Connecticut Department of Energy and Environmental Protection
Summary of Comments Received on
Final Draft VW Environmental Mitigation Plan
Pursuant to Appendix D-2 of the Volkswagen Environmental Mitigation Trust Agreement for State Beneficiaries

Contents

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Overview

The initial draft of the Connecticut's Beneficiary Mitigation Plan (Plan) was posted by the Department of Energy and Environmental Protection (DEEP) in January of 2017on DEEP's VW Settlement website.[1] By the end of the comment period in March of 2017, over sixty comments had been received and reviewed. DEEP considered all comments and incorporated a number of general and procedural recommendations into the next iteration of the Plan while preserving the underlying goal of retaining the utmost flexibility allowed by Appendix D-2, Eligible Mitigation Actions and Mitigation Action Expenditures pursuant to the *ORDER GRANTING THE UNITED STATES' MOTION TO ENTER PROPOSED AMENDED CONSENT DECREE In Re: Volkswagen "Clean Diesel" Marketing, Sales Practices, and Products Liability Litigation*. Most notably, DEEP agreed that it would be better for all applicants to have some investment in the program, therefore a minimum cost share was incorporated into the Plan for all eligible mitigation projects. This will encourage applicants' commitment to the completion of their projects, and it will allow for the funding of a greater number of projects.

DEEP's Plan seeks to provide the public with insight into its vision and overall approach for utilizing the mitigation funds allocated under the Environmental Mitigation Trust Agreement for State Beneficiaries (Mitigation Trust Agreement, October 2, 2017). The primary goal of the State's Plan is to improve and protect ambient air quality by reviewing, analyzing and implementing eligible mitigation projects that will:

- Improve air quality and protect public health by achieving significant and sustained cost effective reductions in emissions of nitrous oxides (NO_X);
- Expedite deployment and widespread adoption of zero emission and near-zero emission vehicles and engines; and
- Support statewide energy, environmental and economic development goals while also taking into account environmental justice considerations associated with each proposed eligible mitigation project.

[1] DEEP VW Settlement Information at: http://www.ct.gov/deep/vw

On February 15, 2018, DEEP posted the Draft Final Mitigation Plan (Draft Final Plan) and issued a request for public comments. Fifty written comments, seven identical form letters and 353 identical comment forms were submitted before the public comment period ended on March 9, 2018.

Most comments requested that the Final Mitigation Plan prioritize and advance the cause of specific technologies listed in Appendix D-2 to the Mitigation Trust Agreement (Appendix D-2). DEEP continues to hold the position that a greater level of air quality benefit will be realized through an open and competitive solicitation process that does not prioritize the use of funds for any particular technology beyond what is stipulated in Appendix D-2. DEEP is committed to such a process and encourages all commenters to make their recommendations known to officials or others within their communities who are in a position to submit proposals for funding under this program.

The summarized comments are organized by types of technologies; these are listed in alphabetical order. Interspersed among the technology-based comments were comments on the overall program, which are summarized in section VIII "General Comments."

I. Clean Diesel

One commenter mentioned Clean Diesel among its recommendations. The suggestion was to follow Colorado's lead and exclude replacement with clean diesel from the eligible options for funding, except for aging medium and heavy-duty trucks in fleets with nine or fewer vehicles. Minimizing clean diesel as an option was advanced to enhance parity in providing funds for alternative fueled vehicles in the private sector.

II. Compressed Natural Gas (CNG)

Three trade and public interest groups submitted comments advocating for the funding of natural gas vehicles (NGVs) and CNG infrastructure. While the aim of these comments was to prioritize this technology or specific applications thereof, there was a consistent theme of providing equitable funding for CNG technology and equitable selection criteria for potential projects. Commercial availability, particularly with regard to heavy-duty trucks, and cost effectiveness were cited along with low emissions. One commenter specifically supported CNG waste haulers. Another provided several pages of supportive material and documentation.

III. Diesel Emissions Reduction Act (DERA) Option

DEEP received three comments on the dedication of funds to the DERA option. One public interest advocacy group, promoting EV applications of all types, supported DEEP's use of DERA funds to promote "electrification of transport vehicles and equipment, such as through truck stop electrification and electric repowering of diesel-fueled transport refrigeration units." Another recommended that DEEP use the state's approved DERA plan to fund low-NO_X natural gas trucks.

One comment discouraged the allocation of funding for the DERA Option. Instead, the commenter advocated for "full-scale heavy-duty transportation electrification projects."

IV. Electric Vehicles (EVs) & Equipment

Airport Ground Support Equipment (GSE) and Port Cargo-Handling Equipment: One commenter included electric GSE in its list of prioritized options for funding. Two other commenters included electric port equipment in their advocacy for heavy duty electric vehicles. Commenters stated that cargo-handling tractors are often older with higher emitting engines so the emissions benefits of replacement are great. Furthermore, they continue, since many ports (which is two of the three ports in Connecticut) are located near at-risk communities and contribute to the disproportionate exposure of residents to NO_X pollution, the electrification of cargo-handling equipment and GSE supports the goals of the Mitigation Trust Agreement.

Electric School Buses: The largest number of written comments received for the Draft Final Plan encouraged the prioritization of zero-emission electric school buses. Twenty-five individuals and two organizations submitted letters in support of electric school buses; in addition, there were seven identical form letters and 253 identical comment forms submitted in support of prioritizing this technology.

Supporters of school bus electrification made the following arguments: On-road heavy-duty diesel vehicles, such as buses and trucks, are major contributors to Connecticut's NO_X pollution. School buses serve the at-risk populations favored by the Mitigation Trust Agreement. Electric buses could help alleviate pollution in communities located in nonattainment areas, which bear a disproportionate share of the air pollution burden caused by high concentrations of diesel particulate matter from buses and cars. Asthma, which is triggered by school bus emissions, impacts many children in these communities, sometimes resulting in lifetime health effects.

Electric Transit Buses: Four commenters advocated on behalf of zero-emission electric transit buses. As with the electric school bus comments, the benefits of NO_X reductions on at-risk communities were emphasized. One commenter noted that the lifecycle cost of an electric bus is far less, as compared to a diesel bus, when procurement, lifetime fuel and maintenance costs are included.

Heavy-Duty EVs: Two industry representatives submitted comments in favor of prioritizing the replacement of heavy-duty diesel vehicles with electric equivalents. They identified heavy-duty EV replacement as a significant means of addressing transportation and air quality issues. After pointing out that Class 8 electric trucks are now joining the Class 4-7 electric trucks, these commenters cited the longer-term emissions and fuel cost benefits.

As with the promoters of other alternative-fuel technologies, these commenters pointed out that heavy-duty diesel trucks account for some of the highest mobile source NO_X emissions and that heavy-duty EVs provide clean options that alleviate the effects of pollution on overburdened communities along transportation corridors and near ports and airports. They also note that heavy-duty EVs can be the focus of transformative projects that advance the priorities of Connecticut's Comprehensive Energy Strategy[2] and the 8-State ZEV MOU.[3] One commenter encouraged DEEP to provide the maximum allowable funding, i.e.75%, to non-government entities to "achieve cost parity with diesel purchases."

One manufacturer also discussed the vehicle and charging system technologies that can, effectively turn these vehicles into mobile power plants "capable of supporting first responders in emergency scenarios or utilities in power outages." Another manufacturer encouraged DEEP to expand the definition to include heavy-duty non-road freight handling trucks as either "Class 8 Local Freight Trucks and Port Drayage Trucks (Large Trucks)" or as "Cargo Handling Equipment." Class 8 diesel terminal trucks, used mostly off road, can be repowered as 100% electric vehicles to meet DOT standards.

V. Electric Vehicle Supply Equipment (EVSE)

Electric Vehicle Supply Equipment (EVSE) & EVs: Of the eight commenters advocating for improved access to electric vehicle charging infrastructure, two commented as private citizens,

[2] See the 2013 Comprehensive Energy Strategy for Connecticut and its draft 2017 successor at http://www.ct.gov/deep/cwp/view.asp?a=4405&Q=500752&deepNav_GID=2183.

[3] Multi state Zero-Emission Vehicle Programs Memorandum of Understanding was entered into by Connecticut and seven other states on October 24, 2013; it can be found on DEEP's website at http://www.ct.gov/deep/lib/deep/air/zeroemissionvehicle_mou.pdf

two represented manufacturers of EVs, three represented charging station vendor/operators (one solar-powered) and one represented an electric utility. Several of those commenting in support of EV buses and trucks also mentioned the need for sufficient charging capacity for electric busses and other heavy-duty EVs. One commenter was seeking to have a public EV charging station installed in a specific town. The other commenters supported DEEP's plan to use the maximum allowance (15%) of VW funds for alternative fuel infrastructure. Most advocated for increased access to DC fast chargers (DCFC) and workplace charging and others requested that DEEP increase the grants to the 100% and 80% maximums allowed under the Mitigation Trust Agreement. Other comments related to funding included: requiring that stations be operational for at least five years; funding warranty/maintenance plans to cover malfunctions, accidents and vandalism; and requiring vendors to guarantee 95% up-time and two business day response time for failures.

This group of commenters provided many recommendations for location and technology features associated with the EVSE installations. Workplace charging ranked high, as did installation at multi-unit residences, both of which are specifically included in the Draft Final Plan. Highway corridor DC fast-charging, installation of public chargers at key destinations, and regional cooperation in deployment planning were also favored. Requiring that public charging stations accept all major credit cards received a strong recommendation among technology features, along with installing at least 2 DCFC stations for redundancy in conjunction with at least one Level 2 station since not all vehicles can use DC fast chargers. Connector standards and minimum power requirements were also mentioned. The commenters added that there should be adequate signage for any site and that installation projects should be designed in accordance with Title III of the Americans with Disabilities Act. Noting that "charge time is an important consideration," one commenter recommended favoring DC fast and Level 2 chargers over Level 1 units.

VI. Fuel Cell Electric Vehicles (FCEVs)

Two commenters supported the inclusion of FCEVs, particularly the "newly-emerging" fuel cell electric fork-lifts, among the eligible options for VW Trust funding. However, one commenter, in advocating for an alternative technology, commented that heavy-duty FCEV technology is not yet commercially available.

VII. Propane

Four business and public interest groups submitted comments in favor of prioritizing propane (a.k.a. autogas) school buses and other propane vehicles. The commenters noted that propane

is a proven shovel-ready technology with a long track record as a clean, alternative fuel that is also abundant and inexpensive. Propane infrastructure is already in place and will allow the immediate reduction of NO_X with the deployment of propane vehicles under the mitigation plan. Comments submitted by an industry advocacy group pointed out that propane is abundant due to the increases in domestic natural gas production stating, "in 2014, there was enough propane produced from the domestic natural gas supply to meet about 98 percent of the U.S.'s consumer and petrochemical demand." The comment goes on to promote energy security as another benefit of propane: "by using more of our domestically produced propane, we can continue to decrease the reliance on foreign-sourced fuel." Commenters identified additional propane benefits as better return on investments, quieter rides, lower fuel costs, and alleviation of the maintenance and downtime issues associated with the emission control systems on diesel engines. Two commenters included several pages of technical information.

Propane Applications: Commenter support in this category focused primarily on the funding of propane school buses. Propane was also promoted as a clean fuel for medium duty (class 4-7) trucks.

> **Propane Buses:** Replacement of diesel school buses was the number one priority for most of the commenters. It was noted that propane school buses offer the most cost-effective strategy to reduce NO_X emissions and improve public health, especially in communities that have been disproportionately burdened by emissions from these vehicles. Shuttle buses and transit buses were also said to be excellent platforms that can use alternative fuels to immediately reduce significant amounts of NO_X.
>
> **Class 4-7 Medium Duty Trucks:** Commenters also noted that focusing on Class 4 – 7 vehicles and incentivizing them with VW Mitigation funds will reduce vehicle emissions in a short period of time because many of these types of vehicles use more than 5 to 6 thousand gallons of gasoline/diesel per vehicle per year. Commenters point out that such vehicles operate in around buildings in congested areas, including near schools and medical facilities.
>
> According to their proponents, vehicles that have high annual mileage and idling hours, such as vehicle service trucks (tow trucks), propane delivery trucks, municipal public works trucks, package delivery trucks, and transit and paratransit vehicles, have a much better ratio of dollars invested to emissions reduced because of the very high fuel usage in these sectors, often 2 to 5 times more than a school bus.

Propane vs. Other Eligible Technologies: A number of commenters sought mitigation plan revisions to level the playing field for propane when compared to other eligible projects. A

common recommendation in support of propane and other alternative fuel projects is to place greater emphasis on reducing NO_X emissions in the selection process.

VIII. General Comments

A number of commenters included mitigation plan suggestions affecting the program as a whole, independent of specific technologies. Others promoted emission reducing actions that fell outside the range of technology groupings. These are assembled below.

Scrappage: While the scrappage requirements are clearly specified in the Mitigation Trust Agreement, one commenter suggested that DEEP "increase the options for scrappage beyond a strict replacement of a current fleet vehicle."

Planning and Emissions Tools: Several commenters recommended specific tools that are available to assist in planning and executing the projects and in calculating the costs and benefits.

Additional Criteria Recommended for Project Selection:

> **Targeting Specific Fleets:** A public interest group that supports the use of alternative fuels recommended prioritizing private fleets over government fleets stating that, except for school buses, these "drive many more miles over far greater areas and emit more NO_X, criteria emissions, and GHGs than municipal and government fleet vehicles." For government fleets, it was recommended that transit bus, shuttle bus, school bus and refuse fleets be the main focus of funding because they are very high mileage, highly visible, and impact and serve communities directly.
>
> **Readiness of Electric Technology:** A commenter suggested that heavy-duty electric and fuel cell technology may not be sufficiently well established for all applications indicated in the plan, implying that technological readiness should be considered. The plan appears to focus more on advancing electric vehicle technology than in reducing NO_X, which is what the fund distribution to the states is intended to achieve.
>
> **Previously Neglected Options:** One comment from a public interest group encouraged DEEP to prioritize Class 8 freight trucks, especially privately owned, because, according to the commenter, except for Clean Cities' grants, they have not been offered funding assistance in years. The Congestion Mitigation and Air Quality Improvement Program

(CMAQ)[4] and Federal Highway Administration (FHWA) funding has been withheld from private companies by Connecticut since the 1990s.

Leverage Funds by Aligning with Other State Initiatives: One commenter recommended that VW funds be leveraged by combining them with existing state initiatives to yield economic, emissions, and energy benefits. Initiatives include EVConnecticut, the International ZEV Alliance and 8-State MOU and Action Plan, and the state's Comprehensive Energy Strategy.

Recommended Editing: One commenter suggested the following edit of page 12 of the proposed Plan, Part V. Section B.i, because "Model Year 2010 and newer medium and heavy duty trucks and buses are not eligible for this program in Connecticut."

