



PERMIAN BASIN  
PETROLEUM ASSOCIATION

January 9, 2018

Commissioner Jon Niermann  
Chairman Bryan W. Shaw  
Commissioner Toby Baker  
Texas Commission on Environmental Quality  
12100 Park 35 Circle  
Austin, TX 73753

RE: Volkswagen Settlement Emissions Mitigation Plan

Dear Chairman Shaw:

Thank you for the opportunity to provide comments on structuring Texas's Environmental Mitigation Trust (EMT) allocation under the Volkswagen settlement. The Permian Basin Petroleum Association ["PBPA"] is the largest regional oil and gas association in the United States. Established in 1961, PBPA's mission is to promote the safe and environmentally responsible development of oil and natural gas resources. PBPA represents oil and natural gas explorers and producers, as well as the service and supply industries that support their efforts in the largest inland oil and natural gas reservoir and the largest oil and natural gas-producing region in the world. Representing the core of Texas energy production, we wish to see these funds utilized in a meaningful and effective manner.

The EMT was established to promote reductions of NO<sub>x</sub> emissions in order to mitigate the air quality damage caused by Volkswagen's non-compliant light-duty diesel vehicles. Reductions are to be achieved, in part, by providing grants for the scrappage and replacement of older medium and heavy-duty diesel vehicles with new diesel, hybrids, and alternative fuel vehicles. The question presents itself: How should these funds be spent in order to provide the greatest overall benefit?

- Funding should be focused on vehicle grants since the transportation sector is the largest contributor of NO<sub>x</sub> emissions
- Grant awards should be determined based on NO<sub>x</sub> emissions reduced per grant dollar
- Grant funding should be fuel neutral
- Grantees should be permitted to buy a vehicle to scrap
- Economic and tax base benefits to the state should be taken into consideration

In order to fulfill the foregoing principles, natural gas vehicles (NGVs) must play a significant role. NGVs are the most economical alternative to diesel especially when fuel cost savings are taken into account. With well over a hundred different NGV models which cover all medium and heavy-duty weight classes, they are a viable solution for a wide variety of transportation needs. In terms of range, advances in fuel storage now allow for up to 600 miles of range for a class 8 tractor trailer. The NOx emission reductions are on par with electric vehicles but at a fraction of the cost.

**Recommendation #1: A majority of the funds should be used for medium and heavy-duty vehicle grants**

Out of all the eligibility categories under the Settlement, Class 4-8 vehicles are the largest contributors of NOx emissions. Furthermore, unlike rail and marine applications, medium and heavy-duty vehicles operate throughout Texas. Therefore, reduction of emissions in vehicles will provide a benefit for all areas: urban, suburban and rural alike. Concentrating funding in this category will accelerate the transition by a wide variety of fleets to low-NOx, near-zero or zero emission vehicles thereby multiplying the positive effect well beyond the grant program.

In regard to NOx emissions, many natural gas engines reduce NOx emissions far beyond what is required by the U.S. EPA and are certified to either the California Air Resources Board's optional low NOx or near-zero emissions standards. These engines are therefore certified to produce 50-90 percent fewer NOx emissions. Additionally, a recent study conducted by the University of California Riverside, found the actual in-use NOx emissions of the near-zero natural gas engine to be up to 95 percent cleaner than the federal standard (0.001g/bhp-hr).

The opportunity to reduce GHG, NOx and particulate emissions in the transportation sector via the use of natural gas greatly expands when renewable natural gas (RNG) is paired with these new near-zero natural gas engines. Not only do you get the 90-95 percent reduction in NOx emissions but also a 75-100+% reduction in carbon emissions. Vendors currently fuel hundreds of buses for the Dallas Area Regional Transit with RNG.

**Recommendation #2: Vehicle grants should be awarded based on NOx emissions reduced per grant dollar awarded as determined by the AFLEET model**

In order to maximize the effectiveness of these one-time funds, grant applications should be evaluated on NOx reductions per grant dollar awarded. The AFLEET model developed by the Argonne National Laboratory serves as the most up to date and comprehensive emissions calculator available. It takes into consideration not only reductions from engines certified to low-NOx and near-zero standards but also incorporates the latest emissions data on those certified to the current federal standard.

