



Division of Air Quality
(Attn. VW Mitigation Plan)
State Street Commons
100 W. Water Street
Suite 6A Dover, DE 19904

RE: Volkswagen Environmental Mitigation Plan

Dear Sir or Madam,

Please accept this correspondence as public input on the Draft State Mitigation Plan as requested by the Division of Air Quality. Below, I offer both specific input on the overall plan as well as answers to the questions posed by the DAQ.

Following in line with the Settlement fund split between emission reduction and Zero Tailpipe Emission Vehicles; we strongly petition the State of Delaware to allocate 75% of non ZTEV funds to natural gas (NG) fueled refuse vehicles and associated fueling infrastructure. NG powered refuse trucks have accounted for more than 50% of new refuse truck orders annually since 2015 though this rate of adoption hasn't occurred in Delaware. Additionally, a U.S. DOE study found that conversion from modern diesel to NG displaces over 7,000 DGE and reduces GHG emissions by 26 tons per year. (http://www.afdc.energy.gov/uploads/publication/casestudy_cng_refuse_feb2014.pdf) Refuse trucks operate at their worst fuel economy and emissions during typical trash collection operation in the immediate vicinity of residential homes and neighborhoods, generating environmental justice considerations.

The lack of NG refuse collection in Delaware is directly attributable to the barrier (financial cost) of entry. Simply, the initial capital cost of vehicle up-fit and maintenance and fueling infrastructure. Once these barriers have been crossed, the price spread between diesel and NG supports expansion of NG refuse fleets. This fact is supported by the NG adoption showcased by Waste Management. Waste Management has over 4,000 NG trucks in their fleet, almost 25% of their total vehicles, with NG comprising 90% of new refuse truck purchases. (<http://energyfuse.org/why-waste-management-is-operating-the-largest-fleet-of-natural-gas-trucks-in-north-america/>)

Most refuse operators, such as municipalities, in Delaware do not have the financial resources to cross the NG barrier of entry. Municipalities are acutely impacted by the initial cost of entry. Focusing significant funds on kick starting NG adoption in the Delaware refuse sector will create a self-sustaining market sector that will provide petroleum reduction, emission reductions, quieter neighborhoods and healthier air for Delawareans for years to come. We would request that municipalities receive 100% funding for replacement of their municipal refuse trucks as it will provide the economic room for these operators to invest in fueling infrastructure to support their fleets.

DAQ Public Input Questionnaire.

- 1 How the settlement money should be distributed, spent, and accounted for.

- a. The money should be prioritized based upon maximizing initial and expected future air emission reductions per dollar. Delaware should strongly consider the refuse collection market for these funds. More than 50% of new refuse trucks ordered today are CNG powered though the cost of entry to bring CNG refuse into smaller municipal and county fleets has kept Delaware from realizing the emission benefits of such a transition away from diesel. Through vehicle and/or fueling grants, DNREC can initiate this conversion and then allow the refuse collection fleets to fund future CNG truck purchases.
- 2 How to maximize the air quality benefits resulting from the trust.
 - a. Offset on-road diesel by replacing large, older trucks/buses that emit a disproportionate volume of exhaust in as wide an area of Delaware as possible, especially in low-income and non-attainment areas. This should include those fleet vehicles that operate on a regular basis, year-round, versus those that are occasional or seasonal use. While light duty cars and trucks can offer offsets, those offsets are minimized by two factors: (1) the hours per day of operation, and (2) their relatively good fuel-mileage, and (3) the relatively small reduction in
- 3 Whether projects should be fully funded or partially funded.
 - a. Consider fully funding municipal refuse and bus fleet vehicles and partial funding for private applicants.
- 4 What process should DE use to solicit, review, and approve or disapprove applications for funds?
 - a. A public and transparent application process reviewed by a group to include DNREC, municipal and other stakeholders.
- 5 Whether to set aside funds for particular categories or projects or applicants?
 - a. In light of Delaware's stalled implementation of CNG refuse fleets, a significant portion of the funds should be dedicated to this category.
- 6 Whether to give preferences to certain fuels, such as diesel, CNG, propane, hydrogen fuel cell, or battery electric?
 - a. Preference should be given to applicants / projects that will provide the greatest overall air emission impact. Both the impact of the initial project and the potential for the project to support additional future vehicle conversions should be considered.
- 7 The emission reductions achievable from each eligible mitigation measure.
 - a. Unsure of the question.
- 8 The costs and benefits of replacing or repowering vehicles with Alt-fueled or All-Electric engine technologies.
 - a. Engine replacement for large (class 7 & 8) fleet trucks/buses may offer a reduced cost alternative for vehicles whose bodies have not yet hit or exceeded useful life. However, existing bodies may not provide the space/chassis length to support the addition of alt-fuel tanks. Preference should be given to grants that replace such vehicles as opposed



to re-powering.

- 9 Percentage of trust funds, if any, that should devote to Light Duty Zero Emissions Vehicle Supply Equipment.
 - a. There is no such thing as a zero emission vehicle, the definition understood by the general public, and continued use of the term provides a dis-service to the public. It would be wholly more appropriate to compare vehicles based upon the total source to site, or well to wheel, emissions.

- 10 Whether to spend trust funds on the DERA Option.
 - a. Conversion of older diesel fleet vehicles to CNG would provide benefit to the broadest reach of most options.

- 11 How to determine whether a proposed project will benefit areas that have been disproportionately impacted by emissions of NOx or other pollutants, and info about such impacts in particular areas of Delaware.
 - a. Effectively every single residence, business or individual has a refuse vehicle pass their location. Greater urban density generates greater density of emissions; impacting those residents disproportionately.

- 12 The criteria for evaluating applications for funds. See factors A through K. What other factors should DE consider?
 - a. Factor h is really four different factors and should be addressed as individual items. Of these four, only "operates these vehicles in communities" should be a factor for consideration. Factor K is a very important factor to consider.

- 13 DNREC will conduct public outreach through in-person public meetings, presentations to stakeholder groups, Facebook posts, tweets, written comments and traditional media. What additional factors, if any, should DNREC consider in its public outreach? Utilize the Delaware Clean Cities Coalition to reach out directly to the fleet managers and decision makers within Delaware.

Thank you for the opportunity to offer comment on the Delaware VW environmental mitigation plan.

Sincerely,

A handwritten signature in blue ink that reads "Dean E. Holden".

Dean E. Holden, P.E.
Manager, Business Development
Chesapeake Utilities

Cc: Shane Breakie (email)