> Eligible trucks include 1992-2009 engine model years; and eligible buses include 2009 engine model year or older.[19] ~~For Beneficiaries that have State regulations that already require upgrades to 1992-2009 engine model year trucks at the time of the proposed Eligible Mitigation Action, eligible trucks and buses shall also include 2010-2012 engine model year vehicles.[19]~~

The same commenter provided a list of questions which will be addressed either in the solicitation materials or as updates to the FAQ page on the DEEP's VW Settlement website.

IX. Comments Falling Outside the Scope of the VW Settlement

Three commenters offered suggestions that fall outside the scope of eligible projects identified in Appendix D-2.

One commenter, in conjunction with support of zero-emission transit buses, recommended that the VW funds be placed into the Special Transportation Fund and used to increase the size of the mass transit fleet in Connecticut and to promote ridership.

Another commenter recommended VW funds be used to shore up the Connecticut Green Bank because of the Green Bank's ability to leverage public and private funds can provide much more clean energy deployment than if this money were spent outright on single or multiple onetime projects.

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[4] Administered by the FHWA, the CMAQ program was implemented to support surface transportation projects and other related efforts that contribute air quality improvements and provide congestion relief. https://www.fhwa.dot.gov/environment/air_quality/cmaq/

The third commenter in this group advocated applying the VW funds to the General Fund to help balance the State budget.

Attachment 1 – Public Comments

CT's Draft Final Mitigation Plan Comments Received

This document is a compilation of all comments received by DEEP during the formal comment period between February 15, 2018 through March 9, 2018 regarding CT's Draft Final Mitigation Plan that were received through deep.mobilesources@ct.gov and www.ct.gov/deep/vw.

Usage: Use the bookmark bar on the left side of the window to navigate to each comment or click the bookmark link below.

Comments Received

2018-03-09 - Susan Miller
2018-03-09 - Elizabeth Williams
2018-03-09 - Bert Goff
2018-03-09 - Lisa Haut
2018-03-09 - Samuel King
2018-03-09 - David Bingham
2018-03-09 - Alexander Rodriguez
2018-03-09 - Hilda Rodriquez
2018-03-09 - Amarilis Franjul
2018-03-09 - Jose Rodriguez
2018-03-09 - Alison Zyla
2018-03-09 - Kevin Sullivan
2018-03-09 - Dawn Henry
Electric School Bus E-mail Petition #1 (7 received)
Electric School Bus E-mail Petition #2 (253 received)

VW Settlement Comments

Markowski, Kevin <Kevin.Markowski@hhchealth.org>

Thu 2/15/2018 12:41 PM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

Name: Kevin Markowski
Job Title: Project Manager
Company: Hartford Hospital

Comments: Use some of this money to install electric car-charging stations in assorted convenient (to drivers) locations, and to pay for the electricity the chargers use. This is a very effective way to counteract the damage to the environment done by VW. Zero-emission vehicles keep tons of pollutants from the air we breathe. Thank you.

VW Settlement Comments

Beloin, Sylvain

Thu 2/15/2018 12:13 PM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

Name: Sylvain Beloin

Job Title: I.T. Analyst

Company: Dept. of RehabilitaĀon Services

Comments: I would like to request that an Electric Car Charging StaĀon be built in the town of Granby. I live in Granby, and drive an electric car. There are currently no public charging staĀons in Granby. There are several potenĀal locaĀons, including the library, Starbucks, CVS, Geisslers, Stop & Shop, etc. The lack of a more substanĀal charging infrastructure is one of the main impediments to more people buying electric cars. Thank you for your consideraĀon.

Kim Pittel
Group Vice President
Sustainability, Environment & Safety Engineering
Ford Motor Company

Ford World Headquarters
One American Road
Dearborn, MI 48126-2738 USA

February 15, 2018

Bureau of Air Management
Connecticut Department of Energy & Environmental Protection
79 Elm Street, 5th Floor
Hartford, CT 06106

Subject: Ford Motor Company's Input on VW Draft Beneficiary Mitigation Plan Appendix D

Dear Sir or Madam:

Thank you for this opportunity for Ford Motor Company to provide input on the use of your state's Environmental Mitigation Trust (EMT) funds.

Vehicle electrification is core to Ford Motor Company. We introduced the Escape Hybrid nearly 20 years ago; our Hybrid and Plug-in vehicles are among the best sellers in the industry, and we recently announced plans to invest more than $11 billion in electrification by 2022. Ford believes that the future of transportation is electrified, and this future will benefit both our customers and the environment.

Substantial challenges must be overcome before this future can be realized. A principal challenge is the significant shortfall in publicly available EV charging.[1] For this reason, **we encourage Connecticut to utilize the maximum allowable 15% toward light duty electric vehicle charging infrastructure.**

CHARGER SITING RECOMMENDATIONS

Charging infrastructure must meet both daily driving and long distance travel needs.

Daily Driving: Charge While Parked

While high-speed DC Fast Charging (DCFC) is essential for EVs driving long distance, this 'while you wait' model is a poor solution for day-to-day EV usage. A common 50 kW DC Fast Charger requires **nearly 45 minutes** to add 100 miles of range, significantly affecting the driver's daily routine. Meanwhile, the average vehicle is parked for 22 hours a day.[2] **Charging while parked** is the superior solution.

Charging while parked at home, work, or destinations conveniently incorporates charging into daily routines. It also allows use of lower power Level 2 (L2) AC chargers, which, compared to DCFC, are cheaper to install and operate[3] and provide lower priced electricity to consumers.

Ford recommends that Connecticut fund L2 charging **where vehicles park on a routine basis**. While there are several options for more L2 charging, such as on-street charging (e.g., lamppost retrofits) in high density neighborhoods, Ford believes that chargers at workplaces will provide the greatest impact. Therefore, funding of **workplace charging** should be prioritized.

[1] US DOE. National Plug-In Electric Vehicle Infrastructure Analysis (https://www.nrel.gov/docs/fy17osti/69031.pdf).
[2] Source: AAA and Ford Analytics.
[3] https://www.afdc.energy.gov/uploads/publication/evse_cost_report_2015.pdf

The unique benefits of **workplace charging** include the following:

- **Increased EV adoption.** Workplaces become EV showcases. US DOE data suggests that employees with workplace charging are 6 times more likely to purchase an EV. Ford's own experience installing over 200 L2 chargers at our offices and manufacturing plants demonstrated a clear increase in EV adoption and increased electric vehicle miles driven for plug-in hybrids.[4]
- **Routine.** The majority of drivers park at their workplace for 4-10 hours on Monday through Friday. This parking time is sufficient to meet most drivers' range needs with L2 chargers.
- **Alternative for Multi-Unit Dwelling (MUD) Residents.** Workplace charging gives those with limited 'home charging' options an affordable place to charge, expanding the EV market.

Long Distance Travel: Highway Corridor Charging

While there are several solutions for routine charging, long distance travel is impossible without a 'while you wait' model of DCFC along major highway corridors. A complete intercity DCFC network is required for most drivers to adopt an EV as their only vehicle. Therefore, EMT funds should also be directed towards **highway DCFC fast chargers**. To prevent long lines and impractical charge times, highway DCFC stations should have 100-150 kW capability or greater.

POLICY RECOMMENDATIONS

In addition to our funding allocation recommendations, Ford recommends the following policy items.

Coordinate Efforts

In order to ensure the most cost effective and grid responsible build out of charging infrastructure, Ford encourages Connecticut to coordinate with local utilities and other key stakeholders in strategic planning efforts. We encourage Connecticut to consider related programs like the VW National ZEV Investment Plan.

Connecticut is also in a unique position to increase the impact of EMT funds through concurrent development of EV-friendly policy, including:

- **Building Code** modifications to require new or modified residential and commercial parking be charger 'make ready,' including conduit installation and service panel upgrades.
- **Complementary Incentives** like utility charger installation support (e.g., transformer upgrades) or free permitting.

Ensure a Positive Consumer Experience

In addition to intelligent siting, deploying easy-to-use equipment maximizes the impact of new public chargers. As such, projects should meet the following customer protection principles[5]:

- **Payment Interoperability.** Public chargers should accept a standard method of payment (credit card or mobile app like ApplePay) rather than a dedicated card or key, which can leave drivers stranded.

[4] https://www.slideshare.net/emmaline742/stephanie-janczakcharging-up-at-work-november-2017
[5] Similar comments were provided to Connecticut DEEP by Plug-In America, a non-profit organization that bills itself as the "national consumer voice for plug-in electric vehicles."

- **Transparency.** The price of a charge should be clear to the driver, both at the point of sale and also via any charger locator apps.
- **Mapping Data.** All electric vehicle service providers (EVSPs) should make mapping data for charging locations readily available, including, as noted above, charging costs.
- **Signage.** Even when shown in a mapping app, chargers can be difficult to locate. Charging stations should have adequate signage, from highway visibility down to the last few feet. Signage provides the additional benefit of increasing charger visibility for non-EV drivers considering EV adoption.
- **Accessibility.** Charger installation projects should be designed in accordance with Title III of the Americans with Disabilities Act (ADA), giving people with disabilities the option to 'go electric.'[6]

Provide Competitive Bidding

Connecticut can best accelerate sustainable growth of public charging infrastructure by funding a diverse cross-section of the charging industry. To this end, the state should support competition and allow multiple vendors and business models to participate.

In summary, Ford recommends that a **full 15%** of EMT funds be allocated towards light duty charging and be spent primarily on **workplaces** and **highway** corridors. Ford also recommends a number of policy items to support the coordination of efforts to deploy chargers. If you would like to discuss further, please contact Sam Scales, Ford's Government Relations Representative for Connecticut, at sscales3@ford.com or 202-740-8225.

Sincerely,

Kimberly L. Pittel

Kim Pittel
Group Vice President
Sustainability, Environment & Safety Engineering
Ford Motor Company

[6] Resource: *ADA Requirements to Consider for Workplace Charging Installation* (http://vwclearinghouse.org/resource/ada-requirements-for-workplace-charging-installation/).

VW Settlement Comments

Julie Brooks <julieb@orangeev.com>

Tue 2/20/2018 11:45 AM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

Cc: Mike Saxton <MikeS@OrangeEV.com>;

Name: Julie Brooks
Job Title: Marketing and Regulatory Affairs
Company: Orange EV

Comments:

As you develop the final VW mitigation plan for Connecticut, please consider the following comments from Orange EV:

- Since Orange EV has had pure-electric Class 8 trucks successfully commercially deployed since 2015, we can ensure that projects will be implemented within eighteen months of the award date.
- Please ensure that our terminal trucks (aka yard trucks, hostlers, spotters) are eligible for VW funding in both Category 1 and Category 8, wherever the trucks are used today. Note that:
    - Terminal trucks are typically operated in non-attainment areas and/or areas that receive a disproportionate quantity of air pollution from diesel fleets.
    - Terminal truck projects are transformative in that they are a "gateway" vehicle. In 2015, Orange EV was the first to commercially deploy Class 8 pure-electric trucks, and to our knowledge is currently the only firm deploying such trucks to paying customers. Each Orange EV deployment proves electric viability, overcomes pre-conceived notions, and speeds the adoption of clean technologies.
    - The EPA defines "Drayage" as "The transport of goods over a short distance." Terminal trucks transport goods at cargo handling facilities.
    - The Consent Decree does not define "port" which regulators agree gives them leeway to define port in broad terms. For example, one state recently published the following in a public information presentation: *Neither the Consent Decree nor the Trust Agreements define "port." A presentation by the Mobile Sources Technical Review Subcommittee of EPA's Clean Air Act Advisory Committee suggests that a port may be defined as a node in the larger goods movement supply chain, to include cruise terminals, bulk terminals, container terminals, and intermodal container transfer facilities.*
- In order to help fleets achieve cost parity with diesel purchases, and therefore increase deployments of 100% electric heavy duty vehicles, please offer the maximum allowable funding for Class 8 electric projects: Up to 75% for private fleets and more for public.

Thank you for your consideration and partnership in the mission to deploy emission-free technologies.

Respectfully,

Julie Brooks
Orange EV, Pure Electric Terminal Trucks
"Spend 90% Less in Fuel to Haul the Same Load with No Diesel and No Emissions"
Address: 500 NW Business Park Lane, Riverside, Missouri 64150 (10 *minutes from Kansas City)*
Phone: 503-544-8694 **Office:** 866-688-5223 x720 **eMail**: JulieB@OrangeEV.com
Website: www.OrangeEV.com

VW Settlement Comments

sandman <sandman4098@yahoo.com>

Fri 3/2/2018 7:08 AM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

Name: Job Title: Company: Comments:

Many of the tdi vw's such as mine, paid no sales tax when purchased. Therefor some of the se lement money should go towards the large deficit that CT now has.
Sent from Mail for Windows 10

March 6, 2018

Connecticut Department of Energy & Environmental Protection

RE: Proterra Comments on Connecticut's Proposed Beneficiary Mitigation Plan ("BMP")

Proterra, the leading U.S. manufacturer of electric, zero-emission transit buses, appreciates the opportunity to provide comments on the proposed BMP, which describes Connecticut's overall intentions and plan for spending ~ $51.7 million of Connecticut's VW allocation funding.

The proposed BMP appropriately prioritizes projects that reduce NOx emissions efficiently and cost-effectively. The plan makes clear the public importance of using the trust funds to (i) "improve air quality by achieving significant and sustained cost-effective reductions in NOx emissions;" and (ii) "support statewide energy, environmental and economic development goals while also considering environmental justice considerations associated with each proposed eligible mitigation project."

Consistent with these sentiments, Proterra strongly supports funding for electric buses and charging infrastructure. But it urges DEEP to limit funding to battery electric, zero emission transit and school buses and to allocate between 35% to 50% of the funding for this effort. We certainly agree with the statewide focus on expediting deployment and widespread adoption of zero emission vehicles and achieving significant reductions in diesel emission exposures in priority air quality areas and areas that receive a disproportionate amount of air pollution from diesel vehicles. The state can accomplish both by investing heavily in battery electric buses. Replacing diesel buses with electric buses is simply one of the best investments the state can make to help electrify public transit and improve air quality. We believe that the best way to accomplish these and other statewide goals is to use the funds from the VW trust to fund 110% of the incremental cost of a new electric bus and associated charging infrastructure

The electrification of heavy duty vehicles offers a pathway towards achieving the numerous benefits associated with zero emission transit. Indeed, Park City, Utah's recent deployment of Proterra electric transit buses is the poster child for why states should emphasize the electrification of transit buses with their VW mitigation funding. In June 2017, Park City Transit deployed six battery electric buses. Since that time, the electric fleet has traveled more than 160,000 miles using 269,400 of kWh electricity, resulting in an average fuel efficiency of 1.7 kWh/mile, or just over 22 MPGe (compared to 4 MPG for Park City's diesel buses). The electric buses have displaced the use of ~ 32,000 gallons of diesel fuel in their first four months alone, while eliminating more than 801,000 lbs. of GHG emissions. Additionally, the electric buses have saved Park City Transit money through the savings in fuel and maintenance. In fact, the cost per mile of operation has dropped from a high of $0.63 a mile using diesel to a low of $0.30 using electricity. Not surprisingly, Park City has seen an increase in ridership on those routes utilizing zero emission buses, causing other municipalities to determine how they too can add and/or increase the number of zero emission buses on the road.

