



Natural Gas Vehicles for America

400 North Capitol Street, N.W.
Washington, D.C. 20001
ngvamerica.org



May 3, 2018

Director Darcy Bybee
Air Pollution Control Program
P.O. Box 176
1101 Riverside Drive
Jefferson City, MO 65102-0176

RE: NGVAmerica Comments on the State of Missouri Draft Volkswagen Trust Beneficiary Mitigation Plan and Implementation Guidelines

Dear Director Bybee:

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 Missouri (MO) Department of Natural Resources (Department) Beneficiary Mitigation Plan (Plan). These comments are in addition to the NGVAmerica comments submitted to you on April 28, 2017 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. NGVAmerica asks that you also review our April 28, 2017 comments.

The VW EMT funds provide an extraordinary opportunity for Missouri and other states to put significantly cleaner, lower-polluting vehicles on the road in public and private fleets. This funding (\$41.1 million) can and should be used by Missouri 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 28, 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 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 the Department to ensure that any future funding opportunities or solicitations concerning non-road marine or rail projects be open to natural gas.

The Missouri Department states that its overall VW Mitigation Plan's goal is *"to reduce mobile source emissions of NOx with maximum cost-effectiveness,"* which does exemplify the goals of the Trust. NGVAmerica recognizes the value in providing our school children with cleaner air and supports some of the funding to be designated for this application, but it is difficult to understand why the Department has chosen to dedicate \$12-18 million to fund school buses. School buses typically use low amounts of fuel when compared to heavy duty trucks, so emphasizing their replacement delays significant emissions reductions and the achievement of the Department's overall goal.

With school buses as the first funding priority the Department has then set government trucks followed by transit and shuttle buses as their second and third priorities. While these applications use more fuel than school buses, their fuel usage does not compare to that of the Department's lesser priority Award Categories of non-government trucks and locomotives and marine applications. Based on the project applications received the Department should choose projects that reduce the most NOx for the cost, and not move funding from the categories that will fulfill this goal (leaving school buses at \$12 million or less if enough school bus projects are not proposed).

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). Also, the private sector fleets are usually in areas of emissions concern and so will better meet the goals of the State's VW Plan.

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.

Specific to the Department's Implementation Guidelines, NGVAmerica offers the following observations and suggestions:

- In several award categories the Guidelines state that single or small numbers of vehicles per applicant will be approved. This creates a problem in leveraging funds for alternative fuels that need fueling stations and supports replacements with diesel vehicles. As an example, natural gas vehicle station operators are often willing to build stations to meet demand at their own cost, but they need enough vehicles to warrant the investment. Priority should be given to projects that will best leverage the VW funding.
- The proposed award amounts seem to favor diesel applications since the amounts are virtually the same for natural gas, propane and diesel. NGVAmerica believes that the State would be more effective in accomplishing NOx reduction goals if diesel was treated as the baseline fuel that the MO Plan says should be reduced and therefore receive minimal VW funding (if any, such as in Colorado).
- Emphasis should be placed on ready projects using proven technologies and implementors.

The VW EMT funds provide an extraordinary opportunity for Missouri 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-eight 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).

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 Department 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 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 Department has stated that they will use the current U.S. EPA Diesel Emissions Quantifier (DEQ) to calculate emissions reductions. 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 Department 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

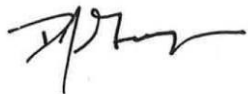
- ✓ Given that the EMT was created because of NOx pollution associated with non-compliant diesel vehicles, we believe that the funding should be set aside for clean, **alternative fuel vehicle projects that focus on maximizing NOx reduction for the funds spent**
- ✓ Provide a larger incentive and greater 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 Department 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 Missouri. Please contact Jeff Clarke, NGVAmerica General Counsel & Regulatory Affairs Director at 202.824.7364 (jclarke@NGVAmerica.org), or Sherrie Merrow, NGVAmerica State Government Advocacy Director at 303.883.5121 (smerrow@NGVAmerica.org) to set up a meeting and for additional information.

Sincerely,



Daniel J. Gage
President