrogen Oxides	CAP	301.7787786	TON
Mobile - Non-Road Equipment - Diesel	NC	Beaufort	Nitrogen Oxides	CAP	278.2369691	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Beaufort	Nitrogen Oxides	CAP	211.73655	TON
Mobile - Locomotives	NC	Beaufort	Nitrogen Oxides	CAP	58.6148	TON

SECTOR	STATE	COUNTY	POLLUTANT	POLLUTANT TYPE	EMISSIONS	UNIT OF MEASURE
Mobile - On-Road Diesel Light Duty Vehicles	NC	Beaufort	Nitrogen Oxides	CAP	31.30193	TON
Mobile - Aircraft	NC	Beaufort	Nitrogen Oxides	CAP	28.3399561	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Bertie	Nitrogen Oxides	CAP	127.311945	TON
Mobile - Non-Road Equipment - Diesel	NC	Bertie	Nitrogen Oxides	CAP	123.2473672	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Bertie	Nitrogen Oxides	CAP	16.532987	TON
Mobile - Locomotives	NC	Bertie	Nitrogen Oxides	CAP	10.7694	TON
Mobile - Commercial Marine Vessels	NC	Bertie	Nitrogen Oxides	CAP	0.327588	TON
Mobile - Aircraft	NC	Bertie	Nitrogen Oxides	CAP	0.0059268	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Bladen	Nitrogen Oxides	CAP	202.593998	TON
Mobile - Non-Road Equipment - Diesel	NC	Bladen	Nitrogen Oxides	CAP	105.746728	TON
Mobile - Locomotives	NC	Bladen	Nitrogen Oxides	CAP	44.383	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Bladen	Nitrogen Oxides	CAP	18.876504	TON
Mobile - Aircraft	NC	Bladen	Nitrogen Oxides	CAP	3.92864565	TON
Mobile - Commercial Marine Vessels	NC	Bladen	Nitrogen Oxides	CAP	0.05357444	TON
Mobile - Commercial Marine Vessels	NC	Brunswick	Nitrogen Oxides	CAP	1549.549443	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Brunswick	Nitrogen Oxides	CAP	605.46518	TON
Mobile - Non-Road Equipment - Diesel	NC	Brunswick	Nitrogen Oxides	CAP	301.5585927	TON
Mobile - Locomotives	NC	Brunswick	Nitrogen Oxides	CAP	68.4558	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Brunswick	Nitrogen Oxides	CAP	53.7701	TON
Mobile - Aircraft	NC	Brunswick	Nitrogen Oxides	CAP	22.7884466	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Buncombe	Nitrogen Oxides	CAP	1486.19285	TON
Mobile - Non-Road Equipment - Diesel	NC	Buncombe	Nitrogen Oxides	CAP	422.6885429	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Buncombe	Nitrogen Oxides	CAP	165.6001	TON
Mobile - Locomotives	NC	Buncombe	Nitrogen Oxides	CAP	162.5142	TON
Mobile - Aircraft	NC	Buncombe	Nitrogen Oxides	CAP	70.67842859	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Burke	Nitrogen Oxides	CAP	454.921755	TON
Mobile - Non-Road Equipment - Diesel	NC	Burke	Nitrogen Oxides	CAP	112.0628876	TON
Mobile - Locomotives	NC	Burke	Nitrogen Oxides	CAP	87.1749	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Burke	Nitrogen Oxides	CAP	69.43175	TON
Mobile - Aircraft	NC	Burke	Nitrogen Oxides	CAP	7.7108358	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Cabarrus	Nitrogen Oxides	CAP	992.93745	TON
Mobile - Non-Road Equipment - Diesel	NC	Cabarrus	Nitrogen Oxides	CAP	347.2510259	TON
Mobile - Locomotives	NC	Cabarrus	Nitrogen Oxides	CAP	162.92264	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Cabarrus	Nitrogen Oxides	CAP	95.21381	TON

SECTOR	STATE	COUNTY	POLLUTANT	POLLUTANT TYPE	EMISSIONS	UNIT OF MEASURE
Mobile - Aircraft	NC	Cabarrus	Nitrogen Oxides	CAP	12.92623326	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Caldwell	Nitrogen Oxides	CAP	258.74717	TON
Mobile - Non-Road Equipment - Diesel	NC	Caldwell	Nitrogen Oxides	CAP	134.3626029	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Caldwell	Nitrogen Oxides	CAP	59.23849	TON
Mobile - Locomotives	NC	Caldwell	Nitrogen Oxides	CAP	12.8313	TON
Mobile - Aircraft	NC	Caldwell	Nitrogen Oxides	CAP	3.49426324	TON
Mobile - Commercial Marine Vessels	NC	Camden	Nitrogen Oxides	CAP	299.8162124	TON
Mobile - Non-Road Equipment - Diesel	NC	Camden	Nitrogen Oxides	CAP	98.30298199	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Camden	Nitrogen Oxides	CAP	62.5599943	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Camden	Nitrogen Oxides	CAP	10.209451	TON
Mobile - Locomotives	NC	Camden	Nitrogen Oxides	CAP	4.56984	TON
Mobile - Aircraft	NC	Camden	Nitrogen Oxides	CAP	0.0000325	TON
Mobile - Commercial Marine Vessels	NC	Carteret	Nitrogen Oxides	CAP	1408.796838	TON
Mobile - Non-Road Equipment - Diesel	NC	Carteret	Nitrogen Oxides	CAP	380.1191737	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Carteret	Nitrogen Oxides	CAP	250.627401	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Carteret	Nitrogen Oxides	CAP	44.27313	TON
Mobile - Aircraft	NC	Carteret	Nitrogen Oxides	CAP	17.55256604	TON
Mobile - Locomotives	NC	Carteret	Nitrogen Oxides	CAP	4.39023	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Caswell	Nitrogen Oxides	CAP	127.195516	TON
Mobile - Locomotives	NC	Caswell	Nitrogen Oxides	CAP	53.18482	TON
Mobile - Non-Road Equipment - Diesel	NC	Caswell	Nitrogen Oxides	CAP	35.28580015	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Caswell	Nitrogen Oxides	CAP	15.486114	TON
Mobile - Aircraft	NC	Caswell	Nitrogen Oxides	CAP	0.29086095	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Catawba	Nitrogen Oxides	CAP	690.676204	TON
Mobile - Non-Road Equipment - Diesel	NC	Catawba	Nitrogen Oxides	CAP	349.3037617	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Catawba	Nitrogen Oxides	CAP	81.0789	TON
Mobile - Locomotives	NC	Catawba	Nitrogen Oxides	CAP	71.84041	TON
Mobile - Aircraft	NC	Catawba	Nitrogen Oxides	CAP	0.48718431	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Chatham	Nitrogen Oxides	CAP	397.062105	TON
Mobile - Non-Road Equipment - Diesel	NC	Chatham	Nitrogen Oxides	CAP	193.2738837	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Chatham	Nitrogen Oxides	CAP	50.96842	TON
Mobile - Locomotives	NC	Chatham	Nitrogen Oxides	CAP	13.74058	TON
Mobile - Aircraft	NC	Chatham	Nitrogen Oxides	CAP	6.2964487	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Cherokee	Nitrogen Oxides	CAP	129.848357	TON

