



August 1, 2019

Mr. Jeff Koerner
Director, Division of Air Resource Management
Florida Department of Environmental Protection
2600 Blair Stone Road, MS 5500
Tallahassee, FL 32399-2400

RE: NGVAmerica Comments on the State of Florida Volkswagen Trust Draft Beneficiary Mitigation Plan

Dear Director Koerner:

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 Florida Department of Environmental Protection (FDEP) Draft Beneficiary Mitigation Plan (Plan). These comments are in addition to the NGVAmerica comments submitted on April 7, 2017 regarding NGVAmerica's recommendations on how states can best use the Environmental Mitigation Trust (Trust) funds that each state will receive as part of the Volkswagen diesel emission settlement.

The Trust funds provide an extraordinary opportunity for Florida and other states to put significantly cleaner, lower-polluting vehicles on the road in public and private fleets immediately. The Trust states that its primary goal is to reduce NOx emissions, which is most effectively done by using the funding for vehicles that will reduce the most NOx for the funds expended. Moreover, the emissions reductions are needed now and should be focused on available and proven vehicle technologies. Additional desired benefits include overall emissions reductions including GHGs.

Heavy-duty trucks and buses are the number one source of urban emissions, and three out of four heavy-duty trucks on Florida roads today are not certified to EPA's latest NOx standard.¹ 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.² 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.

As shown in our VW Comment Letter submitted on April 7, 2017, natural gas vehicles (both LNG and CNG) offer the best solutions for the projects that will address the goals of the Trust, to reduce the most nitrogen oxide (NOx) for the least cost. Please see the updated (using the latest version of the Argonne Lab AFLEET emissions calculation tool) diesel, electric and natural gas vehicle emissions reductions comparisons on the NGVAmerica VW flyers available at <https://www.ngvamerica.org/vw-trust-action-center/> under the Fact Sheets drop down box.

¹ DTF Analysis on IHS Vehicles in Operation Data, December 2015.

² 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).

Natural gas engines also offer significant climate change benefits. Compared to diesel, natural gas engines fueled with geologic natural gas reduce CO₂ and greenhouse gas emissions by up to 17 percent. When fueled with renewable natural gas (RNG or biomethane) captured from agricultural, food, landfill or wastewater sources, up to 382% fewer emissions than diesel even greater CO₂ and greenhouse gas benefits are achieved.³ Using RNG also creates new economic development opportunities for energy created from wastewater treatment, landfills, animal waste and other methane sources and significantly increases air quality by reducing the amount of methane released.

Geologic and renewable natural gas are 100 percent domestic fuels, unlike limited electric vehicle battery components that are controlled by foreign interests and mostly sourced from limited supplies in conflict countries like the Democratic Republic of the Congo and China. Proven, domestic and available technologies available today should be used to reduce emissions now.

As evidenced by several rail and marine LNG applications in Florida, natural gas is also capable of powering non-road applications such as freight switchers, other locomotives and marine vessels. For freight switchers, 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.

NGVAmerica commends the FDEP for producing a Plan that is clear, concise and thorough in its presentation of pertinent data. The FDEP's overall goal of emissions reductions in areas where people live, work and visit, will be achieved if the projects that are funded follow the plan's guidance to:

- Prioritize projects that replace eligible units with electric-powered and/or alternative fueled units;
- Identify the areas in Florida where the largest number of people are impacted by higher levels of emissions from diesel-powered vehicles and equipment; and
- Identify mitigation projects that achieve the lowest cost per ton of pollutants reduced.

These goals reflect the intent of the Trust and address the key requirements to investing the Trust funding to achieve the most emissions reductions, while moving to improved air quality in Florida through alternative fuels.

It is concerning that the FDEP has chosen to obligate 70 percent of its funding to school, transit and shuttle buses, since these vehicles are not the highest emitters of emissions. Heavy- and medium-duty trucks hauling freight and refuse are not represented in the plan (except potentially through the DERA option), yet they would have the largest impact in reducing emissions. NGVAmerica recommends that a portion of the bus funding be allocated to heavy- and medium-duty trucks.

Current State Beneficiary Mitigation Plans

All fifty states and the District of Columbia have released Beneficiary Mitigation Plans and NGVAmerica has reviewed these plans and offered comments. The best state Plans limited diesel options and did not pick a preferred alternative fuel. Several states provide a relative parity for funding for the various fuels through their choice of percentage funding by fuel type. One model 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.