Your Office has indicated that transportation fuel and emissions are the most likely to be impacted by mitigation strategies and stressed the importance of using VW funding to promote the use of zero emitting vehicles and improve transportation system efficiencies. To achieve these goals, Proterra encourages DEEP to promote the adoption of zero-emission technology, and not "near-zero" technology. Nationally, 7,461,458 tons of NOx, or 55% of the 13,489,110 tons

of NOx emitted derive from mobile sources; 35% attributable to on-road sources.[1] In the state of Connecticut, 44,124 tons of NOX, or 69% of the 63,596 tons of NOx emitted are from mobile sources.[2] On this basis alone, we urge DEEP to use up to 50% of its funds to advance the electrification of transit and school buses in those areas disproportionately impacted by the VW diesel vehicle emissions. By doing so, Connecticut will help achieve its program goals, including the reduction of NOx, greenhouse gases and other pollutants.

Thank you for the opportunity to provide comments on the draft BMP. Please feel free to contact me directly about these comments or Proterra's initial project proposal titled *The Public Transit Electrification Project: Sustainable Mobility for Connecticut*. I can be reached at 864-214-2668 or emccarthy@proterra.com.

Sincerely,

Eric J. McCarthy
SVP, Government Relations, Public Policy and Legal Affairs
Proterra Inc.

[1] https://www3.epa.gov/cgi-bin/broker?polchoice=NOX&_debug=0&_service=data&_program=dataprog.national_1.sas

[2] https://www3.epa.gov/cgi-bin/broker?_service=data&_debug=0&_program=dataprog.state_1.sas&pol=NOX&stfips=16

Submitted via email to deep.mobilesources@ct.gov

March 7, 2018

Paul Farrell
Assistant Director
Planning and Standards Division, Bureau of Air Management
Department of Energy & Environmental Protection
(860) 424-3389 / paul.farrell@ct.gov

Re: BYD Comments on the State of Connecticut Mitigation Plan

Dear Assistant Director Farrell:

BYD America ("BYD") appreciates the opportunity to submit the following comments that align with and build upon the state's priorities of achieving broad, multi-sector deployments of zero-emission vehicles and equipment via transparent competitive grant and rebate programs. Such deployments will take advantage of this unprecedented opportunity to reduce mobile source emissions and, in particular, provide both near- and long-term nitrogen oxide (NOx) emissions reductions in those areas that bear a disproportionate share of the state's air pollution burden.

BYD is a global company that is changing what is possible in zero-emission transportation. Our commitment to "solve the whole problem" has made BYD an industry pioneer and leader in not only the transportation sector, but also high-efficiency energy storage, solar power, LED lighting, and information technology. BYD and its shareholders, including Warren Buffett, see these environmentally and economically forward products as the way of the future.

Following Superstorm Sandy, resiliency and sustainability are increasingly important environmental issues. Conventionally fueled vehicles, including those supporting first responders and public transport, were rendered all but useless as delivery of fuel was impossible in the days and weeks following the storm. In those trying times, electric vehicles capable of supporting multiple power transfer pathways – vehicle-to-grid (V2G), vehicle-to-vehicle, and vehicle-to-load – would have proven invaluable.

BYD's technology and charging system provides just such flexibility, effectively turning each BYD vehicle into a mobile power plant capable of supporting first responders in emergency scenarios or utilities in power outages. This yields substantial benefits in safety, durability, cost-effectiveness, and facility factors, while still meeting the demands of heavy-duty fast charging.

Our North American headquarters and manufacturing facilities are located in Southern California. We are vertically integrated in order to better control the quality and costs throughout the manufacturing chain – we produce every major vehicle component, including our 100% recyclable batteries, inverters, and traction motors. This business

structure ensures seamless communication and efficiency across components, which creates a better operational experience and competitive pricing.

Our recommendations for Connecticut fall into three categories:

- Establish avenues for transparent electric vehicle funding programs that reduce NOx emissions from the high-emitting sources
- Provide support for transformative electric vehicle technologies in areas disproportionately burdened with air pollution
- Leverage Volkswagen funds by aligning projects with other state initiatives to yield economic, emissions, and energy benefits

BYD urges the Department of Energy & Environmental Protection (DEEP) to take these recommendations into consideration, which will enable Connecticut to most efficiently and effectively make the most of its allocation of Volkswagen funds.

Connecticut Should Establish Avenues for Transparent Electric Vehicle Funding Programs that Reduce NOx Emissions from the Highest-Emitting Sources

While BYD supports DEEP's plan to "encourage the widest diversity of proposals" and not prioritize any category of eligible mitigation projects, we encourage DEEP to fully align with the Volkswagen Settlement goals of providing the most NOx reductions from the most polluting sources by transparently and competitively grading projects based on emissions reductions, location, and innovation.[1] BYD believes that the best way to accomplish this goal is through the prioritization of electric vehicle projects.

It is imperative that the state provide clarity on application procedures to ensure fair competition and that the most qualified projects receive funding. BYD thus urges DEEP to develop an inclusive and transparent process by which technology providers and applicants can submit proposals for funding. This includes, among other information, clear guidelines on when, how, and who can compete for funds, as well as the exact criteria on which eligible entities will be compared.

The state should not shy away from competition among electric vehicle projects in this process. Potential funding recipients should have a range of electric vehicle technologies to choose from to fill their specific fleet needs, so that they may choose the technology that is the best fit. BYD stands firmly behind the idea that the ultimate electric vehicle technology choice should be in the hands of the end-user.

[1] "State of Connecticut Mitigation Plan 2018". Connecticut Department of Energy and Environmental Protection, February 15, 2018. http://www.ct.gov/deep/lib/deep/air/mobile/vw/CT_VW_Draft_Final_Mitigation_Plan_-_FINAL.pdf

Connecticut's mobile sources inventory, which was analyzed in the State Mitigation Plan, aggregates ten emissions sources in order to display the largest contributors. As Figure 1 shows to the right, on-road heavy-duty diesel vehicles and non-road diesel equipment (excluding locomotives and marine) should be among the most competitive projects as they account for 87% of the state's NOx emissions.

The on-road sector is particularly important as over 40% of the state's NOx emissions come from 5% of the vehicles registered in state.[2] In making funding decisions, Connecticut should ensure that its funds are allocated to address these sources via the deployment of electric vehicles.

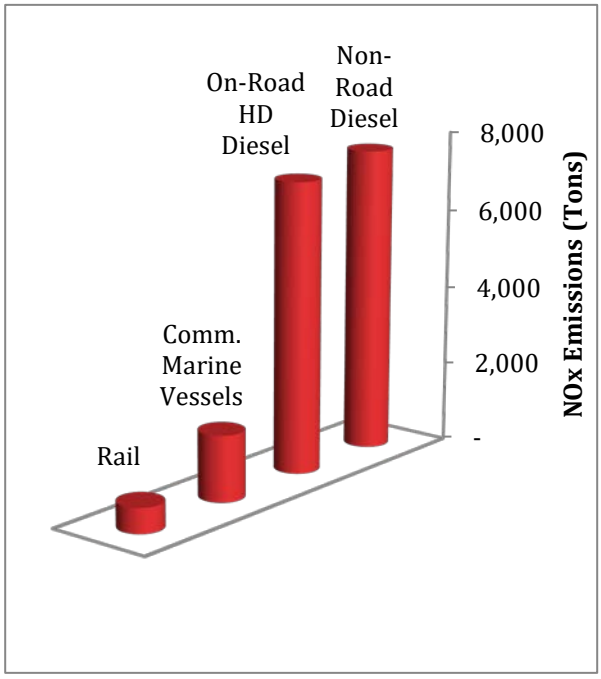


Figure 1: Connecticut NOx Emissions from Settlement-Eligible Sources (2014)

Connecticut can support the electrification of transit and shuttle buses as well as delivery, cab forward, bucket, and tractor trucks, many of which are "captive" fleets that operate almost entirely within dense communities or areas overburdened with air pollution (e.g., ports and terminals) and are thus capable of delivering immediate environmental benefits.

Furthermore, allocating funds to electrify cargo handling equipment will address non-road diesel equipment emissions. These pieces of equipment operate entirely within ports, rail yards, depots, and terminals – areas that Connecticut has consistently addressed due to environmental justice concerns stemming from disproportionate air pollution impacts.

Connecticut Should Provide Support for Transformative Electric Vehicle Technologies in Areas Disproportionately Burdened with Air Pollution

Connecticut's air quality issues have led to the designation of two ozone nonattainment areas in the state, which include eight counties – Fairfield, Hartford, Litchfield, Middlesex, New Haven, New London, Tolland, and Windham – that are home to 3.6 million residents.[3] Within these areas are Connecticut's leading population centers of Bridgeport, New Haven, Stamford, Hartford, and Waterbury. By electrifying vehicles operating in these areas,

[2] "2016 Connecticut Comprehensive Energy Strategy". Connecticut Department of Energy and Environmental Protection, May 24, 2016. http://www.ct.gov/deep/lib/deep/energy/ces/CES_Public_Scoping_Presentation_May_24_2016.pdf, page 73.
[3] "Green Book 8-Hour Ozone (2008) Area Information". United States Environmental Protection Agency, February 3, 2017. https://www.epa.gov/green-book/green-book-8-hour-ozone-2008-area-information.

Connecticut can immediately reduce harmful NOx emissions, thereby generating environmental, health, and economic benefits.

One such funding strategy is to electrify trucks and transit buses operating in Connecticut's population centers or along key corridors, such as I-84, I-91, and I-95. Electrified vehicle technologies produce zero emissions, eliminate the need for expensive-to-maintain particulate traps, and mitigate the need for oil changes.

To combat non-road diesel emissions, Connecticut can allocate funds to projects that electrify the state's cargo handling equipment. In particular, focusing funds on terminal tractors (also referred to as yard tractors, yard hostlers, or yard trucks,) present Connecticut with a viable solution to addressing non-road diesel emissions. Terminal tractors move freight quickly and efficiently through Connecticut's ports of Bridgeport, New Haven, and New London; however, this productivity is at the cost of clean air because terminal tractors typically use older, high-emitting diesel engines. Connecticut can therefore make an immediate and lasting impact on local air quality in these disproportionately burdened areas by electrifying these terminal tractors.

BYD Solutions

Electrified on-road trucks, such as BYD's various Class 5, 6, and 8 models, create additional benefits for the environment and operators alike, as shown in Table 1 below. Each of these models presents customers with a basic chassis readily available for customization. BYD works with top outfitters and upfitters to meet customer specifications; thus, each of our chassis can be outfitted into a dry box, flatbed, stake bed, refrigerated unit, refuse body, and bucket truck version.

Table 1: What Sets BYD On-Road Trucks Apart

Vehicle Type	Models[4]	Battery Performance	CO2 Reduced per Truck (tonnes)	Annual Fuel Savings	Annual Maintenance Savings
Class 5 Medium-Duty Truck	5D, 5F	155 mile range	340	$ 6,000	$ 4,000
Class 6 Medium-Duty Truck	6B, 6D, 6F, 6R	124 mile range	450	$ 8,200	$ 4,600
Class 8 Heavy-Duty Truck	8TT, 8R, 8TS, and 8TT	92 mile range	636	$ 9,600	$ 4,500

[4] "B" stands for "Bucket." "D" stands for "Delivery." "F" stands for "Forward / Cab Forward." "R" stands for "Refuse." "TS" stands for "Tractor Single." "TT" stands for "Tractor Tandem."

As the world's largest producer of battery electric buses, BYD has demonstrated experience and established customer delivery and deployment processes. Indeed, BYD has deployed more than 35,000 zero-emission buses internationally and has received orders for over 4,000 additional buses. These buses have accumulated hundreds of millions miles of service, saved tens of million gallons of diesel, and reduced over a billion pounds of greenhouse gases (GHGs).

BYD's product line of seven bus and coach models, ranging from 23' coach buses to 60' articulated transit buses and everything in between, are American Disabilities Act and Buy America-compliant. They can therefore help transit agencies in Connecticut reduce fuel costs and minimize maintenance expenses, thereby increasing reliability and performance. Due to the increased miles put on transit buses, these vehicles see even more substantial maintenance and fuel savings than our trucks. BYD's standard 40' bus experiences yearly savings on the order of $45,000 per bus. Further, BYD's recyclable battery technology enables these vehicles to operate as much as 275 miles on a single charge, all while producing zero emissions.

BYD's model 8Y terminal tractor is a 100% battery-electric class 8 truck that is capable of 15 hours of continuous operation between charges with minimal battery degradation. Each terminal tractor eliminates 1,590 metric tons of CO2 over its deployment lifetime. Related to the vehicle's hugely beneficial total cost of ownership, the 8Y saves operators $19,100 in fuel costs and $8,800 in maintenance costs per truck each year – lower downtime, fewer moving parts, less wear and tear, and improved environmental efficiency are the hallmarks of BYD's T8Y terminal tractor. Further, they are able to be deployed immediately as they are compliant with Federal Motor Vehicle Safety Standards (FMVSS).[5]

Finally, as electric vehicles required dedicated charging infrastructure, Connecticut has already created initiatives such as EVConnecticut and CHEAPR to tackle this issue, and BYD stands ready to align with and further support those initiatives. Where BYD's technology exceeds the capabilities of our competitors is the design and capability of our AC chargers; specifically, our AC charging is all done on-board the vehicle. This on-board charging approach:

- Eliminates installation of large, expensive, hot DC charging stations with external converters, since that conversion is done internally;
- Virtually eliminates heat loss, so the charging system converts more of the current to motive energy;
- Virtually eliminates overheating, so charging can occur in all temperatures – in other words, there are no cold weather limitations on the technology;
- Eliminates the need for costly charger cooling systems;
- Virtually eliminates charger maintenance and increases charger durability, so there's no need for replacement during the life of the vehicle or for many years after;
- Significantly diminishes electrical and heat hazards to staff; and

[5] The T8Y is also compliant with Canadian Motor Vehicle Safety Standards (CMVSS).

- Allows the chargers to be compact, easy to operate, easily installed with minimal space, engineering or permitting and even easily moved as needs change.

Connecticut Should Leverage Volkswagen Funds by Aligning Projects with Other State Initiatives to Yield Economic and Energy Benefits

The $55.7 million allocated to Connecticut is an opportunity for the state to transform its transportation sector. Simply replacing existing diesel vehicles with new (but still conventional fuel) technology may yield limited benefits, but it will do very little in leading the state towards a cheaper, cleaner, and more reliable energy future with greater energy independence. Electric vehicles, however, offer the means to achieve energy security and environmental sustainability while simultaneously creating a driver for economic growth.

To that end, Connecticut should ensure funding aligns with its key state and environmental agency initiatives; specifically, this includes EVConnecticut, the International ZEV Alliance and 8-State MOU and Action Plan, and the state's Comprehensive Energy Strategy.

