

The Hon. Patrick McDonnell
Secretary, PA Dept. of Environmental Protection
Rachel Carson State Office Building
Harrisburg, PA 17105-8468
(submitted electronically)

July 5, 2017

Comments of Citizens for Pennsylvania's Future (PennFuture) on Pennsylvania's Draft Beneficiary Mitigation Plan

Dear Mr. Secretary:

We commend the Pennsylvania Department of Environmental Protection (department) for taking steps to ensure the commonwealth is certified as a beneficiary under the Environmental Mitigation Trust Agreement (settlement) with Volkswagen. We further appreciate the opportunity to provide comments on achieving effective NO_x reductions through appropriate use of the \$118.6 million dollars available as part of this settlement.

We understand that the department's role as the lead agency in this process is not to disburse the funds themselves but to recommend qualifying projects to the trustee. And, we further understand that qualifying projects must fall within one of ten specific categories. Within those limitations however, the department can and should do more than simply recommending any qualifying project.

I. Rating projects only on the dollars per ton of NO_x removed is insufficient

The purpose of the settlement is to mitigate excess NO_x pollution caused by Volkswagen's actions to subvert vehicle emissions standards. Pennsylvania must, of course, act in accordance with the terms of the settlement, but it must be further guided by its fiduciary responsibilities.

Article 1 § 27 of the Pennsylvania Constitution gives the commonwealth a fiduciary responsibility to conserve and maintain Pennsylvania's public natural resources for the benefit of all the people—including generations yet to come. Since the pollution that resulted from Volkswagen's actions damaged the corpus of the trust, namely clean air, the commonwealth must exercise its duty as the trustee and ensure any recommendations for disposition of the proceeds "give all of the beneficiaries due regard for their respective interests in light of the purposes of the trust."¹

¹ PA Env'tl. Def. Found. vs. Commonwealth, _____, (June, 2017).

The department has stated that its consideration in distributing project funding would be based “primarily based on the cost-effectiveness and the quantity of NOX emission reductions”² with the potential for added consideration to projects in ozone and PM2.5 nonattainment areas, as these pollutants have NOx as a precursor.³ Rating projects only on the dollars per ton of NOx or NOx-induced pollution removed is insufficient. Just as a reasonable trustee would not recommend spending \$1,000 of a trust’s corpus to save \$500, the commonwealth should not recommend a proposal that reduces NOx emissions at the expense of increasing emissions of other pollutants if the result depletes the corpus of the trust. At a minimum, the department should also consider the social cost of carbon and other monetized damages from any increases in pollution.

II. The number of vehicles repowered, retrofit, or replaced is important, but secondary to market transformation.

We agree that the department must “focus on funding projects that repower, retrofit, or replace large numbers of older diesel vehicles and engines,”⁴ but projects should focus on achieving market transformation away from those vehicles with the highest emission rates.

No money should be set aside for replacement of existing diesel engines with new diesel engines. These programs, known as accelerated vehicle retirement, car scrappage, or car crushing programs, have been attempted in the past and are not generally creditable in state implementation plans because they do not achieve permanent reductions. The vehicles in question will eventually be replaced anyway and are often nearing the end of their useful life or have pre-existing mechanical difficulties. Experience has shown that such programs are not particularly cost effective and, when they are, it is generally in cases where there are higher population densities and existing fleets are uncontrolled.⁵

Rather than simply replacing vehicles with newer models, preference should be given to programs that lead to market transformation. For example, if a fleet operator invests in electric vehicles and charging infrastructure there will likely be a higher initial expense. Once the infrastructure is in place and the business has adapted its purchasing and maintenance processes to the new technology however, it is less likely that subsequent purchases will revert to legacy technologies.

² PA DEP, *Draft Beneficiary Mitigation Plan*, 8. (May, 2017).

³ *Ibid.* at 7.

⁴ *Ibid.* at 8.

⁵ B. Van Wee, G. De Jong, and H. Nijland, *Accelerating Car Scrappage: A Review of Research into the Environmental Impacts*, *Transport Reviews* Vol. 31 , Iss. 5 (2011).

III. Particular consideration should be given to replacing bus fleets.

The table below reflects the department’s published 2011 highway vehicle emissions data for Montgomery County—the county with the highest vehicle miles of travel (VMT).⁶ While it does not reflect comprehensive data for the entire state, it highlights that there is significant variation in emissions rates between different classes of vehicles.

