



Natural Gas Vehicles for America

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



January 15, 2018

Director Richard Whitman
Mr. Kevin Downing
Oregon Department of Environmental Quality
700 NE Multnomah Street, Suite 600
Portland, OR 97232-4100

RE: NGVAmerica Comments on the State of Oregon Draft VW Beneficiary Mitigation Plan

Dear Director Whitman and Mr. Downing:

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 Oregon (OR) Department of Environmental Quality's Volkswagen (VW) Beneficiary Mitigation Plan (Plan). These comments are in addition to the NGVAmerica comments submitted to you on April 7, 2017 (attached) regarding NGVAmerica's recommendations on how states can best use the Environmental Mitigation Trust (EMT or Trust) funds provided by the Volkswagen diesel emission settlement.

The VW EMT funds provide an extraordinary opportunity for Oregon and other states to put significantly cleaner, lower-polluting vehicles on the road in public and private fleets. This funding (\$72.9 million) can and should be used by Oregon to continue its commitment across the state to accelerate the use of cleaner, alternative fuels that offer a cost-effective alternative to funding diesel vehicles.

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.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) for engine. Additionally, if renewable natural gas (RNG) is used, life cycle greenhouse gas emissions from natural gas vehicles (NGVs) are reduced further.

Oregon's Plan states that "clean diesel school bus fleets" are a priority, but NGVAmerica's April 7, 2017 comment letter references a report published in *Environmental Science and technology* that found that new diesel trucks perform at up to 5 times higher NOx emissions than the EPA 0.2 standard while idling or at low speeds. Under the same conditions, natural gas trucks emitted even fewer NOx emissions than their 0.02 EPA tested standard. There is very likely a correlation to potential "clean diesel" school bus engines NOx reduction since they usually operate at low speeds or are idling.

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).

As stated in the OR VW Beneficiary Mitigation Plan, Oregon's high-level goals for use of the Environmental Mitigation Trust allocation are as follows:

- Maximize benefits for vulnerable populations, e.g., low income, minority, elderly and youth
- Prioritize pollution reductions in areas of the state with the highest emissions of nitrogen oxides and particulate matter from diesel engines
- Maximize pollution reduction cost effectiveness.

In support of the State's high-level goals stated above, NGVAmerica strongly encourages the Department of Environmental Quality to prioritize investments in natural gas zero emission equivalent (near-zero) vehicles since these vehicles are now commercially available in all the desired vehicle categories stated in the Trust, and can begin improving Oregon's air quality immediately at a much lower cost than other clean technologies. CNG school buses are available in standard bus types and the incremental cost would be more than covered by the planned 30% of the cost of each school bus. Please see the attached school bus flyers that compare cost effectiveness for NOx reduction between diesel and CNG.

Current State Beneficiary Mitigation Plans

Sixteen states have released draft VW Mitigation Plans and NGVAmerica has reviewed these plans and offered comments to the states. 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).

In allocating its funds, Colorado did not pick a preferred alternative fuel (diesel is excluded except for fleets of 9 or less trucks) and kept the categories simple and broad. 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). NGVAmerica strongly recommends that Oregon consider adopting a similar "parity" approach to alternative fuel vehicles, instead of following the percentages suggested in the Trust.

Colorado has other funding they can apply to Transit applications, so it created a structure that augments the Trust funding to be used for transit applications with additional state monies. Colorado also set aside \$12.2M in Flex Funds to support projects in the segments that turn out to be successful and oversubscribed. For the DERA option, Colorado plans to consider funding projects involving liquefied natural gas (LNG) drilling rig and hydraulic fracturing engines, mining trucks and locomotives.

Additional Options for Vehicle Scrappage

NGVAmerica also recommends that the Oregon Department of Environmental Quality 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 older natural gas vehicles (NGVs) that meet the year criteria to be scrapped and replaced with new, cleaner NGVs

Use the Most Current Emissions and Cost Benefit Calculation Tools

Oregon's draft plan indicates that the state intends to use the Diesel Emission Quantifier to assess the cost-effectiveness of different mitigation actions. We urge Oregon to also consider and allow the use of other available emission tools that use current data, including Argonne National Laboratory's AFLEET tool. The AFLEET tool provides more specific emission factors for alternative fuel vehicles and therefore is better suited to estimating the cost and benefits provided by projects that include alternative fuel vehicles. The AFLEET tool provides emission factors and calculations for all vehicles and fuels and provides updated emissions factors based on recent 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
- AFLEET Tool spreadsheet and user manual at: http://greet.es.anl.gov/afleet_tool and tool link is: <http://www.afdc.energy.gov/tools>

Summary of NGVAmerica's Recommendations for EMT Funding

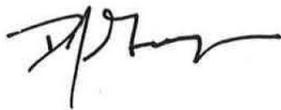
- ✓ Given that the EMT was created because of NOx pollution associated with non-compliant diesel vehicles, we believe that the funding should be set aside for clean, **alternative fuel vehicle projects that focus on maximizing NOx reduction for the funds spent**
- ✓ Provide a larger incentive and greater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

NGVAmerica and its members are eager to serve as a resource to assist the Oregon Department of Environmental Quality in its further evaluation and 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 Oregon. Please contact Jeff Clarke, NGVAmerica General Counsel & Director of Regulatory Affairs at 202.824.7364 or jclarke@NGVAmerica.org, or Sherrie Merrow, NGVAmerica Director of State Government Advocacy at 303.883.5121 or smerrow@NGVAmerica.org to set up a meeting and for additional information.

Sincerely,



Daniel J. Gage

President, NGVAmerica