EVConnecticut[6]

To accelerate the adoption of zero-emission vehicles in Connecticut, BYD's electric vehicle deployment experience will provide the state with the means to cost-effectively and efficiently meet its goals. As an example, BYD has deployed over 35,000 transit bus and motor coaches internationally.

Electric vehicle deployments will also increase domestic energy security by offering drivers and operators a choice of fueling options. According to the Electric Drive Transportation Association, domestically produced grid electricity, on average, can power plug-in vehicles at the equivalent of $1 a gallon of gasoline. Importantly, this pricing structure is stable as it is insulated from the global volatility that impacts diesel.[7]

International ZEV Alliance and 8-State MOU & Action Plan[8]

Connecticut has committed to provide cleaner, cheaper, and more reliable transportation energy, which will in turn help the state meet its air quality goals. To that end, Connecticut joined the International ZEV Alliance[9] and the ZEV MOU[10] to increase the number of electric vehicles in the state and build out its electric vehicle charging infrastructure.

[6] "EVConnecticut". Department of Energy & Environmental Protection, State of Connecticut. http://www.ct.gov/deep/cwp/view.asp?a=2684&q=525224&deepNav_GID=1619.
[7] "Why Electric Drive?" Electric Drive Transportation Association. http://electricdrive.org/ht/d/sp/i/27103/TPL/LandingPageTechIss/pid/27103.
[8] "CT's Path". Department of Energy & Environmental Protection, State of Connecticut. http://www.ct.gov/deep/cwp/view.asp?a=2684&q=538646&deepNav_GID=2183.
[9] Signing partners include Netherlands, Norway, United Kingdom, Germany, California, Maryland, Massachusetts, New York, Oregon, Rhode Island, Vermont, and Quebec,
[10] Signing partners include California, Maryland, Massachusetts, New York, Oregon, Rhode Island, and Vermont.

While these efforts target the light-duty vehicle passenger vehicle market, BYD offers commercially available products in three specific markets – transit buses, on-road trucks, and cargo handling equipment – that will lead to dramatic NOx emissions reductions in Connecticut. With multiple equipment models in each of those markets, BYD can thus immediately provide Connecticut with a variety of transportation options that will yield tremendous and cost-effective environmental and economic benefits. Further, Connecticut can use its allocated Volkswagen settlement funds to take the next step by creating opportunities for electric vehicles in the medium- and heavy-duty markets.

Comprehensive Energy Strategy[11]

As identified in the 2016 iteration of the Comprehensive Energy Strategy, Connecticut's transportation sector continues to largely rely on petroleum products as the primary fuel source – in fact, 99.5% of fuel consumed is oil or gasoline. To reduce Connecticut's petroleum dependence, Connecticut established a multi-faceted approach to address transportation issues, among others, which included a call for investments in clean fuels, vehicles, and infrastructure.

Electrified vehicles, particularly those using advanced battery technologies, seamless align with the Comprehensive Energy Strategy. BYD's mission to create safer and more environmentally friendly battery technologies has led to the development of the BYD Iron Phosphate ("Fe") Battery. This fire-safe, completely recyclable and incredibly long-lasting technology has become the core of BYD's clean energy platform and is used across our product lines, including automobiles, buses, trucks, utility vehicles, and energy storage systems. The battery is the only environmentally-friendly option available on the market today as it contains no heavy metals or toxic electrolytes. Additionally, BYD batteries can be recycled or repurposed into energy storage systems for other applications. This broad but in-depth expertise is a reflection of our commitment to sustainability and reducing our carbon footprint.

Closing Remarks

The commercial-scale heavy-duty electric transportation market is rapidly maturing, as demonstrated by the price reduction of more than 25% in our bus products over the last five years. This Volkswagen opportunity represents a unique chance to create immediate emission and economic benefits for Connecticut's residents, as well as build the groundwork for a sustainable electric transportation marketplace.

The economic, emission, and energy-specific benefits of electrified equipment are clear – all-electric trucks, buses, and equipment generate no tailpipe emissions while, over the lifetime of the vehicles, deliver a lower total cost of ownership than conventional petroleum fuels and natural gas. These positive attributes of all-electric vehicles will be readily

[11] "Comprehensive Energy Strategy". Department of Energy & Environmental Protection, State of Connecticut. http://www.ct.gov/deep/cwp/view.asp?a=4405&Q=500752&deepNav_GID=2183.

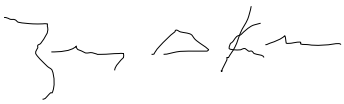
apparent to end-user fleets if the state continues down its path of establishing an inclusive and transparent project selection process.

BYD believes early-market incentive funding is critical to achieving more favorable upfront economics and that increasing sales will lead to cost-competitive purchase prices. We have committed to and successfully delivered substantial price reductions from our first generation of products. We hope to continue this progress in Connecticut and support the state in addressing a broad spectrum of environmental issues, resiliency and sustainability chief among them.

BYD thanks the State of Connecticut and DEEP for the opportunity to submit these recommendations. We would like to work with you and your team to ensure an efficient and effective rollout of the State of Connecticut Mitigation Plan.

Towards that end, we request an in-person meeting to discuss our recommendations further. We look forward to future collaboration that will help Connecticut meet its environmental, fiscal, and social justice goals.

Sincerely,



Zachary S. Kahn
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BYD America

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Lisle, IL 60532 USA

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W : randy.ray@navistar.com

Randall Ray
Sales Director

March 7, 2018

Bureau of Air Management
Mobile Sources Division
Connecticut Dept. of Energy and Environmental Protection
Attn: Louis Corsino
79 Elm Street
5th Floor
Hartford, CT 06106

Re: Comments to State of Connecticut Mitigation Plan under Volkswagen 2.0L and 3.0L Vehicle Partial Consent Decrees, Appendix D

Dear Mr. Corsino:

Thank you for this opportunity to provide our comments on Connecticut's Beneficiary Mitigation Plan. The VW Mitigation Trust presents a tremendous opportunity to reduce diesel emissions and improve the environment. Connecticut's allocation of $55.7 M will permit the state to make a dramatic reduction in diesel emissions.

Commercial trucks and school buses are major contributors to NOX inventory in Connecticut. According to IHS Polk Registration data there are currently over 300 pre-1998 buses in the state and over 3000 pre-2010 buses. As you implement your plan we commend efforts that will achieve the greatest amount of NOx reduction, while also specifically looking to positively impact at risk population groups, help non-attainment areas, and areas needing environmental justice. It is our belief that the group that most clearly represents these constituencies are school buses and school age children.

As such, we ask that you consider both near and long term impacts and utilize the bulk of your available discretionary funding towards school buses. Usage of VW Mitigation Trust funds towards early retirement of school buses satisfies all the key requirements that are outlined in the Connecticut Draft Mitigation Plan.

Accelerating the retirement of older, higher emitting school buses will reduce emissions immediately in the vicinity of an at risk population – school age children. School age children are still developing full respiratory capability, thus emissions benefits for school age children will have positive human benefits for the longest time period possible.

Liberal funding for school buses within non-attainment areas the captures the goal of working within non-attainment areas where need for the children and the general population is greatest.

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P : 331-332-3074
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Randall Ray
Sales Director

Liberal funding for school buses can provide direct and significant benefits for areas needing environmental justice, often coinciding with the same non-attainment area described prior.

Replacement of older vehicles rather than repowering them has several advantages. New equipment, in this case school buses, you can be assured the new equipment will be utilized to its fullest, thus providing the maximum benefit to the environment, the children, and the municipality. New vehicles provide the enhanced environmental benefits for the full lifecycle of the vehicle. Additionally, a new vehicle includes a complete warranty which a repowered vehicle does not.

IC Bus and its CT dealer, Dattco, Inc. of New Britain is our representative in Connecticut, and provides a full line of clean propane and diesel school buses ready to serve you.

Again, we thank you for this opportunity, we ask that funding be concentrated within school buses, as all primary goals of the State of Connecticut Mitigation Plan can be achieved within this at risk population, benefiting environmental justice communities often in direct correlation of key non-attainment areas as described in Section III. Fiduciary responsibility to the fund and the state would also indicate that usage of these funds within public institutions would be the most transformative choice available.

Should you have any questions, please feel free to contact me at 331-332-3074 or any IC Bus or Navistar representative.

Sincerely,

Randall Ray
IC Bus

Comment on Final Mitigation Plan

Andrew Lopez <alopez6@conncoll.edu>

Thu 3/8/2018 12:30 PM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

Cc: Chris.Soto@cga.ct.gov <Chris.Soto@cga.ct.gov>; Paul.Formica@cga.ct.gov <Paul.Formica@cga.ct.gov>; FareComments, DOT <DOT.FareComments@ct.gov>; Maggie Redfern <mredfern@conncoll.edu>;

Dear Bureau of Air Management, Mobile Sources Division, Connecticut Department of Energy and Environmental Protection,

I am writing with a comment on your ideas for the mitigation plan stemming from the recent Volkswagen settlement.

Everyone in Connecticut knows that cars produce the lion share of greenhouse gas emissions in the state, fouling our air, increasing the risk of climate related disasters, and costing us dearly in terms of health care and quality of life.

We also know that public transportation plays a vital role in our community - contributing to economic development; serving the minority, disabled, youth, and elderly communities; saving energy and reducing pollution; and helping to alleviate noxious traffic on our roadways.

The best use of funds from the Volkswagen settlement would therefore be a simple transfer of wealth from the automobile industry (via the settlement funds of over $55 million for use towards offsetting excess NOx emissions) directly into expanding our mass public transit system, which is currently under fiduciary attack.

I recommend using the entirety of the settlement funds exclusively for the enhancement of public transit in the state of Connecticut. Some ideas for disbursing those funds could include:

- transfer the entire settlement directly into the Special Transportation Fund and earmark it for public transit use only
- use a portion of the funds to promote public transit ridership, using some of these kinds of ideas:
    - double the size of our public transportation fleet in 1-2 years; triple it in the next 3 years; aim to multiply our public transit services by a factor of 10 in the next 10 years
    - create weather-proof shelters at transit stops along all public transit routes, including the terminals
    - offer financial incentives to those who use public transit
    - add signage for public transit in and around towns, especially at tolls on our roadways once we implement them, as well as at gas stations
    - add route and schedule information at public transit stops, especially the terminals
    - add garbage cans and recycling containers at public transit stops
    - add weather-proof bicycle parking at transit stops
    - add bathrooms and water fountains at public transit stops

Public transportation is the key to economic and population growth in Connecticut, and it is also the key to a sustainable future for everyone in Connecticut.

We can help expand public transportation by charging dirty oil companies for their pollution, saving billions of dollars each year, creating tens of thousands of new jobs, and fostering a more just and equitable transportation sector, per the Comprehensive Energy Strategy.

All new transportation funds, including the VW settlement, should be spent on improving our public transportation system. We must make sure that every public dollar we spend is helping move Connecticut to a clean transportation future.

I look forward to working with you on this plan!

Sincerely,
Andrew Lopez

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ALTERNATIVE FUELS COALITION OF CONNECTICUT

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Glastonbury, CT 06033

Telephone: 860-633-8781 ~ Mobile: 860-280-8027 ~ Fax: 860-633-8781 ~ PIN 2C1AE75B

March 8, 2018 **VIA EMAIL**: **deep.mobilesources@ct.gov**

Commissioner Robert Klee
VW Settlement Comments
DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION
79 Elm Street
Hartford, CT 06106

RE: VW Formal Public Comment – Alternative Fuels Coalition of Connecticut

Commissioner Klee:

Our organization and its members strongly support all priority recommendations made by the **New Haven Clean Cities Organization** dated December 3, 2016 and posted on DEEP's website. Although medium and heavy duty vehicles represent 4% of the total vehicle population they contribute a whopping 29% of all carbon emissions in our country[1]. Most if not all of these vehicles especially Class 4 – 7 vehicles can efficiently be re-powered and or originally ordered to operate on clean burning propane autogas.

Propane autogas was designated as a "Clean Fuel" in the 1992 Energy Policy Act. Today, over 23 million vehicles operate on propane and it is the third leading transportation fuel in the world. Our Coalition is supportive of all alternate fuels including electricity. However, electrification technology does **not** exist for Class 4 – 7 vehicles and adoption of propane to power these vehicles is the best way to almost overnight, reduce both NOx and non-criteria emissions like GHGs.

We understand that there are some well-known organizations who oppose the use of any fossil fuel for transportation including propane. Although we respect these organizations we believe

[1] https://energy.gov/eere/vehicles/fact-951-november-14-2016-medium-and-heavy-trucks-account-about-quarter-highway

such an advocacy is harmful to our environment. Without electrification solution especially for Class 4 – 7 vehicles, there is no practical way to reduce vehicle emissions[2] and by default, the continued use of gasoline and diesel fuel is unwisely perpetuated. Propane is the world's cleanest fossil fuel and the use of it, absent electrification technology, should be supported through the use of VW Mitigation funding.

Propane is "Shovel Ready" and can get to work today to reduce NOx emissions. Propane is not an experimental fuel; it is a fuel that has been used in transportation for more than 100 years. Ford Motor[3] offers a vast truck line of vehicles that operate on propane and other alternative fuels. These vehicles are ideal for transit, paratransit, shuttle and package delivery vehicles. We do not have to wait years for an electrification solution. Propane is ready **NOW**, to reduce NOx emissions especially with these vehicle types[4].

Focusing on Class 4 – 7 vehicles and incentivizing them with VW Mitigation funds will reduce vehicle emissions in a short period of time. Many of these types of vehicles use in excess of 5 to 6 thousand gallons of gasoline/diesel per vehicle per year. We need to get these fuel guzzlers operating on propane and or natural gas to reduce NOx and other non-criteria emissions. Our environment will be the greatest beneficiary of such action.

[2] Manufacturers electrification focus will for some time, be limited to passenger vehicles and light duty trucks based on production quantities and sales objectives. Class 4-7 trucks representing 4% of the total vehicle population, "by the numbers" lend them to low electrification priority.

[3] http://www.fleet.ford.com/resources/ford/general/programs/alternative-fuel-vehicles/2016_Alternative_Fuel_HiRes.pdf

[4] There are thousands of EPA certified systems available today to retrofit gasoline powered trucks to operate on propane or natural gas and in some instances producing NOx level as low as .051 to .039 (ICOM) CARB certificates pending agency issuance.