**Recommendation #3: Grants should cover the same percentage of the vehicle cost for all alternative fueled vehicles which perform below today's federal NOx emissions standard**

A report by the California Energy Commission indicates that the near-zero natural gas engine produced by Cummins-Westport can reduce the life-cycle emissions of medium and heavy-duty vehicles to levels near or equal to those of zero emission electric vehicles. For example, the South Coast Air Quality Management District of California views the near-zero NOx standard to be zero emission equivalent based on the district's mix of electric generation supplying their grid. Moreover, their electric generation mix is one of the cleanest in the country and therefore Texas stands to benefit further. While comparable in regard to NOx emissions, natural gas and electric vehicles (EVs) are miles apart on cost. An all-electric medium or heavy-duty vehicle can cost twice the amount or more of a similar vehicle powered by a near-zero natural gas engine. Yet, under EMT guidance, EVs may receive a grant up to 75 percent of the total vehicle cost while natural gas vehicles (NGVs) may only receive a grant for up to 25 percent of the total vehicle cost. Funding the more expensive EV and at a greater percentage will result in fewer vehicles being deployed and therefore fewer reductions in NOx emissions. Below is a chart illustrating these points by showing the benefits of a \$7.5 million investment in NGVs versus that same investment in EVs.

Source: NGVAmerica compiled from Gladstien, Neandross and Associates Game Changer Report Data

There is no policy reason for providing a 500% larger incentive (in terms of dollars) for an EV truck which has similar life-cycle NOx emissions as a low-NOx or near-zero natural gas truck.

Example	Vehicle Cost	Funding Percentage	Grant
Class 8 EV Truck	\$300,000	75%	\$225,000
Class 8 Nat. Gas Truck	\$170,000	25%	\$42,500

The funding percentage for both natural gas trucks and EVs which perform below the federal NOx emissions standard should be the same. Therefore, both EVs and NGVs should be funded at 25 percent of the total vehicle cost.

Example of Recommended Approach

	Vehicle Cost	Funding Percentage	Grant
Class 8 EV Truck	\$300,000	25%	\$75,000
Class 8 Nat. Gas Truck	\$170,000	25%	\$42,500

Our recommendation is more than fair to EVs as under this approach an EV will still receive close to twice as much funding per vehicle as an NGV.

**Recommendation #4: Grantees should be able to buy vehicles to scrap**

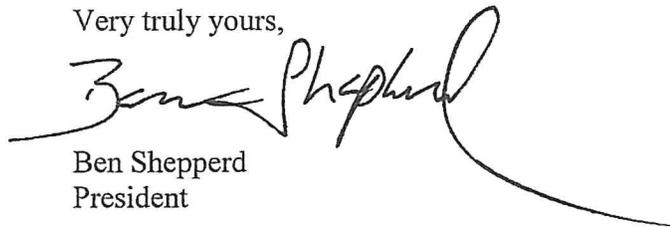
Under the Settlement, grantees are required to scrap a pre-2010 vehicle in their fleet. This greatly dilutes the value of the grant. Additionally, many fleets might only have newer vehicles and therefore do not want to scrap them since they retain more value than the grant or close to it. Fleets which do have numerous older trucks typically cannot afford to purchase new trucks. Therefore, the scrappage requirement can greatly restrict participation. However, it is possible to ease this burden by allowing grantees to buy vehicles to scrap. Texas should allow grant applicants the option to be pre-approved on the condition that they will buy a vehicle to scrap that is registered in Texas and has at least two-years of useful life remaining. This provision will provide greater flexibility in the program and increase the pool of potential applicants and has already been incorporated into TERP.

**Recommendation #5: Economic and tax base benefits to the state should be taken into consideration**

Incentivizing the use of NGVs not only reduces emissions but also increases the use of a Texas natural resource thereby increasing revenues from the state's 7.5 percent natural gas production tax. These funds help finance our schools and our state's Rainy Day Fund. Using the EMT to reduce NOx emissions and stimulate demand for Texas natural gas is a win-win for the Lone Star State.

Thank you for the opportunity to submit comments on this truly unique opportunity and we look forward to continued engagement as this process progresses.

Very truly yours,



Ben Shepperd  
President