



April 27, 2018

VIA ELECTRONIC MAIL

Division of Air Quality
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Dover, DE 19904
Email: VW_Mitigation_Plan@state.de.us

RE: Comments of the Sierra Club Regarding Delaware's March 2018 Proposed Volkswagen Environmental Mitigation Plan

To Whom It May Concern:

On behalf of the Sierra Club and its more than 2,000 members in Delaware, we are pleased to comment on the Department of Natural Resources and Environmental Control's ("DNREC's") March 2018 Proposed Volkswagen Environmental Mitigation Plan ("Proposed Mitigation Plan"). We appreciate the opportunity to provide feedback on DNREC's updated and more detailed plan describing the state's intended use of its share of the settlement trust funds and offer the following comments and recommendations.

First, we strongly support Delaware's focus on reducing pollution burdens in areas that receive a disproportionate quantity of air pollution from diesel vehicles¹ and its intention to prioritize projects that serve environmental justice areas within the state.² Section 5.2.10 of the Volkswagen EMT Agreement specifically states that a Beneficiary's Plan must provide:

A description of how the Beneficiary will consider the potential beneficial impact of the selected Eligible Mitigation Actions on air quality in areas that bear a disproportionate share of the air pollution burden within its jurisdiction.

To date, a number of states have not only *considered* potential benefits on disproportionately burdened communities, but have actually earmarked funding for projects that will benefit these communities. For example, Washington D.C. in its mitigation plan identifies overburdened communities by overlaying asthma rates with income level, and then provides that 52 percent of its funding go towards mitigation projects servicing these neighborhoods at least 75 percent of the time over an eight year period.³ Washington D.C. further encourages equitable

¹ Proposed Mitigation Plan at 2.

² Proposed Mitigation Plan at 16.

³ DC Department of Energy and Environment, The District's Draft Spending Plan For Volkswagen Settlement Funds ("DC Draft Plan") (2017), available at https://doee.dc.gov/sites/default/files/dc/sites/ddoe/page_content/attachments/The%20District%27s%20Draft%20Sp

project development by offering additional funding to projects targeting the top two most at-need of these neighborhoods in the District.⁴

We support efforts to target funding in all phases of Delaware’s mitigation plan to environmental justice communities, as well as areas that currently suffer from disparate levels of environmental impacts, for example due to proximity to major highways or transportation corridors, shipping routes, or shipping logistics centers.⁵

Second, we appreciate Delaware’s stated intention to spend the full 15% allowable of its share of the trust funds (\$1.45 million) on electric vehicle supply equipment.⁶ We have concerns, however, about fully deferring these electric vehicle (“EV”) charging infrastructure investments by two to three years (i.e., to Phase 3). A real or perceived lack of access to adequate EV charging infrastructure remains one of the primary barriers to EV adoption making near-term investments in publicly accessible EV charging infrastructure especially critical in accelerating the growth of this market. While we agree with the state that it should ensure that the “most up-to-date technology (i.e. higher powered stations) and charging station gaps are being considered,” we believe this can be accomplished while beginning to plan out this investment now. For example, Electrify America has already identified plans to include 350 kW fast charging stations as part of its network of direct current fast charging corridors.⁷ We urge DNREC to begin working with stakeholders now to identify investments that will complement current efforts by Delmarva in PSC Docket No. 17-1094 and Electrify America to accelerate deployment of EVs and bring the benefits of vehicle electrification to additional, presently underserved market segments in Delaware.

Third, DNREC’s proposal to conduct an open and transparent Request for Proposals (“RFP”) in Phases 2 and 3 provides an excellent opportunity for Delaware to advance the goals of the Volkswagen settlement while simultaneously achieving a wider range of environmental and climate benefits. Delaware’s focus in the Proposed Mitigation Plan is on reductions in nitrogen oxides (“NOx”). While these reductions are critical given this pollutant’s role in the state’s present nonattainment status for ozone, an exclusive focus on NOx reductions foregoes an opportunity to take full advantage of available environmental co-benefits from eligible mitigation projects. In particular, by rewarding projects with environmental co-benefits in its scoring matrix, DNREC can increase the range of benefits produced by these funds. For example, prioritizing projects that reduce greenhouse gas (“GHG”) emissions would help Delaware achieve the goals of its Climate Framework, which identifies the transportation sector as the largest contributor to Delaware GHG emissions and sets a goal of reducing state emissions by 30% by 2030.⁸

[ending%20Plan%20for%20Volkswagen%20Settlement%20Funds%20%28Draft%20Beneficiary%20Mitigation%20Plan%29.pdf](#).