If you are still not convinced, let's hear what the kids are telling us about propane…

The fastest growing use of propane in the transportation sector has been in school bus transportation. Here are some facts you should know;

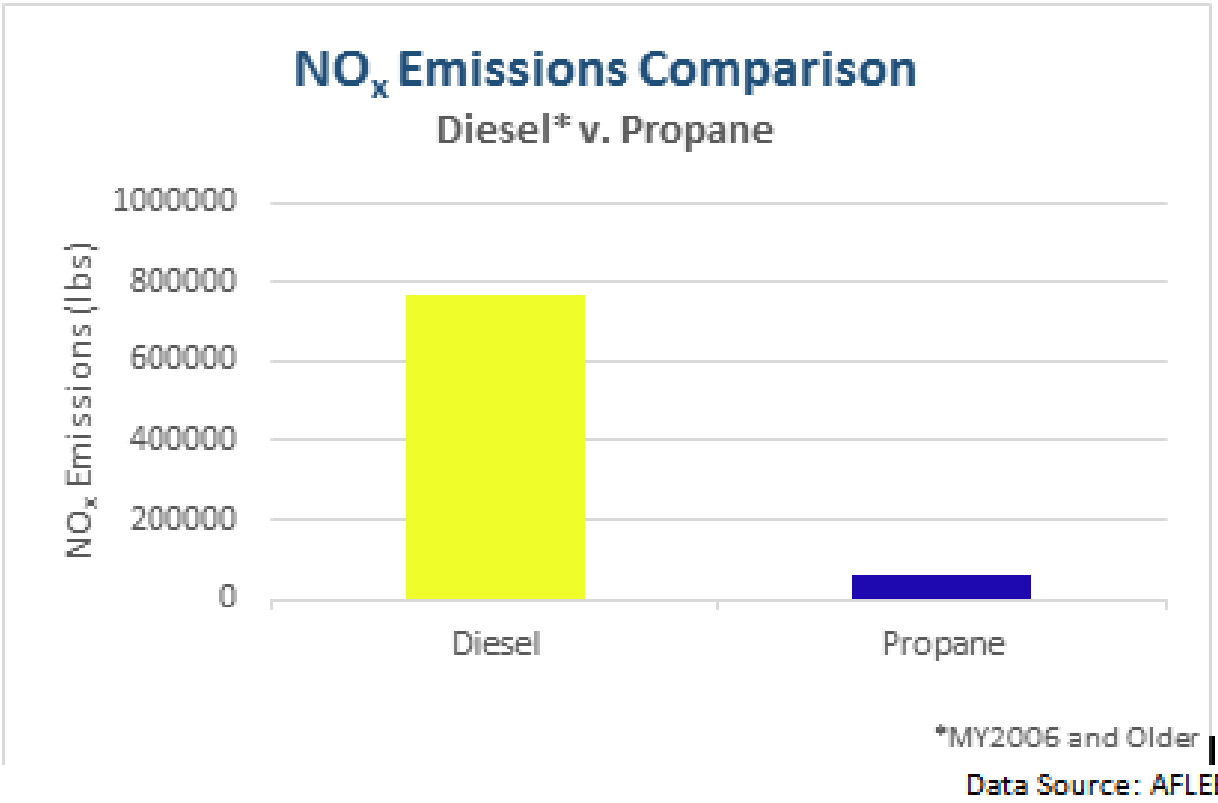
- Over 17,500 school buses in 48 states operate on propane transporting over 800,000 kids daily today.
- 600 school districts, private schools, and bus contractors use propane school buses to safely transport their children.
- Blue Bird, IC Bus, Collins and Thomas all offer a propane fuel option on OEM orders.
- Locally, Shelton, Torrington, Waterbury, Danbury, Simsbury, Newtown, East Hartford, New Canaan and New Milford are all operating propane powered school buses. Combined, this represents almost 400 buses in operation today. This total number of buses is expected to grow rapidly as annual purchase cycles are executed for replacement buses. Waterbury's fleet of 149 buses represents the fourth largest fleet of school buses operating in the nation. And in the region, Boston Public Schools currently operate 247 autogas buses
- 2017 Blue Bird Bus emits 81% less NOx compared to a modern diesel powered school bus[5]

[5] CARB low NO_x certification data for MY2017 Roush 6.8L propane model compared with MY2016

When factoring in all of the benefits, there is no doubt that investing Volkswagen Settlement funds into propane powered school buses would be one of the most cost effective ways of reducing the excess NO_x caused by Volkswagen.

It is important to highlight that as part of the Volkswagen Settlement, propane school buses are eligible for **100 percent** of the replacement costs[6]. This makes their adoption using these funds very attractive to school districts in Connecticut.

When considering the use of the Volkswagen settlement dollars, it is important to highlight potential NO_x reductions. This is where propane-powered school buses are a winning choice for Connecticut. According to data from Argonne National Laboratory, if Connecticut were to replace all 2,014 buses eligible for this settlement with new, clean-burning propane models, there would be a **92 percent reduction in NO_x**. As an additional benefit, there would be a 98 percent reduction in particulate matter (PM) and a 91 percent reduction in tailpipe Volatile Organic Compounds (VOC)[7].



Cummins 6.7L diesel model. CARB CERTIFICATION EXECUTIVE ORDER A-021-0657

[6] Supra Partial Consent Decree at Appendix D-2

[7] Alternative Fuel Life-Cycle Environmental and Economic Transportation (AFLEET) 2016 tool (provided by Argonne National Laboratory) as well as U.S. school bus fleet data (provided by PERC) to calculate the emissions reduction potential associated with replacing diesel-fueled school buses with new (2016) propane autogas school buses

PROPANE POWERED SCHOOL BUSES = EVERYBODY WINS

Let's do some quick math. (BACKROUND: a new diesel bus cost about $91,000. For an incremental cost of an additional $9000 it can be ordered to operate on propane). So a Type C Blue Bird school bus cost about $100,000. VW will pay **100%** to cost of a new propane powered vehicle. This frees up a $100,000 for the school district or its contract operator. The savings of $100K can be applied to the purchase of 9 additional buses at no additional cost to the community or its contractor. With the first bus and the nine additional buses we have a fleet of 10 buses operating on propane. The savings in fuel, electricity, maintenance is about $3,400[8] dollars per bus per year or approximately $34,000 per year for the 10 buses in operations. The annual savings grows rapidly as more buses are added to operate on propane[9].

In the above example, everyone wins;

- School system and or its bus operator saves money
- The kids get a healthier, cleaner, quieter[10] and safer ride on a propane bus
- The propane industry grows with the potential for more job creation and greater utilization of an American made source of clean energy
- Infrastructure costs are relatively low and very affordable comparable to gasoline or diesel (or a fraction of the cost of comparable natural gas dispenser) offering the lowest total cost of ownership solution
- The State of Connecticut gets a cleaner environment
- Because propane is almost a 100% domestically produced fuel, we enhance our energy independence and reduce our reliance on foreign fuels.

[8] Assumes continuance of 37 cent/gal Federal Alt Fuel credit (prior to 2015 credit was 50 cents/gal) which has been in place for the last 10 years and scheduled for Congressional renewal in 2017

[9] This concept is even more dramatic for Municipal owned transit and paratransit vehicles who consume considerably more annual gallons of diesel or gasoline / vehicle.

[10] The Blue Bird Propane Vision school bus cuts vehicle and engine noise by producing sound 11 decibels lower than diesel fueled buses.

VOLKSWAGEN SETTLEMENT

MOVE FORWARD WITH PROPANE AUTOGAS SCHOOL BUSES

The unique benefits of this clean, American fuel make it the perfect solution for schools to cut emissions while saving more for what counts.

THE GOAL

The Volkswagen Environmental Mitigation Trust Fund will financially support actions that reduce Nitrogen Oxide (NO_x) emissions in the United States. The amount of funds distributed will vary by state or territory, depending on the number of non-compliant Volkswagen vehicles that were registered there.

THE OPPORTUNITY

States can utilize these funds to encourage school districts to purchase new propane autogas school buses, which reduce the amount of harmful diesel emissions — known aggravators of asthma and other breathing issues — around students. Depending on a school's situation, it can significantly reduce NO_x emissions with propane autogas school buses.

THE SWITCH	REDUCED NO_X EMISSIONS
Replace all older than model year-2007 diesel buses with new propane autogas bus.	More than 92 percent[1]
Purchase a new propane autogas bus instead of a modern, lower-emissions diesel bus.	More than 11 percent[2]
Purchase a modern, best-in-class for NO_x emissions propane bus instead of a modern diesel bus.	81 percent[3]

1. Source: AFLEET model using Polk Registration data by state for diesel buses — 12/31/2015. By removing 255,627 of pre-2007 diesel fueled buses from the road across the country and replacing them with new propane autogas school buses, NO_x emissions would be reduced by 92 percent.
2. MY2016 certification data for PSI 8.8L propane model compared with Cummins 6.7L diesel model.
3. CARB low NO_x certification data for MY2017 Roush 6.8L propane model compared with MY2016 Cummins 6.7L diesel model.

Schools that use propane can reach their sustainability goals without additional, costly emissions technology.

"I think the environmental aspect of it is important to a lot of people, especially parents with young children."

Brian Woods
Superintendent, Northside Independent School District

ROUSH CLEANTECH

BLUE BIRD

Blue Bird Vision Propane

The Most Cost-Effective Solution to Reduce NOx Emissions from School Buses

School buses transport 25 million children across the U.S. to and from school each year. Because of the stop-and-go driving conditions, diesel buses emit increased exhaust emissions filled with tiny soot particles and toxic gases. Using the Volkswagen Environmental Mitigation Trust (EMT) to fund propane buses enables states to meaningfully reduce this harmful exposure, which benefits our nation's children.

PROPANE

Purchase price: $95,000
NOx reduced: 537 lbs.

Cost per pound of NOx reduced: $177

DIESEL

Purchase price: $90,000
NOx reduced: 331 lbs.

Cost per pound of NOx reduced: $272

ELECTRIC

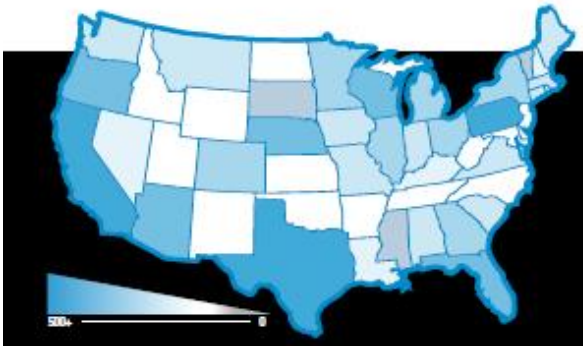
Purchase price: $300,000
NOx reduced: 593 lbs.

Cost per pound of NOx reduced: $506

35%
more cost-effective
than diesel school buses

65%
more cost-effective
than electric school buses

*Vehicle purchase price may vary by state. Calculations assume the full cost to deploy the cleanest commercially available Type C buses for each fuel type based on emission calculations from the 2016 ANL AFLEET Tool.



750+
School transportation fleets in operation

10,000+
School buses in service across North America

ROUSH CLEANTECH

BLUE BIRD

The Union of Economic and Environmental Sustainability

The Blue Bird Vision Propane offers an unmatched ROI for school transportation fleets. States can feel confident that the investments made with the Volkswagen EMT funds will lay the foundation for schools to continue deploying low-emission buses.

Low–Emission Engine

The ROUSH CleanTech engine is certified to the optional low NOx level 0.05 g/bhp-hr, making it 75% cleaner than the EPA's current emissions standard.

Best Total Cost of Ownership

By switching from diesel to propane, fleets can lower their fuel costs up to 50% and enjoy increased up-time with reduced maintenance.

Uncompromised Safety

The Blue Bird Vision Propane is noticeably quieter than a diesel bus, enabling the driver to remain focused on both the children and the road ahead.

Clean American Energy

Propane autogas burns far cleaner than diesel. And, because it is domestically sourced, fleets are protected from the fuel price fluctuations that frequently occur with diesel.

"With today's tight school budgets, using a transportation fuel like propane autogas that saves taxpayers' money, keeps the environment clean, and keeps jobs within our national borders is a win–win for everyone."

– William Schofield, Superintendent
Hall County Schools, Gainesville, Georgia

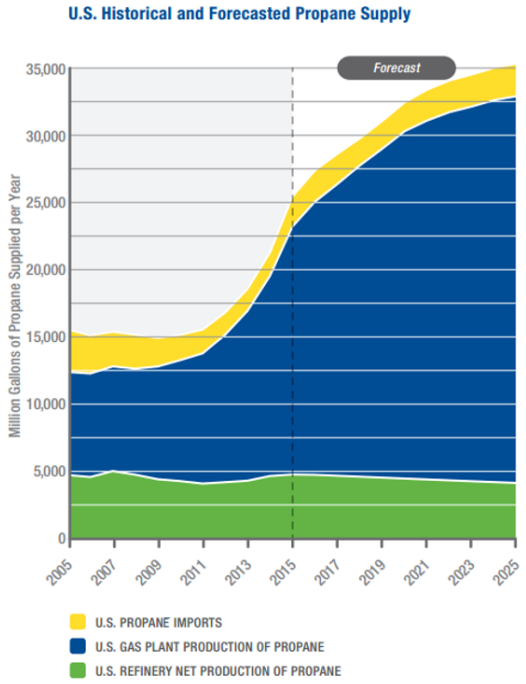
For more information on how to successfully develop a clean school bus program in your state, contact:

Chelsea Jenkins
Executive Director of Government Affairs
chelsea.jenkins@roush.com
734.812.1965.

ROUSHcleantech.com **Blue–Bird.com**

Fuel Availability

America's current domestic energy renaissance has meant drastic increases in the production of propane. Propane has traditionally been viewed as a byproduct of the oil refining process. However, the increase in production from natural gas processing has shifted this perception. In 2014, there was enough propane produced from the domestic natural gas supply to meet about 98 percent of the U.S.'s consumer and petrochemical demand. The increase of domestic production has led to record high levels of propane in recent years. Production is forecasted to continue to increase[11], ensuring a steady supply of this American-made fuel.



Source: ICF International

In the last ten years, the United States as gone from being a net importer to a net exporter of propane. In fact, we are currently exporting nearly 10 billion gallons of propane annually. That's the equivalent of the fuel needed for 4 million fleet vehicles. Energy security and independence has been a goal of the United States for many years. By using more of our domestically produced propane, we can continue to decrease the reliance on foreign-sourced fuel.

In order to get this large propane supply to the consumer transportation market, the industry relies on a network of public and private refueling stations. Nationwide, there are more than 3,600 stations ready to supply consumers with propane. In Connecticut, there are already 22 public and private stations[12]. As you can see, propane

[11] *2016 Propane Market Outlook* ICF International
[12] http://www.afdc.energy.gov/fuels/stations_counts.html

infrastructure is already in place to facilitate Connecticut's Environmental Mitigation Plan.

And for price, wholesale propane falls between the price of oil and natural gas, the two sources of the fuel. This makes propane price competitive with the conventional fuels. For comparison, according to the most recent Clean Cities data, the price of propane is almost 50 cents-per-gallon cheaper than diesel[13]. This figure does not take into account the savings that occur from individual propane marketers negotiating favorable pricing with fleet managers.

SPECIAL INCENTIVE FOR THE PROPANE INDUSTRY: The propane industry in CT buys propane at "COST". A special VW Grant program should be created to incentivize the local propane industry to replace its older dirtier powered diesel vehicles with vehicles that operate on propane. Buying at "cost" gives this industry the best Return on Investment calculation.

