



Natural Gas Vehicles for America

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May 1, 2018

Secretary Michael S. Regan  
Assistant Secretary Sheila Holman  
North Carolina Department of Environmental Quality  
217 W. Jones Street  
Raleigh, North Carolina 27603

**RE: NGVAmerica Comments on the State of North Carolina VW Beneficiary Mitigation Plan**

Dear Secretary Regan and Assistant Secretary Holman:

Natural Gas Vehicles for America (NGVAmerica), the national trade association for the natural gas vehicle industry, respectfully submits the following comments on the State of North Carolina (NC) Department of Environmental Quality (DEQ) Beneficiary Mitigation Plan. These comments are in addition to the NGVAmerica comments submitted to you on April 17, 2017 (attached) regarding NGVAmerica's recommendations on how states can best use the Environmental Mitigation Trust (EMT or Trust) funds that each state will receive as part of the Volkswagen (VW) diesel emission settlement.

The VW EMT funds provide an extraordinary opportunity for North Carolina and other states to put significantly cleaner, lower-polluting vehicles on the road in public and private fleets. This funding (\$92 million) can and should be used by North Carolina to continue its commitment to accelerating the use of cleaner, alternative fuels that offer a cost-effective alternative to funding diesel vehicles.

As shown in our VW Comment Letter submitted on April 17, 2017, NGVAmerica believes that natural gas vehicles (both LNG and CNG) offer the best solutions for the projects that will address the goals of the EMT, to reduce the most nitrogen oxide (NOx) for the least cost. Please see the diesel, electric vehicle and natural gas vehicle comparisons on the attached NGVA VW Flyer for heavy duty trucks, transit buses, refuse trucks and school buses.

In addition to the above on-road applications, natural gas also is capable of powering non-road applications such as freight switchers and other locomotives, which are a component of the NC VW Beneficiary Mitigation Plan (Plan). This natural gas technology effectively provides what would be a Tier 5 emissions freight switcher (labeled Tier 4 until the U.S. EPA puts out the Tier 5 specifications) at Tier 4 diesel freight switcher pricing. Natural gas ferries and ships are also available. We would urge NC DEQ to ensure that any future funding opportunities or solicitations concerning non-road marine or rail projects be open to natural gas.

The North Carolina DEQ states that its VW Mitigation Plan's goal is to "maximize the air quality benefits in North Carolina on a dollar per ton basis (i.e. capital cost effectiveness in dollar/ton)." Given the state's focus on achieving the greatest emissions reductions while maximizing and leveraging the funding, it is difficult to understand why Phase 1 funding is focused on the government sector only and 35 percent of this funding is allocated to school buses. The government sector uses far less fuel than private sector vehicles and school buses typically use low amounts of fuel, therefore delaying significant emissions reductions and the achievement of the DEQ overall goal.

The private sector can efficiently and quickly implement projects that would cost-effectively maximize air quality benefits, leverage supplemental matching funding and provide additional benefits such as alternative fuel infrastructure usage increases (both existing and new facilities). NGVAmerica strongly recommends that the NC DEQ include the private sector in its Phase 1 of the Plan. Then Phases 2 and 3 could continue as planned and use the experience gained in Phase 1 to fund the best projects to meet North Carolina's goals (funding amounts for each phase could be changed to increase the funding for Phase 1 to include the private sector).

The Off-Road Phase 1 segment does address "vehicle" sectors that have a serious need to reduce NOx emissions, and the capacity to provide significant reductions. Using natural gas engines would offer the most NOx reductions for the funds spent and would also provide cost savings in fuel prices and maintenance.

If renewable natural gas (RNG) is used, life cycle greenhouse gas emissions from NGVs are reduced further. Using RNG also creates a market for energy created from waste water treatment, landfills, animal waste and other methane sources and significantly increases air quality by reducing the amount of methane released.

The VW EMT funds provide an extraordinary opportunity for North Carolina to cost-effectively accelerate the transition to cleaner vehicles and lower emissions. Commercially available natural gas vehicles offer the best solutions today for addressing the goals of the EMT, delivering the most nitrogen oxide emission reductions for the least cost.

### **Current State Beneficiary Mitigation Plans**

Twenty-six states have released draft VW Beneficiary Mitigation Plans and NGVAmerica has reviewed these plans and offered comments. NGVAmerica believes the Colorado Plan provides an excellent model for other states that wish to segment their funding, maximize the use of alternative fuels, and provide parity among alternative fuels ([https://www.colorado.gov/pacific/sites/default/files/AP\\_VW\\_Beneficiary\\_Mitigation\\_Plan.pdf](https://www.colorado.gov/pacific/sites/default/files/AP_VW_Beneficiary_Mitigation_Plan.pdf)).

In allocating its funds, Colorado did not pick a preferred alternative fuel (diesel is excluded except for fleets of 9 or less trucks) and provides a relative parity for funding for the various fuels through its choice of percentage funding by fuel type. The \$18M set aside by Colorado for Alt Fuel Trucks/School and Shuttle Buses funds all alternative fuels at 40% of the vehicle cost for government and public entities, while private vehicles are funded at 25% of the vehicle cost (not the 75% allowed for EVs because that would result in fewer vehicles and less NOx reductions, and there are other sources for EV funding).