⁴ *Id.*

⁵ See Proposed Mitigation Plan at 18, Tbl.5 (identifying these as relevant criteria in the Phase 2 RFP).

⁶ Proposed Mitigation Plan at 19.

⁷ See Electrify America, Our Plan, available at <https://www.electrifyamerica.com/our-plan>.

⁸ DNREC, Climate Framework for Delaware at 9, 21 (Dec. 31, 2014) available at <http://www.dnrec.delaware.gov/energy/Documents/The%20Climate%20Framework%20for%20Delaware.pdf>.

Other states including Colorado, Minnesota, and the District of Columbia have prioritized environmental co-benefits and systematic benefits of promoting zero-emission vehicles (“ZEVs”) in their mitigation plans. A guiding principle of Colorado’s plan is to “maximize air quality benefits in Colorado . . . including . . . greenhouse gases, and other pollutants.”⁹ Throughout its plan, which allocates ~50% to vehicle replacement programs, Colorado prioritizes broad-spectrum pollution reduction (including GHG) and promotion of zero-emission vehicle adoption (including recognizing benefits of contributing to ZEV technology, experience, and infrastructure).¹⁰ The District of Columbia also adds air toxics to their program, recognizing that diesel exhaust is responsible for a large fraction (14%) of hazardous air pollutants in the District.¹¹ The District evaluated mitigation projects based on seven questions, which included considering “What other pollutants will be reduced and by how much?” and evaluating cost-effectiveness with regard to all pollutants.¹² Likewise, Minnesota’s Beneficiary Mitigation Plan sets numeric program goals not only for NOx, but also for PM2.5 and GHG reductions.¹³

Reflecting these broader environmental priorities, these states have also provided greater direct incentives for zero-emission vehicles over alternative fuels or updated diesel engines. Colorado’s Alternative Fuel Vehicle Replacement Program provides maximum incentives for electric vehicle replacements approximately three times greater than for compressed natural gas or propane.¹⁴ The District plan goes so far as to entirely eschew diesel repowers because, “[a]lthough new diesel vehicles have greatly reduced their NOx emissions, use of diesel powered vehicles still results in relatively high GHG and air toxics emissions.”¹⁵

Consistent with this consideration of co-benefits, the Sierra Club recommends prioritization of full electric vehicle replacements. With zero tailpipe emissions and GHG emissions commensurate with the carbon intensity of the electric grid, electric vehicle replacements will produce greater environmental benefits than rather than replacements with fossil fuel vehicles. Delaware could promote these benefits by directly scoring electrification through the RFP matrix¹⁶ or providing greater cost share incentives,¹⁷ but we believe it is important to award higher scores based on the co-benefits of electrification such as reductions in other pollutants and long-term environmental and cost benefits. For instance, Delaware already awards points based on economic development and could expand that category to recognize the benefits of purchasing domestic electric power over imported fossil fuels.¹⁸ In implementing either approach, Delaware can build on the examples of other States that have adopted plans that take advantage of this opportunity to transform their transportation sectors.

⁹ Colorado Department of Public Health and Environment, Beneficiary Mitigation Plan, Volkswagen, Audi, and Porsche Clean Air Act Settlements (“Colorado Plan”) at 8 (Mar. 21, 2018) *available at* https://www.colorado.gov/pacific/sites/default/files/AP_VW_Beneficiary_Mitigation_Plan.pdf.

¹⁰ *Id.* at 8, 11-12, 14-15.

¹¹ DC Draft Plan at 5.

¹² *Id.* at 11.

¹³ Minnesota Pollution Control Agency, Minnesota’s Volkswagen Settlement Beneficiary Mitigation Plan at 13 (Apr. 2018) *available at* <https://www.pca.state.mn.us/sites/default/files/aq-mvp2-32c.pdf>.

¹⁴ Colorado Plan at 13.

¹⁵ DC Draft Plan at 17.

¹⁶ Proposed Mitigation Plan at 18-19.

¹⁷ *Id.* at 14-15.

¹⁸ *Id.* at 18-19.

Fourth, we urge DNREC to prioritize investments in electric school and transit buses over propane school buses using Delaware’s VW settlement funds. Propane buses are not a bridge to an electric future, or a pathway for Delaware to achieve its climate goals. Rather propane school buses will lock Delaware into a more highly polluting and ultimately more costly future than investments today in electric school buses or electric transit buses.