SECTOR	STATE	COUNTY	POLLUTANT	POLLUTANT TYPE	EMISSIONS	UNIT OF MEASURE
Mobile - Non-Road Equipment - Diesel	NC	Cherokee	Nitrogen Oxides	CAP	54.67196026	TON
Mobile - Locomotives	NC	Cherokee	Nitrogen Oxides	CAP	22.7407	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Cherokee	Nitrogen Oxides	CAP	18.437624	TON
Mobile - Aircraft	NC	Cherokee	Nitrogen Oxides	CAP	3.6153496	TON
Mobile - Non-Road Equipment - Diesel	NC	Chowan	Nitrogen Oxides	CAP	77.70285791	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Chowan	Nitrogen Oxides	CAP	74.5593524	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Chowan	Nitrogen Oxides	CAP	6.558965	TON
Mobile - Aircraft	NC	Chowan	Nitrogen Oxides	CAP	3.3235733	TON
Mobile - Locomotives	NC	Chowan	Nitrogen Oxides	CAP	2.29022	TON
Mobile - Commercial Marine Vessels	NC	Chowan	Nitrogen Oxides	CAP	2.026274	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Clay	Nitrogen Oxides	CAP	44.8826657	TON
Mobile - Non-Road Equipment - Diesel	NC	Clay	Nitrogen Oxides	CAP	26.64024632	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Clay	Nitrogen Oxides	CAP	8.045968	TON
Mobile - Aircraft	NC	Clay	Nitrogen Oxides	CAP	0.00275736	TON
Mobile - Locomotives	NC	Clay	Nitrogen Oxides	CAP	0	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Cleveland	Nitrogen Oxides	CAP	578.881442	TON
Mobile - Non-Road Equipment - Diesel	NC	Cleveland	Nitrogen Oxides	CAP	171.5036493	TON
Mobile - Locomotives	NC	Cleveland	Nitrogen Oxides	CAP	107.79248	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Cleveland	Nitrogen Oxides	CAP	77.245	TON
Mobile - Aircraft	NC	Cleveland	Nitrogen Oxides	CAP	1.73914054	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Columbus	Nitrogen Oxides	CAP	389.138599	TON
Mobile - Non-Road Equipment - Diesel	NC	Columbus	Nitrogen Oxides	CAP	160.11018	TON
Mobile - Locomotives	NC	Columbus	Nitrogen Oxides	CAP	39.1421	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Columbus	Nitrogen Oxides	CAP	34.33149	TON
Mobile - Aircraft	NC	Columbus	Nitrogen Oxides	CAP	6.39572598	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Craven	Nitrogen Oxides	CAP	385.781266	TON
Mobile - Non-Road Equipment - Diesel	NC	Craven	Nitrogen Oxides	CAP	198.2865395	TON
Mobile - Commercial Marine Vessels	NC	Craven	Nitrogen Oxides	CAP	86.54943729	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Craven	Nitrogen Oxides	CAP	36.86642	TON
Mobile - Locomotives	NC	Craven	Nitrogen Oxides	CAP	23.2561	TON
Mobile - Aircraft	NC	Craven	Nitrogen Oxides	CAP	15.59150083	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Cumberland	Nitrogen Oxides	CAP	1488.8846	TON
Mobile - Aircraft	NC	Cumberland	Nitrogen Oxides	CAP	669.3904324	TON
Mobile - Non-Road Equipment - Diesel	NC	Cumberland	Nitrogen Oxides	CAP	411.894585	TON

SECTOR	STATE	COUNTY	POLLUTANT	POLLUTANT TYPE	EMISSIONS	UNIT OF MEASURE
Mobile - Locomotives	NC	Cumberland	Nitrogen Oxides	CAP	264.6694	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Cumberland	Nitrogen Oxides	CAP	86.88281	TON
Mobile - Commercial Marine Vessels	NC	Currituck	Nitrogen Oxides	CAP	598.24079	TON
Mobile - Non-Road Equipment - Diesel	NC	Currituck	Nitrogen Oxides	CAP	237.5586458	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Currituck	Nitrogen Oxides	CAP	171.32586	TON
Mobile - Aircraft	NC	Currituck	Nitrogen Oxides	CAP	39.7634355	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Currituck	Nitrogen Oxides	CAP	33.71513	TON
Mobile - Locomotives	NC	Currituck	Nitrogen Oxides	CAP	13.1962	TON
Mobile - Commercial Marine Vessels	NC	Dare	Nitrogen Oxides	CAP	2480.486422	TON
Mobile - Non-Road Equipment - Diesel	NC	Dare	Nitrogen Oxides	CAP	492.5649483	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Dare	Nitrogen Oxides	CAP	275.022119	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Dare	Nitrogen Oxides	CAP	40.65496	TON
Mobile - Aircraft	NC	Dare	Nitrogen Oxides	CAP	7.906430062	TON
Mobile - Locomotives	NC	Dare	Nitrogen Oxides	CAP	0	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Davidson	Nitrogen Oxides	CAP	740.176777	TON
Mobile - Locomotives	NC	Davidson	Nitrogen Oxides	CAP	414.0703	TON
Mobile - Non-Road Equipment - Diesel	NC	Davidson	Nitrogen Oxides	CAP	242.025412	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Davidson	Nitrogen Oxides	CAP	115.10279	TON
Mobile - Aircraft	NC	Davidson	Nitrogen Oxides	CAP	6.30402226	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Davie	Nitrogen Oxides	CAP	395.892128	TON
Mobile - Non-Road Equipment - Diesel	NC	Davie	Nitrogen Oxides	CAP	92.94228175	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Davie	Nitrogen Oxides	CAP	42.55828	TON
Mobile - Aircraft	NC	Davie	Nitrogen Oxides	CAP	6.5936825	TON
Mobile - Locomotives	NC	Davie	Nitrogen Oxides	CAP	0.510868	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Duplin	Nitrogen Oxides	CAP	427.859202	TON
Mobile - Non-Road Equipment - Diesel	NC	Duplin	Nitrogen Oxides	CAP	184.2364738	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Duplin	Nitrogen Oxides	CAP	37.76948	TON
Mobile - Aircraft	NC	Duplin	Nitrogen Oxides	CAP	17.2531733	TON
Mobile - Locomotives	NC	Duplin	Nitrogen Oxides	CAP	12.2135	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Durham	Nitrogen Oxides	CAP	1323.07905	TON
Mobile - Non-Road Equipment - Diesel	NC	Durham	Nitrogen Oxides	CAP	752.4004115	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Durham	Nitrogen Oxides	CAP	59.19457	TON
Mobile - Locomotives	NC	Durham	Nitrogen Oxides	CAP	37.0551	TON
Mobile - Aircraft	NC	Durham	Nitrogen Oxides	CAP	1.5126868	TON