OTHER WELL KNOWN CT FLEETS OPERATING ON PROPANE AUTOGAS TODAY

YALE UNIVERSITY

<table>
<tr><td> 
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<tr><td>Ford E-450 Shuttle Buses 11 – 6 More on order
Note: Two CNG converted to Propane</td><td>Ford Transit Service Vans – 11 Just completed</td></tr>
<tr><td> 
</td><td> 
</td></tr>
<tr><td>GMC Dump Truck</td><td></td></tr>
</table>

[13] http://www.afdc.energy.gov/uploads/publication/alternative_fuel_price_report_oct_2016.pdf

NESTLE WATERS – STAMFORD CT

Environmental Concerns Drive Beverage Company to Propane Autogas

Environmental stewardship is driving Nestlé Waters North America's deployment of more than 400 additional medium-duty ReadyRefresh℠ by Nestlé® beverage delivery trucks fueled by propane autogas. The company now operates nearly 600 of these alternatively fueled trucks, which make up about 30 percent of its total North American fleet. The Ford 6.8L V10 3V engine with a ROUSH CleanTech fuel system is certified to 0.05 grams per brake horsepower-hour for nitrogen oxide — 75 percent cleaner than the current EPA standard.

Working with Connecticut

This comment is a continuation of our dialogue on how propane can play a role in your state's environmental mitigation plan. Already in Connecticut, there are 445 people employed by the propane industry. The propane industry also is a significant contributor to Connecticut's economy, adding $380,879,000 to the state's GDP[14].

Please use our organization and the vast resources available from the National Propane Gas Association (**NPGA**) and Propane Education Research Counsel (**PERC**) as you examine the best ways to use Connecticut's allocation. I am happy to connect you with propane businesses, propane users, and experts to better inform you of propane vehicles' role in Connecticut.

Sincerely,

Mike Morrissey
Director of Government Affairs and Business Development

[14] *Impact of the U.S. Consumer Propane Industry on U.S. and State Economies in 2012* ICF International

VW Settlement Mitigation

James Byrne <James.Byrne@envisionsolar.com>

Thu 3/8/2018 6:29 PM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

Categories: Important

Mobile Sources Division.

As Connecticut moves closer to the electrification of transportation to reduce NOx emissions the state will face challenges requiring innovative solutions. Finding the best solutions will require knowledge of all the possible options in an ever-changing environment of rapidly developing technology. Envision Solar is an energy innovation company and an EV industry leader. We have developed products that eliminate many of the challenges Connecticut is going to face.

The Electric Vehicle Autonomous Renewable Charger (EV ARC™) fits in a standard parking space, installs in eight minutes and provides a life time of zero emission solar energy for EV charging. There is no permitting, digging, project management, trenching, no connection to the grid, electrical upgrades or an energy bill ever! The EV ARC™ does in minutes what can often take months! Don't take our word for it, look at our customers; City of New York, State of California and Google to name a few.



Recent EV infrastructure installations focus on what we call the low hanging fruit. Locations that are easy to connect to the grid. These locations do not take into account the driving and living habits of EV drivers meaning they may not be used. Permitting, digging and trenching to find power can be cost prohibitive or impossible to complete. Our solutions are faster and easier with lowest total cost of ownership on the market. We are the best or sometimes the only solution for the most complex EV charging installations Connecticut will face.

Connecticut will need fast, reliable, scalable EV infrastructure to meet your air quality goals. Make sure part of the plan includes off-grid solutions like the EV ARC™ not only as the cleanest fastest way to build EV infrastructure by also as a hedge against grid interruptions resulting from increased energy demands. At Envision Solar our products are not just kicking the can down the road, our products are solving tomorrows problems today.

Call us and set up a meeting to learn more about how we can help Connecticut solve its toughest EV infrastructure challenges with our one of kind products.

James Byrne | Director Sales and Business Development
Envision Solar International, Inc.
5660 Eastgate Drive, San Diego, CA 92121
O: 619.572.9606 **C**: 619.948.2323
www.envisionsolar.com

March 9, 2018

Connecticut Department of Energy and Environmental Protection
79 Elm Street, 5th Floor
Hartford, CT 06106
Email: deep.mobilesources@ct.gov

Comments Regarding Connecticut's Draft Mitigation Plan under Volkswagen Environmental Mitigation Trust Agreement

To Whom It May Concern:

Thank you for the opportunity to submit public comment on the Draft Mitigation Plan for the Volkswagen Environmental Mitigation Trust Agreement (EMT) for Connecticut, developed by the Connecticut Department of Energy and Environmental Protection (DEEP). We believe that the VW settlement provides a timely opportunity to mitigate harmful emissions. As such, the recommendations below seek to ensure that the investments pursued by DEEP through the EMT allow for the reduction of nitrogen oxides and other contaminants in communities most heavily burdened by air pollution which are underserved communities and communities of color.

As DEEP is aware, Connecticut suffers from an exacerbated amount of pollution caused by the transportation sector. The most vulnerable population severely impacted by the effects of the transportation sector are communities of color and underserved communities. We strongly encourage DEEP to use the VW settlement funds to invest in Connecticut's communities of color and children who live in them by designating a percent of the funds towards school buses. Chispa has already collected more than 3,000 petitions signed by Connecticut residents and delivered to Governor Malloy, urging the state to allow a designated percentage of EMT funds to go towards the purchase of electric school buses.

In Connecticut, more than 467,000 children ride the bus to school each day, and are exposed to diesel fumes containing dangerous carcinogens and particulate matter. As health industry experts have confirmed, prolonged exposure to diesel buses causes respiratory diseases such as bronchitis, asthma, and other respiratory illnesses including lung cancer. Moreover, children in urban communities subject to state desegregation policies, are often on school buses for longer rides. Children should not be forced to trade their health for better educational outcomes.

This means that children of color in Connecticut living in urban areas and underserved communities are the most vulnerable population in regards to respiratory problems, suffer disproportionately larger rates of asthma and bronchitis, and have the longest exposure to diesel fumes and toxins because of expected transit to and from school caused by diesel school buses. Particulate matter in the bloodstream also contributes to a lack of focus more frequent headaches and a weakened immune system, which could eventually lead to cancer,. This affects a student's ability to perform academically and to participate in socio-emotional learning in the classroom.

Thus, with the opportunity to invest $55.7 million towards lowering Connecticut's emissions rates, prioritization of designation of funds should be allocated towards ensuring that our vulnerable population of children of color and children living in underserved communities needs are primarily addressed.

The following are recommendations to improve the VW Mitigation Plan and maximize the impact of EMT funds:

1. A percentage of funds should be designated for electric school busses

DEEP should emulate other states in ensuring that a large percentage of the EMT funds is reserved for projects that will occur in and directly benefit communities in Connecticut most heavily burdened by NOx and air pollution. GIS mapping of environmental justice communities reveals that adverse effects of diseases such as asthma tend to occur in low income, communities of color. Environmental justice communities are those who suffer prolonged exposure to toxins from diesel school buses. The toxins from diesel school buses have proven to have exacerbated and in some cases created the asthma conditions of the most vulnerable populations- Latinx and African American children who suffer the highest asthma rates.

As such, we formally request that the DEEP include the 3,000 petitions signed by Connecticut residents requesting that a percentage electric school buses be formally incorporated as part of the proposed mitigation plan.

While the mitigation plan does mention school busses, the option for purchase of buses is lumped in with other vehicles including "Class 8 Local Freight Trucks and Port Drayage Trucks (Large Trucks), Transit Bus (Buses), and Class 4-7 Local Freight Trucks (Medium Trucks)". School busses need to be earmarked to ensure priority.

Washington's mitigation plan has allocated up to 45% of their $112.7m to retrofit or replace school buses with electric school buses. Illinois' plan has allocated 10% of their funds for all-electric school bus projects. There is no reason why Connecticut's plan should not include funds specifically to benefit our children, as young people are more vulnerable to health defects caused by contamination from particulate matter. Providing opportunities for municipalities and school bus companies to be allotted a designated amount towards accessing zero emission busses will prove to be a crucial step in having less diesel buses on the road affecting our children's health.

DEEP should prioritize electric technologies over fossil-fueled alternatives to promote the long-term improvement of Connecticut's transportation. Instead of continuing to replace old diesel buses with new ones every few years, it's more sustainable to replace diesel over the long run and make pollution one less problem for our children.

2. Commit to compensating for disparities in air quality that disproportionately negatively affect urban communities and communities of color. Make the allocation of funds to overburdened communities a Stand-Alone priority.

A large percentage of the EMT funds should be earmarked for projects that will occur in and directly benefit communities bearing the brunt of the impact of NOx and ozone pollution**.** Communities of color are most affected by air pollution, and children from urban communities face higher rates of respiratory disease. The long term economic wellbeing of these communities suffer as a result. Children miss more class from respiratory illnesses including bronchitis, and communities more reliant on social services frequent the doctor's office, and at times the hospital or the emergency room due to asthma attacks.

The mitigation plan needs to directly address health disparities children from urban communities face due to higher rates of air pollution from diesel school busses. In order to determine need, multiple states are using metrics to identify disproportionately impacted communities. For example, Washington State will use environmental justice tools such as Washington Tracking Network. In Washington D.C's mitigation plan, communities in most need are determined by overlaying asthma rates with income level. The plan provides that 52% of its funding go towards mitigation projects servicing these neighborhoods at least 75% of the time over an eight year

period, and prioritizes funding to projects targeting neighborhoods determined to have the highest need.

Though the Connecticut VW Mitigation plan does provide a general outline for priorities, the plan does not specify how projects will be chosen. Given that low-income communities tend to rely on contracts for their bus fleets from private companies, it may take longer for such districts to submit a proposal (although their children are most affected by air pollution). This places such municipalities in a position of having to negotiate with private companies who own bus fleets to take on the projects. If the selection process favors projects on a first- come-first-serve basis, or if priority is given to projects that can be completed in the first 18 months, this will make it so more affluent communities who own their fleet might have more capacity to apply, rather than placing environmental justice communities on a level playing field.

Without a maintained and stated commitment to prioritize communities and individuals most affected by air pollution, including practices to actively prioritize communities of color, we are concerned that children from these communities will continue to suffer disproportionately from hazardous emissions, and won't be able to benefit from the VW settlement funds.

We hope that DEEP will address the needs of communities that are most heavily burdened by air pollution. Through the settlement funds we hope that DEEP provides those communities whom are most impacted with appropriate tools to yield significant air pollution benefits to produce transformative change in Connecticut's transportation sector, and to achieve significant reductions in GHG emissions and better outcomes in our children's respiratory health.

We thank you for your time and for the opportunity to submit this public comment.

Respectfully submitted by,

Chispa Environmental Program- CT League of Conservation Voters

The following community organizations and groups express their support for this commentary:

Connecticut Students for a Dream

As an organization that fights for the rights of undocumented youth and their families, we fully endorse this commentary. Immigrant youth live in urban communities of color, and suffer the health risks described in this commentary. Undocumented children face barriers in accessing health care needs associated with inhaling diesel fumes. We urge DEEP to think of CT's children and advocate strongly for electric school buses for underserved communities.

The Hartford Climate Stewardship Council

The Hartford Climate Stewardship Council (CSC) convened in 2016 to draft a Climate Action Plan, which was formally adopted by the city's Planning & Zoning Commission and City Council in 2017. Participants in the CSC came from nonprofit institutions, regional and state governments,

and private businesses from the Hartford region. Together, we aim to advance the city's economy, improve public health and quality of life, and promote social equity while becoming a global leader in environmental stewardship.

Greater Hartford Environmental Coalition
The Greater Hartford Environmental Coalition is formed through individuals seeking to make a positive impact in their communities through strong advocacy for water security, land conservation, and renewable energy development.

ConnPIRG Students
ConnPIRG Students is an independent statewide student organization that works on issues like environmental protection, consumer protection, and hunger and homelessness. For nearly 35 years students with their campus PIRG chapters have been making a real difference in people's lives and winning concrete changes to build a better world.

Keney Park Sustainability Project's mission is to To provide hands-on training, on-site demonstrations, education outreach, and community collaborations that help families become more self-sustainable and environmentally conscious while preserving the historic Keney Park.

CT Puerto Rican Agenda
The CT Puerto Rican Agenda (CT-PRA) is the Connecticut chapter of the National Puerto Rican Agenda (NPRA), which is a non-partisan alliance of national and local organizations, elected and community leaders, and volunteers.The ultimate purpose of the CT-PRA is to unite, educate, and create solutions for the Puerto Rican people in Connecticut, the rest of the United States, and Puerto Rico.

Our Revolution- Central CT Chapter
We are a grassroots organizing hub for Bernie Sanders in the greater New Britain/Central CT area. Keep checking our page for events & updates in our area!

Transport Hartford at the Center for Latino Progress

Transport Hartford supports designating a portion of these funds for electric school buses and transit buses in Connecticut's densely populated cities that have the highest asthma rates and particulate pollution levels. Support for increasing active transportation (walking and biking) mode share in our cities and town centers should also be a goal. The Transport Hartford Academy, a program at the Center for Latino Progress, deepens resident engagement and works with a growing group of active and informed residents who will shape future transportation developments in the Hartford region. Transport Hartford advocates for biking, walking, transit, and multi-modal transportation as part of a sustainable and socially just region. For Hartford to succeed and grow, it has to move beyond single occupancy vehicle travel both culturally and with well designed infrastructure.

350 CT

350 Connecticut is a project to organize a strong, responsive grassroots coalition of citizens, NGO's, faith communities and businesses across the state of Connecticut to envision and build a future beyond fossil fuels. 350 Connecticut gets its name from 350.org – a global climate advocacy organization.

Acadia Center

Acadia Center is a non-profit, research and advocacy organization committed to advancing the clean energy future. Acadia Center is at the forefront of efforts to build clean, low carbon and consumer friendly economies. Acadia Center's approach is characterized by reliable information, comprehensive advocacy and problem solving through innovation and collaboration.

Make The Road, Connecticut

"We support Draft Mitigation Plan for the Volkswagen Environmental Mitigation Trust Agreement (EMT) because we have a youth power committee in Bridgeport that has just launched their first campaign, Walking Towards a Brighter Future, where they are calling on their city and their school board to invest in making their walkable school routes safer and to provide them with reliable transportation. Our youth power committee members deserve transportation that does not make their health conditions worse and they should be given a fair opportunity to participate in planning their own school transportation," by Barbara Lopez, Lead Organizer of Make the Road CT.

Latinas en la Resistencia

CT Latinas and their allies organize to fight for dignity and equality for all.

March 9, 2018

Paul Farrell
Bureau of Air Management, Mobile Sources Division
Connecticut Department of Energy and Environmental Protection
79 Elm Street, 5th Floor, Hartford, CT 06106

RE: Draft Beneficiary Mitigation Plan

Dear Paul,

Greenlots appreciates the opportunity to comment on the Connecticut Department of Energy and Environmental Protection's (DEEP) Draft Beneficiary Mitigation Plan (BMP) and provides the following recommendations for funds disbursement.