The FDEP has not stated what the percent of cost of vehicle numbers will be for private and government projects. If the EMT percentages are followed there will be no achievement of any parity among fuels and diesel and electric projects will be promoted over other fuels. Since diesel does not perform to the EPA standard when in use at low speeds or idling, NGVAmerica recommends that diesel receive a lower (or no) funding amount than alternative fuels, and that the electric vehicle percentage be reduced.

³ Dependent upon RNG source. Reductions of 45% up to 382% compared to diesel; values based on CARB LCFS program data under CA-GREET 3.0. <https://ww3.arb.ca.gov/fuels/lcfs/ca-greet/ca-greet.htm>.

Additional Options for Vehicle Scrappage

NGVAmerica also recommends that the FDEP 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 multiplier sensitivity case
- Added Idle Reduction Calculator to estimate the idling petroleum use, emissions, and costs for light- 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 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/>.

It should be noted that the U.S. EPA Diesel Emissions Quantifier (EPA DEQ) tool being used by the FDEP for its emissions calculations is not current in its underlying assumptions and data for today's engines and in-use emissions. The DEQ favors diesel vehicles in its emissions calculations, therefore NGVAmerica requests that the FDEP use the ANL HDVEC tool (derived from the AFLEET tool) for all applicable categories of projects, since the data is current, easy to use and was created for VW projects. The chart below illustrates current cost and emissions calculations for four types of vehicles and three types of fuel/power using the HDVEC tool.

Cost & Emissions Calculations Using Current Data Factors				
	Class 8 Truck	Refuse Truck	Transit Bus	School Bus
Natural Gas	\$27 per lb of NOx Vehicle Cost - \$150,000 NOx Reduced - 5582 lbs	\$69 per lb of NOx Vehicle Cost - \$300,000 NOx Reduced - 4375 lbs	\$129 per lb of NOx Vehicle Cost - \$526,500 NOx Reduced - 4078 lbs	\$90 per lb of NOx Vehicle Cost - \$125,000 NOx Reduced - 1391 lbs
Diesel	\$58 per lb of NOx Vehicle Cost - \$100,000 NOx Reduced - 1716 lbs	\$496 per lb of NOx Vehicle Cost - \$270,000 NOx Reduced - 544 lbs	\$3559 per lb of NOx Vehicle Cost - \$477,775 NOx Reduced - 134 lbs	\$1764 per lb of NOx Vehicle Cost - \$100,000 NOx Reduced - 57 lbs
Electric	\$51 per lb of NOx Vehicle Cost - \$290,000 NOx Reduced - 5715 lbs	\$151 per lb of NOx Vehicle Cost - \$670,000 NOx Reduced - 4423 lbs	\$203 per lb of NOx Vehicle Cost - \$836,330 NOx Reduced - 4128 lbs	\$190 per lb of NOx Vehicle Cost - \$300,000 NOx Reduced - 1583 lbs

Because of the results shown in this chart, 6 states (IL, KS, MN, NC, NM, WY) recommend or require the use of the AFLEET or HDVEC tool for VW Project calculations, 2 states (NJ, UT) allow either AFLEET/HDVEC or the EPA DEQ and one state (MD) requires the use of the EPA DEQ tool. The rest of the states and DC do not specify a tool.

The VW TRUST funds provide an opportunity for Florida 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 TRUST, delivering the most nitrogen oxide emission reductions for the least cost and sourced domestically.

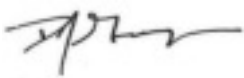
NGVAmerica's Recommendations for TRUST Funding

- ✓ Given that the TRUST 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 least provide parity among alternative fuel vehicles
- ✓ 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 duty cycles – **Argonne National Laboratory's AFLEET tool and HDVEC tools** are the most current tools available

More than four in ten Americans live in communities with dangerously dirty air. According to the American Lung Association, that number continues to rise, from 125 million in 2017 to nearly 141.1 million today.⁴ Investments in natural gas vehicle technologies offer the most proven, cost-effective, and immediate way to promote a low carbon and NOx transportation future, clean our air, and provide more affordable, accessible, and reliable transportation opportunities for the State of Florida.

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

Sincerely,



Daniel J. Gage
President

⁴ American Lung Association, 2019 *State of the Air Report*, April 2019.