SECTOR	STATE	COUNTY	POLLUTANT	POLLUTANT TYPE	EMISSIONS	UNIT OF MEASURE
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Edgecombe	Nitrogen Oxides	CAP	258.870706	TON
Mobile - Non-Road Equipment - Diesel	NC	Edgecombe	Nitrogen Oxides	CAP	162.2666101	TON
Mobile - Locomotives	NC	Edgecombe	Nitrogen Oxides	CAP	86.9923	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Edgecombe	Nitrogen Oxides	CAP	15.626189	TON
Mobile - Aircraft	NC	Edgecombe	Nitrogen Oxides	CAP	3.07126224	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Forsyth	Nitrogen Oxides	CAP	1108.46219	TON
Mobile - Non-Road Equipment - Diesel	NC	Forsyth	Nitrogen Oxides	CAP	570.2990246	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Forsyth	Nitrogen Oxides	CAP	109.7847	TON
Mobile - Locomotives	NC	Forsyth	Nitrogen Oxides	CAP	39.1231	TON
Mobile - Aircraft	NC	Forsyth	Nitrogen Oxides	CAP	11.64082617	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Franklin	Nitrogen Oxides	CAP	240.996988	TON
Mobile - Non-Road Equipment - Diesel	NC	Franklin	Nitrogen Oxides	CAP	101.8610552	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Franklin	Nitrogen Oxides	CAP	34.23858	TON
Mobile - Aircraft	NC	Franklin	Nitrogen Oxides	CAP	16.94678478	TON
Mobile - Locomotives	NC	Franklin	Nitrogen Oxides	CAP	3.42578	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Gaston	Nitrogen Oxides	CAP	1061.8948	TON
Mobile - Non-Road Equipment - Diesel	NC	Gaston	Nitrogen Oxides	CAP	300.838754	TON
Mobile - Locomotives	NC	Gaston	Nitrogen Oxides	CAP	178.48392	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Gaston	Nitrogen Oxides	CAP	120.75524	TON
Mobile - Aircraft	NC	Gaston	Nitrogen Oxides	CAP	2.0700288	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Gates	Nitrogen Oxides	CAP	61.7207695	TON
Mobile - Non-Road Equipment - Diesel	NC	Gates	Nitrogen Oxides	CAP	60.75925129	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Gates	Nitrogen Oxides	CAP	8.424376	TON
Mobile - Aircraft	NC	Gates	Nitrogen Oxides	CAP	0.0000325	TON
Mobile - Locomotives	NC	Gates	Nitrogen Oxides	CAP	0	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Graham	Nitrogen Oxides	CAP	34.4834315	TON
Mobile - Non-Road Equipment - Diesel	NC	Graham	Nitrogen Oxides	CAP	13.58270665	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Graham	Nitrogen Oxides	CAP	6.997054	TON
Mobile - Locomotives	NC	Graham	Nitrogen Oxides	CAP	0	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Granville	Nitrogen Oxides	CAP	388.189344	TON
Mobile - Non-Road Equipment - Diesel	NC	Granville	Nitrogen Oxides	CAP	179.3864115	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Granville	Nitrogen Oxides	CAP	34.31519	TON
Mobile - Aircraft	NC	Granville	Nitrogen Oxides	CAP	7.54233332	TON
Mobile - Locomotives	NC	Granville	Nitrogen Oxides	CAP	2.40888	TON

SECTOR	STATE	COUNTY	POLLUTANT	POLLUTANT TYPE	EMISSIONS	UNIT OF MEASURE
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Greene	Nitrogen Oxides	CAP	113.601761	TON
Mobile - Non-Road Equipment - Diesel	NC	Greene	Nitrogen Oxides	CAP	89.37539316	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Greene	Nitrogen Oxides	CAP	11.11215	TON
Mobile - Locomotives	NC	Greene	Nitrogen Oxides	CAP	7.70024	TON
Mobile - Aircraft	NC	Greene	Nitrogen Oxides	CAP	0.00222296	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Guilford	Nitrogen Oxides	CAP	2331.75737	TON
Mobile - Non-Road Equipment - Diesel	NC	Guilford	Nitrogen Oxides	CAP	1272.694583	TON
Mobile - Locomotives	NC	Guilford	Nitrogen Oxides	CAP	388.55244	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Guilford	Nitrogen Oxides	CAP	167.1137	TON
Mobile - Aircraft	NC	Guilford	Nitrogen Oxides	CAP	156.5552239	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Halifax	Nitrogen Oxides	CAP	438.128218	TON
Mobile - Locomotives	NC	Halifax	Nitrogen Oxides	CAP	215.2373	TON
Mobile - Non-Road Equipment - Diesel	NC	Halifax	Nitrogen Oxides	CAP	154.0097841	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Halifax	Nitrogen Oxides	CAP	21.595682	TON
Mobile - Aircraft	NC	Halifax	Nitrogen Oxides	CAP	1.84986325	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Harnett	Nitrogen Oxides	CAP	478.36588	TON
Mobile - Non-Road Equipment - Diesel	NC	Harnett	Nitrogen Oxides	CAP	155.647176	TON
Mobile - Locomotives	NC	Harnett	Nitrogen Oxides	CAP	58.9372	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Harnett	Nitrogen Oxides	CAP	50.533	TON
Mobile - Aircraft	NC	Harnett	Nitrogen Oxides	CAP	40.656613	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Haywood	Nitrogen Oxides	CAP	574.805105	TON
Mobile - Non-Road Equipment - Diesel	NC	Haywood	Nitrogen Oxides	CAP	115.175871	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Haywood	Nitrogen Oxides	CAP	75.93029	TON
Mobile - Locomotives	NC	Haywood	Nitrogen Oxides	CAP	21.03676	TON
Mobile - Aircraft	NC	Haywood	Nitrogen Oxides	CAP	0.0059268	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Henderson	Nitrogen Oxides	CAP	547.825733	TON
Mobile - Non-Road Equipment - Diesel	NC	Henderson	Nitrogen Oxides	CAP	206.1369394	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Henderson	Nitrogen Oxides	CAP	72.08948	TON
Mobile - Locomotives	NC	Henderson	Nitrogen Oxides	CAP	22.650738	TON
Mobile - Aircraft	NC	Henderson	Nitrogen Oxides	CAP	3.64272718	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Hertford	Nitrogen Oxides	CAP	90.3794542	TON
Mobile - Non-Road Equipment - Diesel	NC	Hertford	Nitrogen Oxides	CAP	82.12184001	TON
Mobile - Locomotives	NC	Hertford	Nitrogen Oxides	CAP	12.012	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Hertford	Nitrogen Oxides	CAP	8.366173	TON

SECTOR	STATE	COUNTY	POLLUTANT	POLLUTANT TYPE	EMISSIONS	UNIT OF MEASURE
Mobile - Aircraft	NC	Hertford	Nitrogen Oxides	CAP	1.03160828	TON
Mobile - Commercial Marine Vessels	NC	Hertford	Nitrogen Oxides	CAP	0.0705856	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Hoke	Nitrogen Oxides	CAP	151.440921	TON
Mobile - Non-Road Equipment - Diesel	NC	Hoke	Nitrogen Oxides	CAP	82.9495914	TON
Mobile - Aircraft	NC	Hoke	Nitrogen Oxides	CAP	67.68827977	TON
Mobile - Locomotives	NC	Hoke	Nitrogen Oxides	CAP	34.1957	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Hoke	Nitrogen Oxides	CAP	11.392917	TON
Mobile - Commercial Marine Vessels	NC	Hyde	Nitrogen Oxides	CAP	953.3035392	TON
Mobile - Non-Road Equipment - Diesel	NC	Hyde	Nitrogen Oxides	CAP	341.1711331	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Hyde	Nitrogen Oxides	CAP	24.6993003	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Hyde	Nitrogen Oxides	CAP	5.5189824	TON
Mobile - Aircraft	NC	Hyde	Nitrogen Oxides	CAP	3.20853286	TON
Mobile - Locomotives	NC	Hyde	Nitrogen Oxides	CAP	0	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Iredell	Nitrogen Oxides	CAP	1290.39575	TON
Mobile - Non-Road Equipment - Diesel	NC	Iredell	Nitrogen Oxides	CAP	374.2868014	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Iredell	Nitrogen Oxides	CAP	139.08025	TON
Mobile - Locomotives	NC	Iredell	Nitrogen Oxides	CAP	63.0851	TON
Mobile - Aircraft	NC	Iredell	Nitrogen Oxides	CAP	2.99362132	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Jackson	Nitrogen Oxides	CAP	257.705042	TON
Mobile - Non-Road Equipment - Diesel	NC	Jackson	Nitrogen Oxides	CAP	107.823408	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Jackson	Nitrogen Oxides	CAP	43.70915	TON
Mobile - Locomotives	NC	Jackson	Nitrogen Oxides	CAP	20.918489	TON
Mobile - Aircraft	NC	Jackson	Nitrogen Oxides	CAP	1.28726795	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Johnston	Nitrogen Oxides	CAP	1521.20631	TON
Mobile - Non-Road Equipment - Diesel	NC	Johnston	Nitrogen Oxides	CAP	366.7353618	TON
Mobile - Locomotives	NC	Johnston	Nitrogen Oxides	CAP	246.587841	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Johnston	Nitrogen Oxides	CAP	103.69493	TON
Mobile - Aircraft	NC	Johnston	Nitrogen Oxides	CAP	8.07921523	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Jones	Nitrogen Oxides	CAP	92.143725	TON
Mobile - Non-Road Equipment - Diesel	NC	Jones	Nitrogen Oxides	CAP	58.28465873	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Jones	Nitrogen Oxides	CAP	9.528965	TON
Mobile - Locomotives	NC	Jones	Nitrogen Oxides	CAP	1.88598	TON
Mobile - Aircraft	NC	Jones	Nitrogen Oxides	CAP	0.00695944	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Lee	Nitrogen Oxides	CAP	253.925266	TON