Greenlots is a leading provider of grid-focused electric vehicle (EV) charging software and services. The Greenlots network supports a significant percentage of the DC fast charging infrastructure in North America, and is expanding with the growth of charging programs developed by cities and governments, utilities, Electrify America, and others. Greenlots' smart charging solutions are built around an open standards-based focus on future-proofing while helping site hosts, cities, utilities, and grid operators manage dynamic EV charging loads.

The draft plan by DEEP to invest the full 15% allowable for light-duty EV charging infrastructure is critical to supporting the growth of EV adoption across the state. Greenlots' recommendations in this regard align with the comments that were previously submitted to DEEP. Maximizing investment in light-duty EV charging infrastructure complements other DEEP objectives, including supporting the State's EV rebate program, the Comprehensive Energy Strategy, and meeting National Ambient Air Quality Standards (NAAQS) attainment targets. The deployment of public charging stations can help indirectly incentivize the purchase and use of other zero emission vehicles. From a NOx reduction standpoint, light-duty vehicles (LDVs) are the most effective emissions segment to address with Environmental Mitigation Trust funds in terms of dollars spent per pound of NOx emission reductions. Close to half of the NOx emissions in Connecticut are from on-road non-diesel LDVs—the 15% LDV EVSE investment represents a critical step toward enabling long-term emissions reductions.

Greenlots strongly encourages DEEP to sharpen its support for light-duty DC fast charging infrastructure. This is a critical gap in the (deficient) overall infrastructure deployment to date. We recommend that light duty charging infrastructure be deployed along highway corridors, at multi-unit dwellings, and potentially at workplace or fleet facilities. Greenlots recommends a particular emphasis on DC fast charging across multiple power levels in line with different use cases.

The corridor chargers need to be DC fast chargers, to meet the needs of EV drivers who need to charge on the go, rather than where the car is parked for more than an hour or two. Level 2 charging will be important assets for locations with long-dwell times, such as workplaces or fleet charging facilities. There has also not yet been a sufficient regulatory pathway for utilities to invest in and support this deployment. The Mitigation Trust is an excellent opportunity to involve utilities in the deployment of intercity and intracity DC fast charging.

Because much of the travel through the state is interstate travel, ensuring regional coordination for EV charging will be critical to both reduce NOx emissions in Connecticut as well as encourage reductions in surrounding states, which through prevailing winds directly contribute to non-attainment within Connecticut. The work of Connecticut pursuant to this BMP can support the Transportation Climate Initiative regional transportation planning effort; the EV corridor planning tool developed by M.J. Bradley and Georgetown Climate Center can be an asset for planning these corridors.[1]

Greenlots encourages DEEP to devote the remaining 85% of Mitigation Trust funds toward electrification of the heavy-duty sector, particularly school and transit buses. As detailed in the BMP, 19% of all mobile source NOx emissions are from on-road heavy-duty vehicles. Some of the many benefits of heavy-duty transportation electrification include: reduced operating costs from fuel and maintenance; increased vehicle longevity resulting from the electric motor; reduction of criteria air pollutants; health benefits for workers, passengers/schoolchildren, and community members; and reduction of greenhouse gases.[2]

Funding priorities as outlined in the Draft BMP (including reducing lifetime NOx emissions reductions, incentivizing future indirect NOx emission reductions, and providing environmental and social co-benefits) are all achieved through electrification of the heavy-duty sector. Further, by investing in transit and school bus electrification, Connecticut is providing direct benefits to populations that may not benefit directly from home EV charging; heavy-duty charging creates indirect public health and social welfare improvements for many surrounding communities – many of which bear the disproportionate share of pollution (e.g., NOx, SOx, PM).

Greenlots encourages DEEP to reconsider its use of funds for the DERA option, and rather invest funds in full-scale heavy-duty transportation electrification projects. Battery electric school bus technology is viable and in use from Minnesota to California;[3] this technology has been proven to be successful at meeting school district needs and can even provide energy storage and grid stability benefits when not in use.

[1] http://www.georgetownclimate.org/articles/new-ev-corridor-analysis-tool-for-northeast-and-mid-atlantic-states.html
[2] Edison Electric Institute. 2014. http://www.eei.org/issuesandpolicy/electrictransportation/fleetvehicles/documents/eei_utilityfleetsleadingthecharge.pdf
[3] https://www.districtadministration.com/article/school-districts-cut-bus-costs-going-electric

It will be important for DEEP to outline a transformative strategy in the BMP that leads to long-term NOx emission reductions—this objective can only be achieved with wide-scale transportation electrification. As national emissions standards for NOx and other criteria pollutants continue to become more stringent, any delays in implementing an electrified transportation system increases the likelihood that Connecticut could slip into non-attainment as well as avoid stranded assets that no longer comply with NAAQS. Rigorous and costly maintenance of diesel emission prevention equipment would be necessary to meet these baseline objectives. DEEP should use a comprehensive approach to calculating cost effectiveness, that incorporates reduced fuel and maintenance costs from the electric engine, public health benefits, and emissions reductions benefits, over the lifetime of the vehicles and infrastructure.

Thank you for your consideration. Greenlots will be available as a resource to DEEP through the finalization and implementation of the Beneficiary Mitigation Plan. Please do not hesitate to contact me should you have any questions.

Sincerely,

Thomas Ashley
Vice President, Policy

March 9, 2018

Commissioner Klee
Connecticut Department of Energy and Environmental Protection
79 Elm Street
Hartford, CT 06106

RE: Comments on Draft Final Mitigation Plan for the Volkswagen Environmental Mitigation Trust

Dear Commissioner Klee,

Thank you for the opportunity to provide comments on Connecticut's final draft Beneficiary Mitigation Plan for the Volkswagen Environmental Mitigation Trust. The $55,721,169 that Connecticut will receive represents a significant opportunity to make investments into zero emission vehicles and charging infrastructure, while mitigating the excess NOx emissions caused by Volkswagen's harmful actions.

ChargePoint is the leading electric vehicle (EV) charging network in the world, with charging solutions in every category EV drivers charge, at home, work, around town and on the road. With nearly 47,000 independently owned public and semi-public charging spots and more than 8,000 customers (businesses, cities, agencies and service providers), ChargePoint is the only charging technology company on the market that designs, develops and manufactures hardware and software solutions across every use case. ChargePoint currently has over 250 charging spots in Connecticut, including 9 DC fast chargers. Leading EV hardware makers and other partners rely on the ChargePoint network to make charging station details available in mobile apps, online and in navigation systems for popular EVs. ChargePoint drivers have completed more than 33 million charging sessions, saving upwards of 33 million gallons of gasoline and driving more than 803 million gas-free miles. For more information, visit www.chargepoint.com

Appendix D-2 of the VW Settlement Consent Decree details eligible mitigation projects that each beneficiary can invest in to reduce NOx emissions. Importantly, up to fifteen percent (15%) of a state's trust allocation costs can be put towards deploying new, light-duty electric vehicle supply equipment (EVSE).

ChargePoint fully supports Connecticut's plan to allocate the maximum 15% towards electric vehicle charging infrastructure. We believe that this investment in EVSE will significantly support increased electric vehicle adoption throughout the State. However, we encourage DEEP to align maximum funding amounts with the percentages caps in the consent decree, which are:

- Up to 100% of the cost to purchase, install and maintain eligible light duty electric vehicles supply equipment that will be available to the public at a government owned property,
- Up to 80% of the cost to purchase, install and maintain eligible light duty electric vehicles supply equipment that will be available to the public at a non-government owned property,
- Up to 60% of the cost to purchase, install and maintain eligible light duty electric vehicles supply equipment that will be available at a multi-unit dwelling or a workplace, but not to the general public, and

- Up to 100% of the cost to purchase, install and maintain eligible light duty electric vehicles supply equipment that will be available to the public at a government owned property.

By aligning with these maximum percentages, DEEP can provide greater flexibility to those responding to competitive solicitations to propose a suitable cost share for their circumstances. A municipality, for example, may have a great site for hosting publicly accessibly EV charging stations but could be unable to identify the 35% cost share needed to apply. While ChargePoint understands that it is DEEP's goal to stretch the funding as much as possible, potential applicants should be given flexibility and DEEP can rank and score projects accordingly, with cost share being one of the determining criteria.

For DC fast charging, ChargePoint recommends the following be the foundation for any RFP or solicitation:

1. **Equipment Scope**
    a. Sites should require at least 2 DCFC stations for redundancy (best user experience)
    b. Sites should require at least one Level 2 station since not all vehicles can DC fast charge
    c. Sites should require CCS and CHAdeMO connector standards
    d. Promote shared or distributed power solutions to serve the vehicles of today and tomorrow
    e. Power requirement should be at the kW and voltage level
        i. 50kW min
        ii. 400V – no passenger cars on the road today can charge above 400V and most planned models are not expected to exceed 400V
    f. Future proofing
        i. Promote solutions that do not waste initial capital investment and stations needing to be ripped out and replaced
        ii. Utility transformer upsizing to account for future demand
        iii. Make ready (stubbed out wire and conduit) to account for future demand

2. **Site Selection**
    a. Site selection should align with the FHWA Alternative Fuel Corridors
        i. Max 120mi spacing between sites – should be reduced to 75 or 50 in dense metro areas
        ii. sites should located within 2mi of the highway on/off ramp
    b. Sites should have amenities for drivers, be well lit, and safe

3. **Funding**
    a. We recommend that DEEP pay for 80% of project costs and awarded vendor is responsible for ongoing operational costs
    b. We recommend pilot programs with demand charge relief
    c. Stations should be operational and maintained for at least 5 years
    d. Funding should cover a warranty/maintenance plan that covers malfunctions, accidents, and vandalism
    e. 95% annual uptime guarantee and 2 business day response time to failures

ChargePoint encourages DEEP to focus a meaningful portion of the remaining 85% on electric buses, electric medium trucks, and associated charging infrastructure, which will lead to long-term transportation

emissions reductions and increased efficiency. While ChargePoint understands that it is not DEEP's intention to prioritize any category or fuel type of eligible mitigation projects, we feel that an emphasis should be placed on zero emission vehicles and associated charging infrastructure.

All buses as well as any other medium or heavy-duty electric vehicle that receives funding should be required to have the ability to charge on standard EV charging stations, such as J1772-CCS. Investing in vehicles that use these standards and associated infrastructure will allow publicly accessible charging stations to be leveraged for bus charging, as well as other fleet needs.

Thank you for your consideration. If you have any questions, please contact me at kevin.miller@chargepoint.com or (917) 836-4954.

Sincerely,

Kevin George Miller
Director, Public Policy
ChargePoint

March 9, 2018

Commissioner Robert Klee
VW Settlement Comments
DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION
79 Elm Street
Hartford, CT 06106

Re: Propane's Role in Connecticut's Volkswagen Settlement Environmental Mitigation Plan

Dear Mr. Klee,

The Propane Gas Association of New England encourages the adoption and utilization of propane-powered vehicles in Connecticut's Volkswagen Environmental Mitigation Plan. The Volkswagen Settlement presents a unique opportunity for our state to accelerate the adoption of environmentally-friendly alternative fueled vehicles. Propane marketers in Connecticut are ready to engage in your efforts to offset Volkswagen's excess emissions.

In addition to the comments listed below, the Propane Gas Association of New England also agrees and supports the comments submitted by the Alternative Fuels Coalition of Connecticut.

Recommendations

We believe all vehicles that are certified to one of CARB's low NOx emissions standards, CARB's near-zero emission standard or have zero tailpipe emissions should be eligible for an equal percentage of funding per vehicle.

The main directive of the mitigation plan is to reduce NOx emissions. Vehicles certified to CARB's standards produce 50 to 100 percent fewer NOx tailpipe emissions than the current federal standard and thus 50-100 percent less than new diesel vehicles. Given the significant improvement that all vehicles with these certifications present and the varying needs of both public and private fleets, which require different sizes and engine capabilities, we encourage equal treatment in terms of funding.

Under the Settlement all private sector vehicle grants are capped at 25 percent of the total vehicle cost, except those for electric vehicles (EVs), which can receive up to 75 percent. There is no basis for skewing the funding in favor of EVs. While EVs have zero tailpipe emissions, emissions are created in generating the electricity which powers them. Let us be clear; we are not against electric vehicles. Rather, the array of technologies and fuels deserve equal treatment given the clear goal of the mitigation plan to reduce NOx emissions. With the recent cold snap and the ISO-NE grid switching 37% of its generation fuel source to heating oil, it makes more sense for Connecticut not to favor electric vehicles over other cleaner greener alternative fuels. We encourage emission calculations to be based on a lifecycle analysis of the energy rather than a tailpipe calculation.

We encourage Connecticut to create a level playing field for all sources of alternative fuel by funding all private sector low-NOx, near-zero and zero tailpipe emission vehicles at 25 percent of the total vehicle cost under the Settlement.

A majority of Connecticut's mitigation funds should be used for low NOx, near-zero and zero-emission 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 Connecticut. 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 these cleaner lower NOx engines, thereby multiplying the positive effect well beyond the grant program.

Propane Vehicles' Successes

Propane has a proven track record as a transportation fuel in fleets across the country. Right now, the Propane Education and Research Council (PERC) estimates that there are nearly 200,000 propane-powered vehicles on the road in the U.S. Worldwide, propane is the third most utilized auto fuel, behind the conventional fuels of gasoline and diesel. The popularity of propane as an alternative fuel has led to its growing adoption in the United States, particularly by fleets. Both public and private sector organizations have found success in adopting propane vehicles into the fleets of various sizes. These include light duty, medium duty, and school bus applications[1].

According to PERC, some of the advantages for fleets to switch to propane autogas-fueled vehicles include:

- Lower total-cost-of-ownership
- Comparable performance to conventional fuels
- Onsite fueling
- Reduced maintenance
- Lower emissions

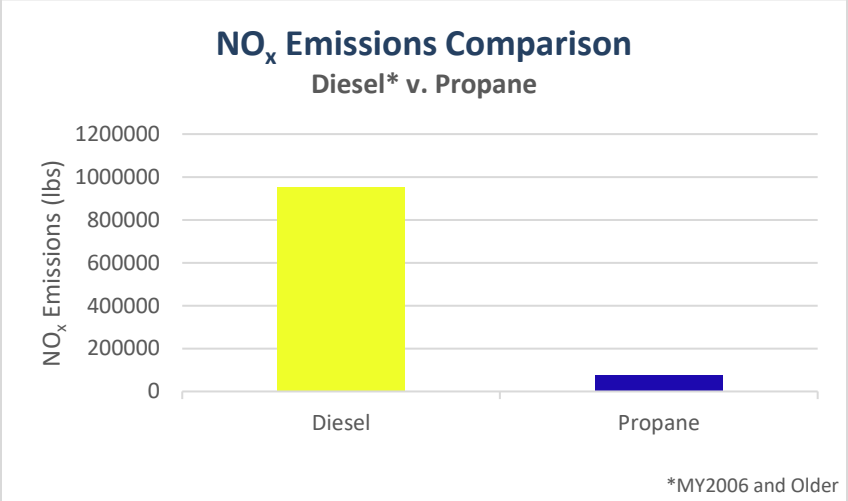
[1] http://www.propane.com/on-road-fleets/case-studies/

There are several companies that offer both OEM and aftermarket conversions for propane vehicles. This variety allows fleet managers to select the option that best fits their need. Also, as the technology continues to improve, fleets will see better fuel economy, more power output, and even lower emissions from propane-powered engines. Propane vehicles are a proven technology, they are not experimental.

