



March 19, 2018

Mr. Rocky Sisk  
Ms. Amanda Jarrett Smith  
Minnesota Pollution Control Agency  
520 Lafayette Road N.  
St. Paul, MN 55155-4194

**RE: NGVAmerica Comments on the Minnesota Draft Volkswagen Settlement Beneficiary Mitigation Plan**

Dear Mr. Sisk and Ms. Smith:

Natural Gas Vehicles for America (NGVAmerica) respectfully submits the following additional comments on how the Minnesota Pollution Control Agency (MPCA) can best use the Environmental Mitigation Trust (EMT or Trust) funds (\$47 million) that the state will receive as part of the Volkswagen (VW) diesel emission settlement.

The MPCA has proactively put together a draft VW Settlement Beneficiary Mitigation Plan Draft Framework (BMP) that clearly focuses on “using the VW funds to achieve significant emissions reductions across the state, especially in areas that have been most impacted by vehicle pollution.” The Plan further states that the MPCA “will balance emissions reductions and other benefits of the grant programs with costs.”

NGVAmerica agrees that barring special circumstances, the priority should be on funding projects that deliver greatest NOx reductions for the least cost. Consistent with this principle, the MPCA should find that projects involving on- and off-road medium- and heavy-duty natural gas vehicles (both CNG and LNG) are proven to reduce more NOx than their diesel counterparts (see attached NGVA VW Flyer).

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 engines.

Additionally, if renewable natural gas (RNG) is used to produce CNG or LNG, life cycle greenhouse gas emissions from NGVs are reduced further. Using RNG also creates a market for energy produced from waste water treatment, landfills, animal waste and other methane sources, significantly increasing air quality by reducing the amount of methane released.

As was shown in our comments submitted March 17, 2017 (attached), in some duty cycles often even new diesel engines do not perform at the EPA standard for NOx reduction when operating at low speeds or idling, which is much of the operating time for many heavy duty vehicles (especially refuse trucks, transit and school buses, and drayage

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<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).

trucks in ports and loading areas). NGVAmerica strongly encourages the MPCA to define broad categories of eligible projects and allow the use of different types of alternative fuel applications and technologies that will reduce the most NOx for the funds expended as shown in the attached 2017 NGVA Comment Letter and NGVA VW Flyer.

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

Nineteen states have released draft VW Mitigation Plans and NGVAmerica has reviewed these plans and offered comments to the states. NGVAmerica believes the most effective plans include broad segments of funding that maximize the use of alternative fuels and provide parity among alternative fuels.

The Minnesota Plan proposes segments of funding that do address the segments with the most emissions, and funding percents that achieve a reasonable level of parity among fuels, with the exception of the inclusion of diesel. Allowing diesel vehicles to have the same 25% of vehicle cost funding does not make sense when diesel is the baseline for the calculations, and the source of the original emissions infractions by Volkswagen.

Additionally, NGVAmerica strongly recommends that the portion of the Heavy-duty electric vehicle (EV) grant program funding for transit and school buses be combined with the Clean heavy-duty on-road vehicles grant program funding. The argument that electric vehicles cost more is less compelling when considering that there is grant funding available to EVs from Federal and other sources that are not given to other fuels.

The MPCA core criteria for diesel replacement projects include emissions reduction, cost-per-ton, vulnerable populations and exposure. NGVAmerica commends the MPCA on establishing meaningful criteria that follows the goals of the Trust. It is important to mitigate the NOx emissions quickly with available vehicles that reduce the most NOx for the funds spent.

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

NGVAmerica also recommends that the MPCA 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**

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 (*other tools such as the EPA DEQ are not using current emissions and cost data*). The AFLEET Tool 2017 updates include:

- Added low-NOx 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 VW heavy-duty 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/>.

In using either the AFLEET or HDVEC tools, the options for the NGV low-NOx engine, renewable fuels, and the in-use diesel factors should be used to gain the full advantage of the current data that produces more accurate estimations. It does not appear that these options were used in the MPCA VW Plan calculations which used the AFLEET tool. Also, the MPCA assumes that vehicles have a 25 year life and that scrappage vehicles will be 1998 models, which from NGVAmerica's research might apply to school buses, but rarely applies to heavy duty trucks.

In the case of very old trucks, these vehicles often accumulate fewer miles than the vehicles that replace them, since fleets tend to cycle older vehicles into routes that require fewer miles or use these vehicles less frequently. Assuming the older vehicle has the same mileage as the new vehicle overstates the advantage of removing older diesel vehicles. It also appears that the MPCA calculations do not calculate the emissions benefits for the years following scrappage (remaining useful life). The approach MPCA has used does not consider the advantage of alternative fuel vehicles over diesel for the remaining years and so does not fully account for the benefit of alternative fuel vehicles.

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

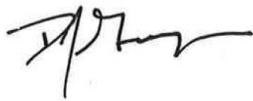
- ✓ Given that the EMT was created because of NOx pollution associated with non-compliant diesel vehicles, we believe that the funding should be set aside for clean, **alternative fuel vehicle projects that focus on maximizing NOx reduction for the funds spent**
- ✓ Provide a larger incentive and greater 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 and HDVEC tools** are the most current tools available

NGVAmerica and its members are eager to serve as a resource to assist the MPCA in its ongoing development of the state’s proposed Beneficiary Mitigation Plan. We strongly encourage the state to recognize the unmatched role that natural gas vehicles can play in delivering NOx emissions reductions required by the settlement and Trust.

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

Sincerely,



Daniel J. Gage

President, NGVAmerica