SECTOR	STATE	COUNTY	POLLUTANT	POLLUTANT TYPE	EMISSIONS	UNIT OF MEASURE
Mobile - Non-Road Equipment - Diesel	NC	Lee	Nitrogen Oxides	CAP	156.0009661	TON
Mobile - Locomotives	NC	Lee	Nitrogen Oxides	CAP	41.51436	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Lee	Nitrogen Oxides	CAP	27.90134	TON
Mobile - Aircraft	NC	Lee	Nitrogen Oxides	CAP	7.96650482	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Lenoir	Nitrogen Oxides	CAP	240.666008	TON
Mobile - Non-Road Equipment - Diesel	NC	Lenoir	Nitrogen Oxides	CAP	143.0210773	TON
Mobile - Aircraft	NC	Lenoir	Nitrogen Oxides	CAP	57.2392676	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Lenoir	Nitrogen Oxides	CAP	29.382593	TON
Mobile - Locomotives	NC	Lenoir	Nitrogen Oxides	CAP	9.78754	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Lincoln	Nitrogen Oxides	CAP	330.637201	TON
Mobile - Non-Road Equipment - Diesel	NC	Lincoln	Nitrogen Oxides	CAP	126.9968111	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Lincoln	Nitrogen Oxides	CAP	59.03434	TON
Mobile - Locomotives	NC	Lincoln	Nitrogen Oxides	CAP	44.0777	TON
Mobile - Aircraft	NC	Lincoln	Nitrogen Oxides	CAP	6.1722796	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Macon	Nitrogen Oxides	CAP	148.658519	TON
Mobile - Non-Road Equipment - Diesel	NC	Macon	Nitrogen Oxides	CAP	80.34487676	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Macon	Nitrogen Oxides	CAP	29.1305	TON
Mobile - Aircraft	NC	Macon	Nitrogen Oxides	CAP	1.7163606	TON
Mobile - Locomotives	NC	Macon	Nitrogen Oxides	CAP	1.3875	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Madison	Nitrogen Oxides	CAP	143.850532	TON
Mobile - Locomotives	NC	Madison	Nitrogen Oxides	CAP	88.8807	TON
Mobile - Non-Road Equipment - Diesel	NC	Madison	Nitrogen Oxides	CAP	34.09319885	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Madison	Nitrogen Oxides	CAP	18.57766	TON
Mobile - Aircraft	NC	Madison	Nitrogen Oxides	CAP	0.00222311	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Martin	Nitrogen Oxides	CAP	142.808618	TON
Mobile - Non-Road Equipment - Diesel	NC	Martin	Nitrogen Oxides	CAP	92.47883637	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Martin	Nitrogen Oxides	CAP	15.882905	TON
Mobile - Locomotives	NC	Martin	Nitrogen Oxides	CAP	4.4726	TON
Mobile - Aircraft	NC	Martin	Nitrogen Oxides	CAP	2.9288399	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	McDowell	Nitrogen Oxides	CAP	469.504817	TON
Mobile - Locomotives	NC	McDowell	Nitrogen Oxides	CAP	331.609	TON
Mobile - Non-Road Equipment - Diesel	NC	McDowell	Nitrogen Oxides	CAP	74.17617949	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	McDowell	Nitrogen Oxides	CAP	49.23128	TON
Mobile - Aircraft	NC	McDowell	Nitrogen Oxides	CAP	0.43507342	TON

SECTOR	STATE	COUNTY	POLLUTANT	POLLUTANT TYPE	EMISSIONS	UNIT OF MEASURE
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Mecklenburg	Nitrogen Oxides	CAP	4895.42003	TON
Mobile - Non-Road Equipment - Diesel	NC	Mecklenburg	Nitrogen Oxides	CAP	2792.72088	TON
Mobile - Aircraft	NC	Mecklenburg	Nitrogen Oxides	CAP	2407.61729	TON
Mobile - Locomotives	NC	Mecklenburg	Nitrogen Oxides	CAP	464.4034	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Mecklenburg	Nitrogen Oxides	CAP	267.1813	TON
Mobile - Locomotives	NC	Mitchell	Nitrogen Oxides	CAP	209.705	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Mitchell	Nitrogen Oxides	CAP	60.3973812	TON
Mobile - Non-Road Equipment - Diesel	NC	Mitchell	Nitrogen Oxides	CAP	26.09433278	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Mitchell	Nitrogen Oxides	CAP	9.902447	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Montgomery	Nitrogen Oxides	CAP	216.681207	TON
Mobile - Non-Road Equipment - Diesel	NC	Montgomery	Nitrogen Oxides	CAP	61.61051528	TON
Mobile - Locomotives	NC	Montgomery	Nitrogen Oxides	CAP	38.767459	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Montgomery	Nitrogen Oxides	CAP	20.326649	TON
Mobile - Aircraft	NC	Montgomery	Nitrogen Oxides	CAP	11.2685922	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Moore	Nitrogen Oxides	CAP	325.177375	TON
Mobile - Non-Road Equipment - Diesel	NC	Moore	Nitrogen Oxides	CAP	166.3776754	TON
Mobile - Locomotives	NC	Moore	Nitrogen Oxides	CAP	73.29097	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Moore	Nitrogen Oxides	CAP	38.86332	TON
Mobile - Aircraft	NC	Moore	Nitrogen Oxides	CAP	1.154649616	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Nash	Nitrogen Oxides	CAP	796.899927	TON
Mobile - Non-Road Equipment - Diesel	NC	Nash	Nitrogen Oxides	CAP	195.8079905	TON
Mobile - Locomotives	NC	Nash	Nitrogen Oxides	CAP	160.4088	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Nash	Nitrogen Oxides	CAP	55.8128	TON
Mobile - Aircraft	NC	Nash	Nitrogen Oxides	CAP	5.190322453	TON
Mobile - Commercial Marine Vessels	NC	New Hanover	Nitrogen Oxides	CAP	1057.866162	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	New Hanover	Nitrogen Oxides	CAP	704.994831	TON
Mobile - Non-Road Equipment - Diesel	NC	New Hanover	Nitrogen Oxides	CAP	529.501688	TON
Mobile - Aircraft	NC	New Hanover	Nitrogen Oxides	CAP	74.91005312	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	New Hanover	Nitrogen Oxides	CAP	63.66861	TON
Mobile - Locomotives	NC	New Hanover	Nitrogen Oxides	CAP	7.5183	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Northampton	Nitrogen Oxides	CAP	165.699797	TON
Mobile - Locomotives	NC	Northampton	Nitrogen Oxides	CAP	152.9176	TON
Mobile - Non-Road Equipment - Diesel	NC	Northampton	Nitrogen Oxides	CAP	111.1712013	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Northampton	Nitrogen Oxides	CAP	13.750426	TON