Electric school buses provide significant environmental and public health benefits over propane school buses. According to Argonne National Laboratory’s AFLEET 2017 model using data for New Castle, Delaware, for school buses, whereas an electric school bus produces no tailpipe nitrogen oxide (NOx) emissions in its lifetime, a propane school bus emits 230 pounds of NOx, representing less than a 50 percent reduction from that of a new diesel school bus.¹⁹ Moreover, with the current composition of the electric grid in the region, electric school buses already emit 1/3 fewer greenhouse gas emissions than propane school buses measured on a well-to-wheels basis (301 short tons/electric school bus versus 434 short tons/propane school bus).²⁰ While the electric grid will get progressively cleaner over the coming decades thanks in significant part to Delaware’s recent work to extend and strengthen the Regional Greenhouse Gas Initiative and this will further increase the lifecycle emission benefits of electrified transportation, propane buses by contrast will continue to pollute at high levels throughout their full lifespans.

In addition, electric school buses provide important economic advantages over propane school buses. Although the up-front cost of an electric school bus is presently greater than that of a propane school bus, use of VW settlement funds can mitigate that up-front price differential, and electric school buses present other significant economic advantages. According to the AFLEET model using data inputs for New Castle, Delaware, fueling costs for electric school buses are approximately 50 percent lower than those for propane school buses. In addition, electricity is less volatile in price than propane. According to data from the Energy Information Administration, nominal propane prices have more than doubled since 2002 (and have spiked to levels more than triple 2002 levels), while nominal electricity prices have increased by less than 50 percent (and experienced little fluctuation in real dollars).²¹ Electric school buses can also be used to provide energy storage to mitigate summer peak demand, providing an ancillary revenue stream. ConEd recently solicited proposals for vehicle-to-grid pilots using electric school buses in New York City.²²

¹⁹ Argonne National Laboratory, AFLEET Model, available at https://greet.es.anl.gov/afleet_tool. Fuel prices are adjusted for New Castle, Delaware and assumptions regarding the electric grid are based on the region containing Delaware. Model inputs are populated using averages of fuel economy and maintenance costs reported directly by transit agencies from the years 2014 to 2017.

²⁰ *Id.*

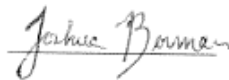
²¹ Energy Information Administration, Electric Power Monthly: Table 5.3. Average Price of Electricity to Ultimate Customers (released Jan. 24, 2018 with data through Nov. 2017), available at https://www.eia.gov/electricity/monthly/epm_table_grapher.php?t=epmt_5_3; Energy Information Administration, Annual Energy Review: Table 9.8 Average Retail Prices of Electricity (data through Oct. 2017), available at https://www.eia.gov/totalenergy/data/monthly/pdf/sec9_11.pdf

²² Consolidated Edison, Request for Information: Electrification of Transportation (Apr. 20, 2017), at 22-23, available at <https://www.coned.com/-/media/files/coned/documents/business-partners/electric-vehicle-project-partners/con-ed-electric-vehicle-rfi.pdf?la=en>

Finally, the Sierra Club notes that investments in electric transit buses may be most consistent with the requirements of Appendix D and encourages Delaware to invest a significant portion of its VW settlement funds in supporting replacement of diesel transit buses with electric buses. As discussed above, pursuant to the terms of the VW settlement, the Beneficiary Mitigation Plan must include “a description of how the Beneficiary will consider the potential beneficial impact of the selected Eligible Mitigation Actions on air quality in areas that bear a disproportionate share of the air pollution burden within its jurisdiction.”²³ Investments to support electric transit buses in urban areas with elevated ozone levels (e.g., the Wilmington area) are particularly well suited to achieving the VW settlement’s goal of remediating air quality in the areas that bear a disproportionate share of air pollution. Notably, the monitors in Delaware that continue to exceed the 2015 ozone NAAQS are all located in New Castle County. According to the AFLEET model using New Castle, Delaware-based inputs, the total cost of ownership for transit buses in Delaware is already lower for electric buses than for either diesel or CNG buses. Moreover, based on emission rates calibrated to the electric grid in the Delaware region, lifetime NOx reductions per dollar are greater for electric transit buses than for either diesel or CNG buses. Expenditures of VW settlement funds that fully or partially offset the current up-front cost differential between diesel and electric buses will significantly advance the goals of the settlement while helping Delaware to achieve its climate goals.

Thank you for your consideration.

Respectfully submitted,



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²³ Appendix D to Partial Consent Decree, § 4.1.