April 17, 2018

Mr. Brad Frost
Illinois Environmental Protection Agency
1021 North Grand Ave. East
Springfield, IL 62794-9276

RE: NGVAmerica Comments on the Illinois Beneficiary Mitigation Plan for Using the Funding from the Volkswagen Environmental Mitigation Trust

Dear Mr. Frost:

Natural Gas Vehicles for America (NGVAmerica), the national trade association for the natural gas vehicle industry, respectfully submits the following comments on how the Illinois (IL) Environmental Protection Agency (EPA) can best use the Environmental Mitigation Trust (EMT or Trust) funds ($108.68 million) that the state will receive as part of the Volkswagen (VW) diesel emission settlement.

As shown in our VW Comment Letter submitted on April 7, 2017 (attached), 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 an important component of the IL 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 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 IL EPA to ensure that any future funding opportunities or solicitations concerning non-road marine or rail projects be open to natural gas.

The Illinois EPA states that its VW Mitigation Plan’s primary goals are as follows:

- **Reduce NOx emissions in areas** where the affected Volkswagen vehicles are registered while taking into consideration areas that bear a disproportionate share of the air pollution burden, including environmental justice areas;
- **Maximize emissions reductions**; and
- **Maximize and leverage funding**.

Given the state’s focus on achieving the greatest emissions reductions while maximizing and leveraging the funding, it is difficult to understand why 10 percent of the funding would go to electric school buses. Natural gas school buses are 54 percent more cost effective than electric school buses – it costs $447 to reduce one pound of NOx for an electric school bus and $204 for a natural gas school bus. $10 million spent on electric school buses displaces 1.5 million gallons of diesel, while natural gas buses would displace 11,000 million gallons (school bus flyer attached). NGVAmerica recommends that this funding set aside for electric school buses be combined with the On-Road Projects.
segment and open to other technologies. If IL desires to test some electric school buses while the technology improves and the costs decrease, then it could fund a limited number of buses under this broader segment.

The Off-Road Project 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.

Despite the significant NOx reductions, NGVAmerica questions whether putting 65 percent of the funding into off-road projects truly meets the objective to reduce NOx in affected areas and areas with a disproportionate share of the air pollution burden. A lesser percentage for off-road projects and a higher percentage for on-road projects seems more appropriate to meeting the state’s VW Plan goals and addressing emissions caused by the non-compliant Volkswagen vehicles.

The VW EMT funds provide an extraordinary opportunity for Illinois 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.

If renewable natural gas (RNG) is used, life cycle greenhouse gas emissions from NGVs are reduced further. Deploying low NOx NGVs today allows Illinois to accelerate the achievement of clean air by maximizing the number of vehicles that are deployed and maximizing the amount of NOx that is reduced for the funds expended. Zero emission vehicles should only be prioritized over natural gas or other extremely low-emitting technologies if they deliver the same or greater emissions at less cost.

**Current State Beneficiary Mitigation Plans**

Twenty-three 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 IL EPA 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 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

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 IL EPA Plan states that it uses the EPA Diesel Emissions Quantifier (DEQ) Tool for its emissions and cost calculations. The DEQ tool is not current in its underlying assumptions and data for today’s engines and in-use emissions, therefore NGVAmerica recommends that IL EPA use the HDVEC tool since the data is current, easy to use and was created for VW projects. Please let NGVAmerica know if you would like us to show you the differences in these tools.

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 IL EPA 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 Illinois. 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