SECTOR	STATE	COUNTY	POLLUTANT	POLLUTANT TYPE	EMISSIONS	UNIT OF MEASURE
Mobile - Aircraft	NC	Northampton	Nitrogen Oxides	CAP	0.00455476	TON
Mobile - Commercial Marine Vessels	NC	Onslow	Nitrogen Oxides	CAP	804.4169131	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Onslow	Nitrogen Oxides	CAP	747.713558	TON
Mobile - Non-Road Equipment - Diesel	NC	Onslow	Nitrogen Oxides	CAP	235.0020401	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Onslow	Nitrogen Oxides	CAP	73.58384	TON
Mobile - Aircraft	NC	Onslow	Nitrogen Oxides	CAP	64.01174511	TON
Mobile - Locomotives	NC	Onslow	Nitrogen Oxides	CAP	0.144217	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Orange	Nitrogen Oxides	CAP	1154.110615	TON
Mobile - Non-Road Equipment - Diesel	NC	Orange	Nitrogen Oxides	CAP	315.3634951	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Orange	Nitrogen Oxides	CAP	63.8625	TON
Mobile - Locomotives	NC	Orange	Nitrogen Oxides	CAP	38.8023	TON
Mobile - Aircraft	NC	Orange	Nitrogen Oxides	CAP	0.68258266	TON
Mobile - Commercial Marine Vessels	NC	Pamlico	Nitrogen Oxides	CAP	519.5926641	TON
Mobile - Non-Road Equipment - Diesel	NC	Pamlico	Nitrogen Oxides	CAP	142.0688261	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Pamlico	Nitrogen Oxides	CAP	55.738216	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Pamlico	Nitrogen Oxides	CAP	9.429031	TON
Mobile - Aircraft	NC	Pamlico	Nitrogen Oxides	CAP	0.0079533	TON
Mobile - Locomotives	NC	Pamlico	Nitrogen Oxides	CAP	0	TON
Mobile - Aircraft	NC	Pasquotank	Nitrogen Oxides	CAP	246.3098817	TON
Mobile - Non-Road Equipment - Diesel	NC	Pasquotank	Nitrogen Oxides	CAP	177.3250418	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Pasquotank	Nitrogen Oxides	CAP	173.94972	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Pasquotank	Nitrogen Oxides	CAP	17.392416	TON
Mobile - Locomotives	NC	Pasquotank	Nitrogen Oxides	CAP	10.4334	TON
Mobile - Commercial Marine Vessels	NC	Pasquotank	Nitrogen Oxides	CAP	1.298268609	TON
Mobile - Commercial Marine Vessels	NC	Pender	Nitrogen Oxides	CAP	468.2942782	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Pender	Nitrogen Oxides	CAP	451.1574	TON
Mobile - Non-Road Equipment - Diesel	NC	Pender	Nitrogen Oxides	CAP	118.040173	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Pender	Nitrogen Oxides	CAP	42.2361	TON
Mobile - Aircraft	NC	Pender	Nitrogen Oxides	CAP	7.24171114	TON
Mobile - Locomotives	NC	Pender	Nitrogen Oxides	CAP	0	TON
Mobile - Non-Road Equipment - Diesel	NC	Perquimans	Nitrogen Oxides	CAP	125.5339839	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Perquimans	Nitrogen Oxides	CAP	74.577911	TON
Mobile - Locomotives	NC	Perquimans	Nitrogen Oxides	CAP	14.3113	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Perquimans	Nitrogen Oxides	CAP	8.141021	TON

SECTOR	STATE	COUNTY	POLLUTANT	POLLUTANT TYPE	EMISSIONS	UNIT OF MEASURE
Mobile - Commercial Marine Vessels	NC	Perquimans	Nitrogen Oxides	CAP	1.00226	TON
Mobile - Aircraft	NC	Perquimans	Nitrogen Oxides	CAP	0.01070282	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Person	Nitrogen Oxides	CAP	126.528985	TON
Mobile - Non-Road Equipment - Diesel	NC	Person	Nitrogen Oxides	CAP	87.38169567	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Person	Nitrogen Oxides	CAP	19.159557	TON
Mobile - Locomotives	NC	Person	Nitrogen Oxides	CAP	14.42	TON
Mobile - Aircraft	NC	Person	Nitrogen Oxides	CAP	7.98200569	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Pitt	Nitrogen Oxides	CAP	576.913859	TON
Mobile - Non-Road Equipment - Diesel	NC	Pitt	Nitrogen Oxides	CAP	361.2659564	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Pitt	Nitrogen Oxides	CAP	50.66908	TON
Mobile - Locomotives	NC	Pitt	Nitrogen Oxides	CAP	44.4224	TON
Mobile - Aircraft	NC	Pitt	Nitrogen Oxides	CAP	15.00521976	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Polk	Nitrogen Oxides	CAP	312.109327	TON
Mobile - Non-Road Equipment - Diesel	NC	Polk	Nitrogen Oxides	CAP	36.05523656	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Polk	Nitrogen Oxides	CAP	30.2748	TON
Mobile - Aircraft	NC	Polk	Nitrogen Oxides	CAP	0.01407484	TON
Mobile - Locomotives	NC	Polk	Nitrogen Oxides	CAP	0	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Randolph	Nitrogen Oxides	CAP	744.327856	TON
Mobile - Non-Road Equipment - Diesel	NC	Randolph	Nitrogen Oxides	CAP	237.4407943	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Randolph	Nitrogen Oxides	CAP	99.55134	TON
Mobile - Locomotives	NC	Randolph	Nitrogen Oxides	CAP	14.113661	TON
Mobile - Aircraft	NC	Randolph	Nitrogen Oxides	CAP	3.5366987	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Richmond	Nitrogen Oxides	CAP	274.336353	TON
Mobile - Locomotives	NC	Richmond	Nitrogen Oxides	CAP	227.49967	TON
Mobile - Non-Road Equipment - Diesel	NC	Richmond	Nitrogen Oxides	CAP	93.09481147	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Richmond	Nitrogen Oxides	CAP	20.348578	TON
Mobile - Aircraft	NC	Richmond	Nitrogen Oxides	CAP	0.687119719	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Robeson	Nitrogen Oxides	CAP	970.652699	TON
Mobile - Locomotives	NC	Robeson	Nitrogen Oxides	CAP	385.59214	TON
Mobile - Non-Road Equipment - Diesel	NC	Robeson	Nitrogen Oxides	CAP	307.6717044	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Robeson	Nitrogen Oxides	CAP	49.077	TON
Mobile - Aircraft	NC	Robeson	Nitrogen Oxides	CAP	12.0991358	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Rockingham	Nitrogen Oxides	CAP	402.291678	TON
Mobile - Locomotives	NC	Rockingham	Nitrogen Oxides	CAP	219.36225	TON

