



Natural Gas Vehicles for America

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



October 8, 2018

Commissioner Jon Niermann
Texas Commission on Environmental Quality
Air Quality Division
Implementation Grants Section, MC-204
12100 Park 35 Circle
Austin, TX 78753

RE: NGVAmerica Comments on the Texas Draft Beneficiary Mitigation Plan

Dear Commissioner Niermann:

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 Texas Commission on Environmental Quality (TCEQ) on its Draft Beneficiary Mitigation Plan (Plan). These comments are in addition to the NGVAmerica comments submitted to you on April 17, 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 Texas and other states to put significantly cleaner, lower-polluting vehicles on the road in public and private fleets. Texas should use its \$209.3 million to continue its commitment to accelerating the use of cleaner, cost-effective alternative transportation fuels.

As shown in our VW Comment Letter submitted on April 17, 2017, natural gas vehicles (both LNG and CNG) offer the best solutions for the projects that address the goals of the EMT, reducing 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 certified to perform at 0.02 g/bhp-hr of nitrogen oxide (NOx) emissions or better and thus provide zero-equivalent or near-zero emissions. The new, cleaner natural gas engines should not be confused with diesel engines certified to the 2010 EPA standard of 0.2 g/bhp-hr NOx standard.¹ 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). 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 17th Comments).

¹ 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 vehicles also eliminate diesel particulates and provide reductions of greenhouse gas emissions. Using renewable natural gas (RNG) as many communities are doing, delivers additional life cycle greenhouse gas emission reductions potentially providing carbon negative emissions. As Texas knows, 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, 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. The Texas Draft Plan does not include off-road rail or marine applications. However, due to the fact that proven technology is available and natural gas projects in rail and marine are moving forward, we ask the TCEQ ensure that future funding opportunities for these sectors are open to natural gas options.

The Texas Draft Plan has set goals for its VW Mitigation Trust Program leading with *“Reduce NOx emissions in those areas with the potential to be most impacted by NOx emissions.”* The VW EMT funds provide an opportunity for Texas to cost-effectively accelerate the transition to cleaner vehicles and lower emissions. As an observation, NGVAmerica submits that allowing projects throughout the state while prioritizing non-attainment areas, would satisfy the Plan’s goal of complementing and expanding upon TERP funding since that program only funds non-attainment areas.

The TCEQ has allocated a significant portion of its funding for medium- and heavy-duty trucks, refuse trucks, transit, shuttle and school bus projects. Natural gas vehicles in these categories are commercially available and widely used across the country. These natural gas vehicles offer near-zero emissions at very competitive prices, providing cost-effective NOx reductions that will enable Texas’s VW funding to produce the most NOx reductions for the funds spent.

Current State Beneficiary Mitigation Plans

Forty-six states have now released Beneficiary Mitigation Plans. NGVAmerica has reviewed and commented on each of these plans. NGVAmerica believes the Colorado Plan provides an excellent model for other states that wish to segment their funding for a variety of uses, 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, however, is excluded except for model years 1992-2001 vehicles**) 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 (including electric vehicles).

The TCEQ has proposed a similar but general funding percentage of 60% for the public sector, 60% for electric vehicles (EVs) in the private sector and 25% for non-EVs in the private sector (does not exclude or limit diesel vehicles). NGVAmerica recommends that TCEQ provide a lower level of funding or no funding for diesel vehicles, since diesel vehicles do not perform to the EPA standard when operated at lower speeds typically encountered in urban environments. TCEQ has chosen to prioritize electric vehicles by giving them a 60% funding level which does not provide parity among fuels. If left unchanged, the Texas Plan will essentially promote the use of electric and diesel vehicles over alternative fueled vehicles, thus eliminating choices that reduce the most NOx for the funds spent.

Additional Options for Vehicle Scrappage

NGVAmerica also recommends that the TCEQ 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-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 released a vehicle emissions calculator (HDVEC) that provides state officials and fleet managers with an accurate and easy to use tool that gauges emissions reductions across various medium- and heavy-duty vehicle project options including those allowed under the Volkswagen Environmental Mitigation Trust Settlement. The HDVEC tool is available at: <http://afleet-web.es.anl.gov/hdv-emissions-calculator/>.

Some states use the U.S. EPA Diesel Emissions Quantifier (DEQ) tool to calculate vehicle emissions which is not current in its underlying assumptions and data for today's engines and in-use emissions. The tool that the TCEQ used to calculate emissions and cost-effectiveness in its Plan also does not seem to account for diesel's underperformance to EPA standards for various in use scenarios, therefore NGVAmerica requests that the TCEQ use the ANL HDVEC tool for all applicable categories of projects, since the data is current, easy to use and was created for VW-like projects.

Additionally, NGVAmerica requests that the TCEQ use the near-zero engine emissions performance figures recently modified in the Argonne tools discussed above, when calculating emissions reductions for natural gas vehicles to ensure an accurate representation of NOx reductions for the funds spent across all fuels. NGVAmerica also suggests that emission comparisons account the full life of vehicles projects not just the scrappage years. Evaluating the full useful life or years after scrappage provides credit for fuels or applications that are cleaner than baseline diesel vehicles.

Summary of NGVAmerica's Recommendations for EMT Funding

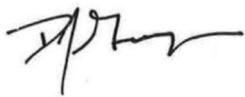
- ✓ Given that the EMT was created because of NOx pollution associated with non-compliant diesel vehicles, we believe that the funding should be set aside for clean, **alternative fuel vehicle projects that focus on maximizing NOx reduction for the funds spent**
- ✓ Provide a larger incentive and greater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

Sincerely,



Daniel J. Gage
President