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July 23, 2018

Mr. James Langdon, Administrator  
Mr. Ben Vondra, Grant Specialist-Advanced  
Division of Enterprise Operations  
Department of Administration  
101 East Wilson Street, 6<sup>th</sup> Floor  
Madison, WI 53707-7869

**RE: NGVAmerica Comments on the State of Wisconsin Volkswagen Beneficiary Mitigation Plan**

Dear Administrator Langdon and Mr. Vondra:

Natural Gas Vehicles for America (NGVAmerica), the national trade association for the natural gas vehicle industry, respectfully submits the following comments to the State of Wisconsin Department of Administration (DOA) on its Volkswagen Beneficiary Mitigation Plan (Plan) for information as you develop grant programs based on the Plan (including the current Transit Capital Assistance Grant Application). These comments are in addition to the NGVAmerica comments submitted to the State on April 24, 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 Wisconsin and other states to put significantly cleaner, lower-polluting vehicles on the road in public and private fleets. This funding (\$67 million) can and should be used by Wisconsin to accelerate the use of cleaner, alternative fuels that offer a cost-effective alternative to diesel vehicles.

As shown in our VW Comment Letter submitted on April 24, 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.

The latest natural gas engines are the only zero emission equivalent or near zero engines that are certified to perform at 0.02 g/bhp-hr of nitrogen oxide (NOx) emissions or better and should not be confused with diesel engines certified to the 2010 EPA standard of 0.2 g/bhp-hr NOx standard.<sup>1</sup> The 0.02 g/bhp-hr NOx standard requires that new engines outperform the federal standard by 90 percent and is the cleanest heavy-duty engine standard today. It also is the lowest level currently recognized under California's Optional Low-NOx Standard (OLNS) for engine. Additionally, studies have shown that the near zero engines perform at or better than their EPA tested rating, while new diesel engines may have in use emissions that are as much as 5 times higher than their EPA tested rating (see NGVAmerica's April 24<sup>th</sup> Comments).

<sup>1</sup> See SCAQMD press release from June 3, 2016 providing details on the petition filed by state authorities urging the U.S. EPA to adopt the 0.02 NOx standard (<http://www.aqmd.gov/home/library/public-information/2016-news-archives/nox-petition-to-epa>) (Today's action follows a March 4 vote by the SCAQMD's Governing Board to formally petition the U.S. EPA to adopt a so-called "near-zero" or "ultra-low" emissions standard for heavy-duty truck engines that is 90 percent cleaner than the current standard).

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.

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. 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. While the Wisconsin Plan did not allocate any of its VW funding to replace pre-Tier 4 locomotives, we urge the DOA to ensure that any future funding opportunities or solicitations concerning rail projects be open to natural gas options.

The VW EMT funds provide an opportunity for Wisconsin to cost-effectively accelerate the transition to cleaner vehicles and lower emissions. Natural gas vehicles are commercially available in all the vehicle classes and offer the best solutions today for addressing the goals of the EMT, delivering the most nitrogen oxide emission reductions for the least cost. Natural gas transit buses are widely used across the country and offer near-zero emissions at very competitive prices – cost-effective NOx reductions that will enable Wisconsin's VW funding to produce the most NOx reductions for the funds spent.

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

Forty states have released 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 model years 1992-2001) and provides a relative parity for funding for the various fuels through its choice of percentage funding by fuel type. The funding 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 for all alternative fuels.

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

NGVAmerica also recommends that the DOA 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 fleet's 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 (ANL) 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 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/>.

Often states use the U.S. EPA Diesel Emissions Quantifier (EPA DEQ) tool to calculate vehicle emissions. The DEQ tool is not current in its underlying assumptions and data for today's engines and in-use emissions, therefore NGVAmerica requests that the DOA use the ANL HDVEC tool for all applicable categories of projects, since the data is current, easy to use and was created for VW projects (after reviewing the tool, New Mexico is requiring that its project applicants use the HDVEC to calculate their emissions reductions). NGVAmerica is available to discuss the operation of this tool and show comparisons between it and the DEQ if the DOA desires to do this.

#### 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 DOA 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 Wisconsin. 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