SECTOR	STATE	COUNTY	POLLUTANT	POLLUTANT TYPE	EMISSIONS	UNIT OF MEASURE
Mobile - Non-Road Equipment - Diesel	NC	Rockingham	Nitrogen Oxides	CAP	129.791002	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Rockingham	Nitrogen Oxides	CAP	55.74026	TON
Mobile - Aircraft	NC	Rockingham	Nitrogen Oxides	CAP	1.51998222	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Rowan	Nitrogen Oxides	CAP	857.975248	TON
Mobile - Locomotives	NC	Rowan	Nitrogen Oxides	CAP	312.4526	TON
Mobile - Non-Road Equipment - Diesel	NC	Rowan	Nitrogen Oxides	CAP	205.4710544	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Rowan	Nitrogen Oxides	CAP	135.74537	TON
Mobile - Aircraft	NC	Rowan	Nitrogen Oxides	CAP	23.37938159	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Rutherford	Nitrogen Oxides	CAP	280.560006	TON
Mobile - Locomotives	NC	Rutherford	Nitrogen Oxides	CAP	175.82129	TON
Mobile - Non-Road Equipment - Diesel	NC	Rutherford	Nitrogen Oxides	CAP	101.2339897	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Rutherford	Nitrogen Oxides	CAP	43.99925	TON
Mobile - Aircraft	NC	Rutherford	Nitrogen Oxides	CAP	3.939532692	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Sampson	Nitrogen Oxides	CAP	399.658508	TON
Mobile - Non-Road Equipment - Diesel	NC	Sampson	Nitrogen Oxides	CAP	221.7408049	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Sampson	Nitrogen Oxides	CAP	35.57799	TON
Mobile - Locomotives	NC	Sampson	Nitrogen Oxides	CAP	4.63141	TON
Mobile - Aircraft	NC	Sampson	Nitrogen Oxides	CAP	3.53501178	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Scotland	Nitrogen Oxides	CAP	182.308105	TON
Mobile - Aircraft	NC	Scotland	Nitrogen Oxides	CAP	168.8316528	TON
Mobile - Locomotives	NC	Scotland	Nitrogen Oxides	CAP	87.2077	TON
Mobile - Non-Road Equipment - Diesel	NC	Scotland	Nitrogen Oxides	CAP	69.07831981	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Scotland	Nitrogen Oxides	CAP	8.362231	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Stanly	Nitrogen Oxides	CAP	245.571797	TON
Mobile - Non-Road Equipment - Diesel	NC	Stanly	Nitrogen Oxides	CAP	134.3208847	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Stanly	Nitrogen Oxides	CAP	57.28571	TON
Mobile - Locomotives	NC	Stanly	Nitrogen Oxides	CAP	48.61201	TON
Mobile - Aircraft	NC	Stanly	Nitrogen Oxides	CAP	29.8456025	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Stokes	Nitrogen Oxides	CAP	173.397258	TON
Mobile - Non-Road Equipment - Diesel	NC	Stokes	Nitrogen Oxides	CAP	68.35829137	TON
Mobile - Locomotives	NC	Stokes	Nitrogen Oxides	CAP	36.0598	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Stokes	Nitrogen Oxides	CAP	31.43651	TON
Mobile - Aircraft	NC	Stokes	Nitrogen Oxides	CAP	0.43615106	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Surry	Nitrogen Oxides	CAP	650.953145	TON

SECTOR	STATE	COUNTY	POLLUTANT	POLLUTANT TYPE	EMISSIONS	UNIT OF MEASURE
Mobile - Non-Road Equipment - Diesel	NC	Surry	Nitrogen Oxides	CAP	150.3008293	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Surry	Nitrogen Oxides	CAP	94.48833	TON
Mobile - Locomotives	NC	Surry	Nitrogen Oxides	CAP	45.4596	TON
Mobile - Aircraft	NC	Surry	Nitrogen Oxides	CAP	4.2315678	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Swain	Nitrogen Oxides	CAP	112.865067	TON
Mobile - Non-Road Equipment - Diesel	NC	Swain	Nitrogen Oxides	CAP	42.57941656	TON
Mobile - Locomotives	NC	Swain	Nitrogen Oxides	CAP	27.1558	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Swain	Nitrogen Oxides	CAP	16.244156	TON
Mobile - Aircraft	NC	Swain	Nitrogen Oxides	CAP	0.0514462	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Transylvania	Nitrogen Oxides	CAP	106.631884	TON
Mobile - Non-Road Equipment - Diesel	NC	Transylvania	Nitrogen Oxides	CAP	75.84480804	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Transylvania	Nitrogen Oxides	CAP	24.42215	TON
Mobile - Locomotives	NC	Transylvania	Nitrogen Oxides	CAP	6.643	TON
Mobile - Aircraft	NC	Transylvania	Nitrogen Oxides	CAP	0.326187105	TON
Mobile - Commercial Marine Vessels	NC	Tyrrell	Nitrogen Oxides	CAP	416.1091499	TON
Mobile - Non-Road Equipment - Diesel	NC	Tyrrell	Nitrogen Oxides	CAP	143.3325633	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Tyrrell	Nitrogen Oxides	CAP	39.5107295	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Tyrrell	Nitrogen Oxides	CAP	4.6442505	TON
Mobile - Locomotives	NC	Tyrrell	Nitrogen Oxides	CAP	0	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Union	Nitrogen Oxides	CAP	810.72207	TON
Mobile - Non-Road Equipment - Diesel	NC	Union	Nitrogen Oxides	CAP	648.3397334	TON
Mobile - Locomotives	NC	Union	Nitrogen Oxides	CAP	184.61848	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Union	Nitrogen Oxides	CAP	112.00153	TON
Mobile - Aircraft	NC	Union	Nitrogen Oxides	CAP	9.30156291	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Vance	Nitrogen Oxides	CAP	286.989177	TON
Mobile - Non-Road Equipment - Diesel	NC	Vance	Nitrogen Oxides	CAP	82.85792788	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Vance	Nitrogen Oxides	CAP	16.258676	TON
Mobile - Locomotives	NC	Vance	Nitrogen Oxides	CAP	1.62478	TON
Mobile - Aircraft	NC	Vance	Nitrogen Oxides	CAP	0.0085402	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Wake	Nitrogen Oxides	CAP	3686.13197	TON
Mobile - Non-Road Equipment - Diesel	NC	Wake	Nitrogen Oxides	CAP	2154.972398	TON
Mobile - Aircraft	NC	Wake	Nitrogen Oxides	CAP	613.5738261	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Wake	Nitrogen Oxides	CAP	267.0982	TON
Mobile - Locomotives	NC	Wake	Nitrogen Oxides	CAP	122.762	TON