Source	VMT	NOx (tons/day)	CO (tons/day)	NOx (g/mi)	CO2(g/mi)
Motor Cycles	110,966	0.08	1.77	0.65	14.47
Passenger Car	11,179,424	5.54	43.78	0.45	3.55
Passenger Truck	5,889,612	10.65	79.21	1.64	12.20
Light Commercial Truck	1,985,158	4.23	26.8	1.93	12.25
Intercity Bus	9,717	0.13	0.04	12.14	3.73
Transit Bus	31,087	0.32	0.28	9.34	8.17
School Bus	14,460	0.1	0.29	6.27	18.19
Refuse Truck	6,711	0.05	0.03	6.76	4.06
Short-haul Truck	296,083	1.26	4.62	3.86	14.16
Long-haul Truck	41,692	0.16	0.46	3.48	10.01
Motor Home	17,850	0.09	0.54	4.57	27.44
Combi Short-haul	229,809	2.19	0.66	8.65	2.61
Combi Long-haul	322,040	4.09	1.39	11.52	3.92
Total	20,134,609	28.89	159.87		

One important category is that of busses, particularly transit and school busses. If projects were rated only on emissions, one would be tempted to focus on combination long-haul trucks and intercity busses. Those vehicles have high emissions, but they also spend more time either out of state or on rural interstates. Emissions in such areas are still important—particularly greenhouse gas emission—but they will have less immediate impact on at-risk populations.

Studies have shown that students on busses, or waiting at bus stops, have a much higher exposure rate. Because of this, emissions mitigation measures that appear much more

⁶ PA DEP, *Technical Support Document, Mobile Source Highway Vehicle Emissions*, Appendix D-2-3, pg. 4 (July, 2014).

expensive when measured on a gram per mile basis may in fact be far more cost-effective at reducing exposure.⁷

Recommendations:

1. 15% of the allocation should be used for the acquisition, installation, operation, and maintenance of new light duty electric vehicle supply equipment. Between 2015 and 2016 electric vehicle sales in the United States increased 37% with at least five different models selling in excess of 10,000 units.⁸ This shows significant consumer demand for such vehicles that can only be improved by access to infrastructure.
2. No money should be set aside as a carve-out to replace existing diesel engines with new diesel engines, and any funding recommended for fossil fuel vehicles should be as a “last resort” to achieve specific and needed local emissions reductions where no zero-emission alternatives are available.
3. A significant portion of the allocation should be used to replace eligible busses with zero emission alternatives. Since these vehicles represent a particular public health hazard to many school children—particularly those in already burdened environmental justice communities—replacing old vehicles with new fossil fuel vehicles will prolong the negative public health impacts by ensuring air emissions in those areas continue.
4. To the extent money is allocated toward freight and drayage trucks, money should not be spent on vehicles that spend a significant portion of their time out of state. The state-by-state settlement allocation was determined after considering the population of vehicles Volkswagen sold in each state. Funding out-of-state vehicles effectively reallocates the NOx emissions reductions contrary to the stated purpose of the settlement.
5. When funding freight switchers, ocean going vessel shorepower, airport ground support equipment, and cargo handling equipment, priority should be given to those projects that impact environmental justice communities.
6. When calculating a cost-benefit analysis, the department should expressly consider comprehensive public health and environmental benefits—including the social cost of carbon.
7. Allocating the full allowable 15% of all funds (\$17.7 million) towards administrative fees is exorbitant and would not result directly in mitigating pollution. Please consider making use of existing systems and staff within the department, such as the eGrant system and the PA Energy Development Authority (PEDA) to minimize administrative overhead.

⁷ J. Marshall and E. Behrentz, *Vehicle Self-Pollution Intake Fraction: Children’s Exposure to School Bus Emissions*, *Environ. Sci. Technol.*, 2005, 39 (8), pp 2559–2563

⁸ R. Rapier, U.S. Electric Vehicle Sales Soared In 2016, *Forbes* (Feb. 5, 2017). Available at: <https://www.forbes.com/sites/rrapier/2017/02/05/u-s-electric-vehicle-sales-soared-in-2016>.

Thank You,

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