### **Additional Options for Vehicle Scrappage**

NGVAmerica also recommends that NC DEQ consider the following vehicle scrappage options in the Plan:

- Increase the options for scrappage beyond a strict replacement of a current fleet vehicle (e.g., allow a fleet to acquire an older vehicle from another fleet or allow a fleet to exchange one of its newer vehicles for another fleets older vehicle that is then scrapped)
- Since the Trust does not specify the fuel of the scrappage vehicle, allow natural gas vehicles that meet the year criteria to be scrapped and replaced with new NGVs

### **Use the Most Current Emissions and Cost Benefit Calculation Tools – HDVEC created for VW Projects**

The Argonne National Laboratory's AFLEET tool should be used to calculate vehicle / fuel type emissions since this tool has recently been updated to include current data on all vehicles and fuels including in-use emissions data. The AFLEET Tool 2017 updates include:

- Added low-NOx natural gas engine option for CNG and LNG heavy-duty vehicles

- Added diesel in-use emissions multiplier sensitivity case
- Added Idle Reduction Calculator to estimate the idling petroleum use, emissions, and costs for light-duty and heavy-duty vehicles
- Added well-to-pump air pollutants and vehicle cycle petroleum use, GHGs, and air pollutants
- Added more renewable fuel options
- AFLEET Tool spreadsheet and user manual at: [http://greet.es.anl.gov/afleet\\_tool](http://greet.es.anl.gov/afleet_tool) and tool link is: <http://www.afdc.energy.gov/tools>

ANL has also just released a new vehicle emissions calculator (HDVEC) to provide state officials and fleet managers with an accurate tool to gauge emissions reductions across various medium- and heavy-duty vehicle project options affiliated with the Volkswagen Environmental Mitigation Trust Settlement. The HDVEC tool is available at: <http://afleet-web.es.anl.gov/hdv-emissions-calculator/>.

The NC DEQ used the new HDVEC tool for its emissions calculations, but it is not clear that the DEQ used the ‘in use’ diesel emissions inputs. Also, NGVAmerica questions why the DEQ only modeled diesel, propane and electric school buses and did not include natural gas school buses.

The DEQ plans to allow applicants to use an “accepted calculation tool” and NGVAmerica recommends that the current U.S. EPA Diesel Emissions Quantifier (DEQ) Tool not be included in this list. The DEQ tool is not current in its underlying assumptions and data for today’s engines and in-use emissions, therefore NGVAmerica recommends that the NC DEQ use the HDVEC tool for all applicable categories, since the data is current, easy to use and was created for VW projects.

### Summary of NGVAmerica’s Recommendations for EMT Funding

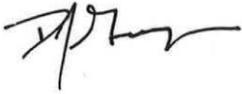
- ✓ Given that the EMT was created because of NOx pollution associated with non-compliant diesel vehicles, we believe that the funding should be set aside for clean, **alternative fuel vehicle projects that focus on maximizing NOx reduction for the funds spent**
- ✓ Provide a larger incentive and greater overall funding for medium- and heavy-duty engines that deliver **greater NOx reductions than currently required** for new vehicles and engines
- ✓ Target funding for technologies that have demonstrated the ability to deliver actual **lower in-use emissions** when operated in real-world conditions
- ✓ Provide the **highest level of funding to applications that produce the largest share of NOx emissions** (in most regions this means prioritizing for short-haul, regional-haul and refuse trucks)
- ✓ Prioritize funding for **commercially available products that are ready for use**
- ✓ Prioritize funding for **clean vehicles rather than fueling infrastructure**
- ✓ **Scale funding to incentivize the cleanest engines available** – at a minimum, provide parity among alternative fuels by following a version of the Colorado VW Plan that funds non-diesel alternative vehicles in the private sector at 25% of the cost of the vehicle and public sector vehicles at 40%
- ✓ Ensure that funding incentivizes adoption by **both public and private fleets**
- ✓ Prioritize projects that include **partnerships that provide a match** such as a CNG or LNG station being built in locations that will receive the VW funding

- ✓ **Accelerate the funding** in the early years to maximize the NOx reduction benefits
- ✓ Use vehicles emissions measurement tools that reflect current technologies and performance under real world operation duty cycles – **Argonne National Laboratory’s AFLEET tool and HDVEC tools** are the most current tools available

Compared to other alternative fuels and to diesel vehicles, natural gas vehicles that are commercially available today, offer the best solution for addressing the goals of the EMT. The NC DEQ recognizes the value of cost effective NOx reductions that NGVs provide, and that these emission reductions can be realized today.

NGVAmerica welcomes the opportunity to provide further information and analysis on the economic and environmental benefits of natural gas vehicles in North Carolina. Please contact Jeff Clarke, NGVAmerica General Counsel & Regulatory Affairs Director at 202.824.7364 ([jclarke@NGVAmerica.org](mailto:jclarke@NGVAmerica.org)), or Sherrie Merrow, NGVAmerica State Government Advocacy Director at 303.883.5121 ([smerrow@NGVAmerica.org](mailto:smerrow@NGVAmerica.org)) to set up a meeting and for additional information.

Sincerely,



Daniel J. Gage  
President