SECTOR	STATE	COUNTY	POLLUTANT	POLLUTANT TYPE	EMISSIONS	UNIT OF MEASURE
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Warren	Nitrogen Oxides	CAP	177.559345	TON
Mobile - Non-Road Equipment - Diesel	NC	Warren	Nitrogen Oxides	CAP	49.72232385	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Warren	Nitrogen Oxides	CAP	11.65767	TON
Mobile - Aircraft	NC	Warren	Nitrogen Oxides	CAP	0.599488	TON
Mobile - Locomotives	NC	Warren	Nitrogen Oxides	CAP	0.11141	TON
Mobile - Non-Road Equipment - Diesel	NC	Washington	Nitrogen Oxides	CAP	140.61213	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Washington	Nitrogen Oxides	CAP	78.090379	TON
Mobile - Locomotives	NC	Washington	Nitrogen Oxides	CAP	12.760497	TON
Mobile - Aircraft	NC	Washington	Nitrogen Oxides	CAP	11.63501012	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Washington	Nitrogen Oxides	CAP	6.984959	TON
Mobile - Commercial Marine Vessels	NC	Washington	Nitrogen Oxides	CAP	3.122306	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Watauga	Nitrogen Oxides	CAP	241.168333	TON
Mobile - Non-Road Equipment - Diesel	NC	Watauga	Nitrogen Oxides	CAP	166.8969081	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Watauga	Nitrogen Oxides	CAP	35.75933	TON
Mobile - Aircraft	NC	Watauga	Nitrogen Oxides	CAP	0.01482099	TON
Mobile - Locomotives	NC	Watauga	Nitrogen Oxides	CAP	0	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Wayne	Nitrogen Oxides	CAP	445.984266	TON
Mobile - Aircraft	NC	Wayne	Nitrogen Oxides	CAP	308.6522924	TON
Mobile - Non-Road Equipment - Diesel	NC	Wayne	Nitrogen Oxides	CAP	263.5869588	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Wayne	Nitrogen Oxides	CAP	46.0284	TON
Mobile - Locomotives	NC	Wayne	Nitrogen Oxides	CAP	26.6165	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Wilkes	Nitrogen Oxides	CAP	302.080091	TON
Mobile - Non-Road Equipment - Diesel	NC	Wilkes	Nitrogen Oxides	CAP	108.7361949	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Wilkes	Nitrogen Oxides	CAP	55.91102	TON
Mobile - Locomotives	NC	Wilkes	Nitrogen Oxides	CAP	15.9757	TON
Mobile - Aircraft	NC	Wilkes	Nitrogen Oxides	CAP	0.9270865	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Wilson	Nitrogen Oxides	CAP	522.033483	TON
Mobile - Locomotives	NC	Wilson	Nitrogen Oxides	CAP	246.2146	TON
Mobile - Non-Road Equipment - Diesel	NC	Wilson	Nitrogen Oxides	CAP	216.8070838	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Wilson	Nitrogen Oxides	CAP	36.17356	TON
Mobile - Aircraft	NC	Wilson	Nitrogen Oxides	CAP	4.40143483	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Yadkin	Nitrogen Oxides	CAP	428.928162	TON
Mobile - Non-Road Equipment - Diesel	NC	Yadkin	Nitrogen Oxides	CAP	92.89223756	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Yadkin	Nitrogen Oxides	CAP	42.64284	TON

SECTOR	STATE	COUNTY	POLLUTANT	POLLUTANT TYPE	EMISSIONS	UNIT OF MEASURE
Mobile - Aircraft	NC	Yadkin	Nitrogen Oxides	CAP	0.4412201	TON
Mobile - Locomotives	NC	Yadkin	Nitrogen Oxides	CAP	0	TON
Mobile - On-Road Diesel Heavy Duty Vehicles	NC	Yancey	Nitrogen Oxides	CAP	83.281114	TON
Mobile - Locomotives	NC	Yancey	Nitrogen Oxides	CAP	28.49	TON
Mobile - Non-Road Equipment - Diesel	NC	Yancey	Nitrogen Oxides	CAP	24.44908046	TON
Mobile - On-Road Diesel Light Duty Vehicles	NC	Yancey	Nitrogen Oxides	CAP	14.67261	TON
Mobile - Aircraft	NC	Yancey	Nitrogen Oxides	CAP	0.0059593	TON

Appendix D - Emission Reduction Calculations

Emission Reduction Calculations

The DEQ used the following methods and assumptions to calculate estimated emissions reductions for potential Phase 1 projects of the VW Settlement funding.

Heavy-duty on-road vehicles

The DEQ used the Argonne National Laboratory Heavy-Duty Vehicle Emissions Calculator (HDVEC) to estimate emissions from heavy-duty on-road vehicles. The HDVEC was developed to estimate the vehicle operation nitrogen oxide (NOx) and particulate matter ($PM_{2.5}$), as well as the well-to-wheel greenhouse gas emissions (GHGs) of commercially available alternative fuel medium- and heavy-duty vehicles.

HDVEC Parameters

Table 7 shows the parameters used for estimating the emissions for school and transit buses and refuse trucks. The HDVEC was used to estimate emissions for diesel, propane and electric school buses. Table 8 shows the combination of vehicle types and fuels modeled. The DEQ used values from preliminary project proposals received during the Request for Information (RFI). The DEQ ran the HDVEC for 1 vehicle in each category.

Table 7: HDVEC Parameters

Primary Vehicle Location	North Carolina
Predicted lifetime of vehicle	15 years – transit bus 20 years – school bus, refuse truck
Model year of original vehicle	2003 – transit bus 2006 – school bus 2005 – refuse truck
Annual miles of old vehicle	40,000 – transit bus 15,000 – school bus, refuse truck
Annual miles of new vehicle	35,000 – transit bus 15,000 – school bus, refuse truck
Output used: Annual emissions in lbs.	Vehicle operation: NOx

Table 8: Vehicle and Fuel Type Combinations Modeled

Vehicle Type	Model Year	Fuel	Refuse truck	School bus	Transit bus
Original	2003	Diesel			x
Original	2005	Diesel	x		
Original	2006	Diesel		x	
Replacement	2019	Diesel	x	x	x
Replacement	2019	CNG	x	x	x
Replacement	2019	All-Electric	x	x	x
Replacement	2019	Propane		x	

Calculations

The HDVEC outputs lifetime NOx emissions reduced in pounds per year. The DEQ used the following equations to convert the lifetime emission reductions to short tons per year (Eq. 1) and to calculate the Lifetime Cost Effectiveness (Eq. 2).

Eq. 1: $Lifetime\ Emissions\ Reduced\ (tp\ y) = Lifetime\ Emissions\ Reduced\ (lb/yr) \times 2.000$

Eq. 2: $Lifetime\ Cost\ Effectiveness\ (\frac{\$}{ton\ NOx}) = Cost\ in\ \$ \div Lifetime\ Emissions\ Reductions\ (tons\ NOx)$

tpy: tons per year
lb/yr: pounds per year

Heavy-duty off-road equipment

The DEQ used the EPA Diesel Emission Quantifier (EPA-DEQ) to estimate emissions from heavy-duty off-road vehicles and marine vessels. The EPA-DEQ evaluates clean diesel projects and upgrade options for medium-heavy and heavy-heavy duty diesel engines. The EPA-DEQ estimates baseline emissions, annual reduced emissions, and lifetime reduced emissions.

EPA-DEQ Parameters

Table 9 shows the parameters used for estimating the emissions for agricultural mower, construction equipment (excavator) and marine ferry repower. The EPA-DEQ was used to estimate emissions reductions for the replacement of a diesel agricultural mower and excavator with a propane agricultural mower, clean diesel excavator and a clean diesel engine repower of a ferry vessel. Table 10 shows the combination of vehicle types and fuels modeled. The DEQ used values from previously awarded Diesel Emission Reduction Act grant applications and preliminary project proposals received during the RFI. The DEQ ran the EPA-DEQ for 1 vehicle in each category.

Table 9: EPA-DEQ Parameters

Primary vehicle location	North Carolina
Remaining life of baseline engine (in years at time of upgrade)	3 years – agricultural mower 3 years – excavator 1 year – marine ferry *
Model year – original	2005 – agricultural mower 2005– excavator 1996 – marine ferry
Model year – new	2019 – agricultural mower 2019 – excavator 2019 – marine ferry
Original horsepower	31 – agricultural mower 85 – excavator 450 – marine ferry
New horsepower	31 – agricultural mower 97 – excavator 600 – marine ferry
Original engine Tier	2 – agricultural mower 2 – excavator Uncontrolled – marine ferry
New engine Tier	4 – agricultural mower 4 – excavator 3 – marine ferry
Output used: Annual emissions in tons	Vehicle operation: NOx

*Predicted marine ferry lifetime of vehicle determined by DEQ. For a marine propulsion engine with a base tier and engine displacement of ≥5 liters/cylinder, the median life is 23 years with a maximum of 46 years. The DEQ used the median life to determine the remaining life.

Table 10: Vehicle and Fuel Type Combinations Modeled

Vehicle Type	Model Year	Fuel	Agricultural Mower	Excavator	Marine Ferry Repower
Original	2005	Diesel	x		
Original	2010	Diesel	x	x	x
Replacement	2019	Diesel	x	x	x
Replacement	2019	Propane	x		

Calculations

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

The DEQ used Eq. 2 from page 54 to calculate the Lifetime Cost-Effectiveness.

Appendix E – Glossary of Terms

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

Air Toxics – also known as toxic air pollutants or hazardous air pollutants (HAPs), are those pollutants that cause or may cause cancer and other serious health effects, such as reproductive effects or birth defects. The Clean Air Act identifies 187 HAPs that EPA and states are required to control to protect public health

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)

Regional councils of governments – a system of multi-county regional planning districts to cover the entire state of North Carolina, currently 16 councils cover the state

Certified Remanufacture System or Verified Engine Upgrade – engine upgrades certified or verified by EPA or CARB to achieve a reduction in emissions

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 4-8 School Bus, Shuttle Bus, or Transit Bus (Buses) – vehicles with a Gross Vehicle Weight Rating (GVWR) greater than 14,001 lbs used for transporting people. See definition for School Bus below

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)

CNG – Compressed Natural Gas

CO – carbon monoxide, one of six criteria pollutants as defined by EPA that considered harmful to public health and the environment

DERA – Diesel Emission Reduction Act

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

Environmental Justice – 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

EPA Diesel Emission Quantifier (EPA-DEQ) – tool developed by EPA to estimate emission reductions and cost benefits from heavy-duty diesel vehicles

Forklift – nonroad 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 moves 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

Government – a State or local government agency (including a school district, municipality, city, county, special district, transit district, joint powers authority, or port authority, owning fleets purchased with government funds), and a tribal government or native village

GHG – gases that trap heat in the atmosphere are called greenhouse gases and include carbon dioxide, methane, nitrous oxide (N_2O), and fluorinated gases

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 lb
Class 2: 6001-10,000 lb
Class 3: 10,001-14,000 lb
Class 4: 14,001-16,000 lb
Class 5: 16,001-19,500 lb
Class 6: 19,501-26,000 lb
Class 7: 26,001-33,000 lb
Class 8: > 33,001 lb

Hazardous Air Pollutants – (HAPs), also known as air toxics or toxic air pollutants, are those pollutants that cause or may cause cancer and other serious health effects, such as reproductive effects or birth defects. The Clean Air Act identifies 187 HAPs that EPA and states are required to control to protect public health

Heavy-Duty Vehicle Emissions Calculator – HDVEC developed by Argonne National Laboratories to estimate emissions from heavy-duty on-road vehicles

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 charging stations)

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

Metropolitan planning organizations (MPO) - MPOs were formed in 1962 when Congress enacted the federal aid highway act that initiated a requirement that a continuing, cooperative, and comprehensive (3-C) transportation planning process be established for all urban areas over 50,000 in population in order to qualify for federal transportation funds

Mitigation Beneficiary Plan (MBP) – final plan issued by the NC DEQ-Division of Air Quality submitted to the Trustee outlining the way in which funds will be distributed in North Carolina as a result of the VW Settlement

Municipal government – refers to the institution created by states to govern incorporated localities—particularly cities

NAAQS – National Ambient Air Quality Standards, concentration limits for the criteria pollutants (CO, lead, NO_2, ozone, particulate matter, and SO_2) set by the EPA

NC DEQ – North Carolina Department of Environmental Quality named as the administrator in North Carolina for the VW Settlement funds

NEI – National emission inventory developed by EPA to determine concentrations of criteria pollutants and their precursors

Non-profit/not for profit – an organization 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 State

NO_x – oxides of nitrogen, considered a precursor of the criteria pollutant ozone

Off-road – of, relating to, done with, or being a vehicle designed specifically to operate away from public roads

On-road – of, relating to, done with, or being a vehicle designed specifically to operate on public roads

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

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

$PM_{2.5}$ – particulate matter that is less than 2.5 micrometers in diameter, a subset of the criteria pollutant particulate matter – the term for a mixture of solid particles and liquid droplets found in

the air. Some particles, such as dust, dirt, soot, or smoke, are large or dark enough to be seen with the naked eye. Others are so small they can only be detected using an electron microscope

Public - supported by public funds and private contributions rather than by income from commercial entities

Regional city or suburban counties – counties with densities between 250 and 750 people per square mile

Repower – to replace an existing engine with a newer, cleaner engine or power source that is certified by EPA and, if applicable, CARB, to meet a more stringent set of engine emission standards. Repower includes, but is not limited to, diesel engine replacement with an engine certified for use with diesel or a clean alternate fuel, diesel engine replacement with an electric power source (grid, battery), diesel engine replacement with a fuel cell, diesel engine replacement with an electric generator(s) (genset), diesel engine upgrades in Ferries/Tugs with an EPA Certified Remanufacture System, and/or diesel engine upgrades in Ferries/Tugs with an EPA Verified Engine Upgrade. All-Electric and fuel cell Repowers do not require EPA or CARB certification

Request for Information – RFI, NCDEQ asked for public participation during the development of the BMP and will continue to do so throughout the mitigation process as a matter of transparency

Rural – counties with densities for 250 people per square mile or less

Rural Planning Organization (RPO) - RPOs are a counterpart to the MPOs (Metropolitan Planning Organizations). The purpose of these organizations is to work cooperatively with NCDOT to develop Comprehensive Transportation Plans (CTP) in non-metropolitan areas and assist the Department in carrying out other transportation planning activities. RPOs consist of groups of counties, between 3-15 counties, and must have at least 50,000 population

School Bus – a Class 4-8 bus sold or introduced into interstate commerce for purposes that include carrying students to and from school or related events. May be Type A-D

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

Shorepower - the provision of shoreside electrical power to a ship at berth while its main and auxiliary engines are shut down

SO_x – oxides of sulfur, SO_2 is the most common and EPA has designated it as a criteria pollutant that is emitted from the burning of fossil fuels by power plants and other industrial facilities

Tier 0, 1, 2, 3, 4 – EPA engine emission classifications for nonroad, locomotive and marine engines

Tribe – federally recognized group of Native Americans, in NC this refers to Coharie Tribe, Eastern Band of Cherokee Nation, Haliwa-Saponi Tribe, Lumbee Tribe of North Carolina, Meherrin Indian Tribe, Occaneechi Band of Saponi Nation, Sappony, Waccamaw Siouan Tribe, and the Urban Indian Organizations that reside across North Carolina, as well as the North Carolina Commission of Indian Affairs

Trust Effective Date (TED) – October 2, 2017, when the U.S. District Court in Northern California approved provisions for the national environmental mitigation trust fund

Trustee – Environmental Mitigation Trustee established through the VW Settlement: Wilmington Trust, N.A.

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

Urban – counties with densities over 750 people per square mile

VOC – volatile organic compounds, considered precursors of ozone

VW – Volkswagen Group and associated companies

Zero Emission Vehicle (ZEV) – a vehicle that produces no emissions from the onboard source of power (e.g., All-Electric or hydrogen fuel cell vehicles)