Propane's Role in VW Settlement

One of the most successful adoptions of propane vehicles has been school bus fleets. With the ability to install refueling apparatus cost effectively and easily on site, propane marketers have worked with school districts across the country to switch over to propane models. More than 12,000 propane-powered school buses transport 700,000 students safely every day. In Connecticut, 61 propane-powered buses are already on the road, serving the community. It is important to highlight that as part of the Volkswagen Settlement, propane school buses are eligible for **100 percent** of the replacement costs[2]. This makes their adoption using these funds very attractive to school districts in Connecticut.

When considering the use of the Volkswagen settlement dollars, it is important to highlight potential NO_x reductions. This is where propane-powered school buses are a winning choice for Connecticut. According to data from Argonne National Laboratory, if Connecticut were to replace all 2,472 eligible for this settlement with new, clean-burning propane models, there would be a **92 percent reduction in NO_x**. As an additional benefit, there would be a 98 percent reduction in particulate matter (PM) and a 91 percent reduction in tailpipe Volatile Organic Compounds (VOC)[3].



Data Source: AFLEET

Already in Connecticut, there are 5 school districts that have buses running on clean burning propane. Students on these buses are experiencing these clean air benefits. There is also the added advantage that propane buses are quieter than their diesel counterparts[4]. When factoring in all of the benefits,

[2] Supra Partial Consent Decree at Appendix D-2

[3] Alternative Fuel Life-Cycle Environmental and Economic Transportation (AFLEET) 2016 tool (provided by Argonne National Laboratory) as well as U.S. school bus fleet data (provided by PERC) to calculate the emissions reduction potential associated with replacing diesel-fueled school buses with new (2016) propane autogas school buses

[4] The Blue Bird Propane Vision school bus cuts vehicle and engine noise by producing sound 11 decibels lower than diesel fueled buses.

there is no doubt that investing Volkswagen Settlement funds into propane powered school buses would be one of the most cost effective ways of reducing the excess NO_x caused by Volkswagen.

In addition to school buses, transit buses, shuttle buses, medium duty trucks, and other applications powered by propane are also eligible for funding under this settlement. There are many "road-ready" applications that I am happy to discuss further.

Bang for the Buck

As highlighted above, the use of these funds should maintain the focus on offsetting the excess Volkswagen NO_x emissions. Here, the data is clear that propane is an effective way of decreasing emissions. This is not only true when comparing the older, eligible diesel engines with modern propane engines, but also when comparing propane engines to the best, modern diesel platform. For Type C school buses, diesel engines emit 18 percent more NO_x than comparable propane models[5]. And according to the California Air Resources Board (CARB) certification data, the NO_x savings by choosing the best-in-class propane engine can be as high as 81 percent[6].

This "bang-for-the-buck" goes further when factoring in other bus ownership costs. For maintenance, a school district can expect to save $2,000-$2,500 per bus per year. This is due to propane buses requiring fewer fluids and filters to keep running. And for price, wholesale propane falls between the price of oil and natural gas, the two sources of the fuel. This makes propane price competitive with the conventional fuels. For comparison, according to the most recent Clean Cities data, the price of propane is almost 50 cents-per-gallon cheaper than diesel[7]. This figure does not take into account the savings that occur from individual propane marketers negotiating favorable pricing with fleet managers. Because they are cleaner burning and drive more efficiently, propane buses also last longer resulting in additional savings.

It's also important to look at what the marketplace already offers for NO_x reduction. For instance, the Volkswagen funds are available for electric forklifts. I would discourage you from focusing on these. The forklift market already has a NO_x reducing option—propane. By supporting electric forklifts, it would take money away from applications that can better reduce harmful diesel emissions. Unfortunately, propane-powered forklifts are not eligible for these funds. This exclusion may be shortsighted, but you can avoid expounding this problem by continuing to focus Connecticut's mitigation plan on where the best "bang for the buck" exists.

Fuel Availability

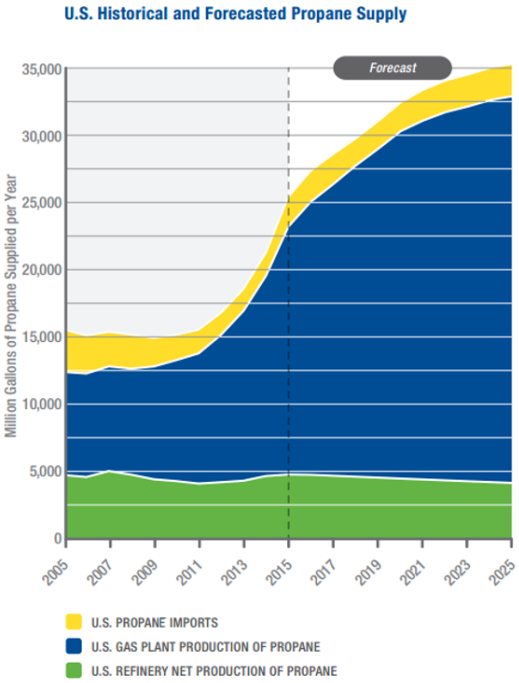
America's current domestic energy renaissance has meant drastic increases in the production of propane. Propane has traditionally been viewed as a byproduct of the oil refining process. However, the increase in production from natural gas processing has shifted this perception, and today the majority of propane in Connecticut comes from natural gas. In 2014, there was enough propane produced from the domestic natural gas supply to meet about 98 percent of the U.S.'s consumer and petrochemical demand. The increase of domestic production has led to record high levels of propane in recent years. Production is forecasted to continue to increase[8], ensuring a steady supply of this American-made fuel.

[5] *Propane Greenhouse Gas and Criteria Pollutant Emissions Comparative Analysis* Gas Technologies Institute

[6] CARB low NO_x certification data for MY2017 Roush 6.8L propane model compared with MY2016 Cummins 6.7L diesel model

[7] http://www.afdc.energy.gov/uploads/publication/alternative_fuel_price_report_oct_2016.pdf

[8] *2016 Propane Market Outlook* ICF International



Source: ICF International

In the last ten years, the United States as gone from being a net importer to a net exporter of propane. In fact, we are currently exporting nearly 10 billion gallons of propane annually. That's the equivalent of the fuel needed for 4 million fleet vehicles. Energy security and independence has been a goal of the United States for many years. By using more of our domestically produced propane, we can continue to decrease the reliance on foreign-sourced fuel.

In order to get this large propane supply to the consumer transportation market, the industry relies on a network of public and private refueling stations. Nationwide, there are more than 3,600 stations ready to supply consumers with propane. In Connecticut, there are already 13 public and private stations[9]. As you can see, propane infrastructure is already in place to facilitate Connecticut's Environmental Mitigation Plan.
Additionally, many fleet managers opt to install their own central refueling infrastructure to ease the adoption of propane into the transportation fleet. Propane infrastructure is relatively easy and affordable to install and maintain. Depending on the needs and equipment, the infrastructure installation costs can range from $37,000 - $175,000[10]. When compared to competing alternative fuels, propane's availability and accessibility is one of the most cost-effective ways for adopting new technologies.

Please contact me with any questions.

Sincerely,

Leslie Anderson, President and CEO

[9] http://www.afdc.energy.gov/fuels/stations_counts.html
[10] http://www.afdc.energy.gov/fuels/propane_infrastructure.html

March 9, 2018

VIA ELECTRONIC MAIL

Bureau of Air Management, Mobile Sources Division
Connecticut Department of Energy and Environmental Protection
79 Elm Street, 5th Floor
Hartford, CT 06106
Email: deep.mobilesources@ct.gov

RE: Comments Regarding Connecticut's Draft Mitigation Plan under the Volkswagen Environmental Mitigation Trust Agreement

To Whom It May Concern:

Thank you for the opportunity to comment on the Connecticut Draft Mitigation Plan ("Plan") under the Volkswagen Environmental Mitigation Trust Agreement ("EMT") developed by the Connecticut Department of Energy and Environmental Protection ("DEEP" or "the Department"). We thank the Department for its transparent decision making process to date and for its continued engagement of Connecticut residents in the development of this Plan.

The recommendations identified below seek to ensure that the investments pursued by DEEP through the EMT are consistent with the state's long-term transportation and climate goals while meaningfully reducing nitrogen oxides ("NOx") and other contaminants in communities most heavily burdened by air pollution. As recognized by DEEP, Connecticut suffers from elevated levels of ground-level ozone, significant precursors of which are emitted by the state's transportation sector. The VW settlement provides a timely opportunity to mitigate these harmful precursor emissions while simultaneously helping to ensure Connecticut achieves the greenhouse gas ("GHG") reduction targets establish in the Global Warming Solutions Act.[1] We offer the following recommendations to improve the Plan and maximize the impact of EMT funds:

- DEEP should increase the impact of its commitment to investing 15 percent of the EMT funds in light-duty electric vehicle supply equipment ("EVSE") by coordinating its investments with other infrastructure investments occurring through Appendix C of the VW settlement and by pairing its investments with education and outreach regarding other federal, state and local electric vehicle ("EV") incentives and programs that promote EV ownership.

- DEEP should emulate other states in ensuring that a large percentage of the EMT funds is reserved for projects that will occur in and directly benefit communities in Connecticut most heavily burdened by NOx and ozone pollution.

[1] State of Connecticut, An Act Concerning Connecticut Global Warming Solutions (2008), available at https://www.cga.ct.gov/2008/ACT/PA/2008PA-00098-R00HB-05600-PA.htm.

- DEEP should prioritize use of electric technologies over fossil-fueled alternatives to promote the long-term transformation of Connecticut's transportation sector and achieve important climate co-pollutant benefits.

- Investments that defray the incremental up-front cost of electric transit buses are a highly cost-effective use of VW settlement funds that can yield significant air pollution benefits in overburdened communities, produce transformative change in Connecticut's transportation sector, and achieve significant reductions in GHG emissions. Bringing electric school buses to low-income and communities of color where students and families have been disproportionately impacted by air pollution would also be a beneficial use of VW settlement funds.

We explain each recommendation in more detail below.

I. DEEP should magnify the impact of its committed 15 percent investment in light-duty EVSE by coordinating this investment with other infrastructure investments and pairing it with education and outreach efforts.

In October 2013, the Governor of Connecticut along with governors of seven other states signed a Memorandum of Understanding agreeing to put 3.3 million zero emission vehicles on the road in the signatory states by 2025 ("ZEV MOU").[2] As of January 1, 2018, Connecticut has approximately 7,500 EVs.[3] In order to achieve the commitments under the ZEV MOU, Connecticut must aggressively promote electric vehicle sales by overcoming barriers for both drivers and vehicle dealers. As access to convenient EV charging infrastructure represents one of the largest remaining barriers to EV adoption, we strongly support DEEP's use of the maximum 15 percent of its Volkswagen EMT funds for light-duty EVSE. To maximize the impact of this investment, we urge that it be supplemented by other strategic efforts.

One strategy that would amplify DEEP's EMT efforts is to pair buildout of EVSE with (separately funded) education and outreach regarding federal, state and local incentives for EVs and EV charging infrastructure.[4] This includes providing information about existing federal tax credits for purchasing electric vehicles as well as state rebates such as Connecticut's CHEAPR Program, which was recently commended for its two-pronged approach to encouraging EV sales.[5]

It is also critical that Connecticut synergizes its EVSE buildout with investments already occurring in the state and on the broader northeast highway corridors through other sources of

[2] CT DEEP ZEV Program Implementation Task Force, Multi-State ZEV Action Plan (2014), available at http://www.ct.gov/deep/lib/deep/air/electric_vehicle/path/multi-state_zev_action_plan_may2014.pdf.
[3] Advanced Technology Vehicles Sales Dashboard (sales data for Connecticut for 2011 through 2017), available at https://autoalliance.org/energy-environment/advanced-technology-vehicle-sales-dashboard/. The 7,501 total includes 2,896 battery electric vehicles and 4,605 plug-in hybrid electric vehicles.
[4] EV education in not an eligible use of Appendix D funds.
[5] Governing, A Critical Partnership in the Push for Electric Cars (2018), http://www.governing.com/commentary/col-electric-car-sales-connecticut-dealer-rebate.html. By providing rebates for not just the consumer but also the dealer, Connecticut is forward thinking in its approach to electrifying our transportation sector.

funding. One key EVSE effort is through the Volkswagen settlement's ZEV Investment (Appendix C), of which the first cycle of investments is scheduled to complete by the end of the present year,[6] and for which Electrify America was seeking comment for the second cycle through March 1, 2018.

In making any investments in direct current fast charging stations to promote intercity travel, DEEP should make use of the Georgetown Climate Center and M.J. Bradley & Associates' electric vehicle corridor analysis tool.[7] This tool includes an interactive map of public fast charging infrastructure along corridors in the region and identifies which highway exits are best candidates for additional charging investments. However, given the ongoing efforts to promote EV corridor travel through Appendix C settlement funding, investments by Connecticut in intracity fast chargers may provide the greatest incremental benefit to Connecticut residents. Not only is the intracity fast charging market segment currently underserved by the competitive market, but unlike fast chargers on major highway corridors (which may be used by drivers passing through the state), these intracity fast chargers will be more heavily used by Connecticut residents. Moreover, these intracity fast chargers can promote more equitable adoption of EVs by providing access to convenient charging for residents who live in multi-family homes or otherwise lack access to dedicated off-street parking, a group that is less affluent and less well served by the current market for EVs and EVSE.

II. DEEP should ensure that a large percentage of the EMT funds is reserved for projects that will occur in and directly benefit communities in Connecticut most heavily burdened by NOx and ozone pollution.

Section 5.2.10 of the Volkswagen EMT Agreement specifically states 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 goes on to provide 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.[8] Washington D.C.

[6] Electrify America, Cycle 1 National ZEV Investment Plan (2017)), https://www.electrifyamerica.com/our-plan.
[7] Available at http://www.georgetownclimate.org/articles/new-ev-corridor-analysis-tool-for-northeast-and-mid-atlantic-states.html.
[8] DC Department of Energy and Environment, The District's Draft Spending Plan For Volkswagen Settlement Funds (2017) , available at https://doee.dc.gov/sites/default/files/dc/sites/ddoe/page_content/attachments/The%20District%27s%20Draft%20Spending%20Plan%20for%20Volkswagen%20Settlement%20Funds%20%28Draft%20Beneficiary%20Mitigation%20Plan%29.pdf.

further encourages equitable project development by offering additional funding to projects targeting the top two most at-need of these neighborhoods in the District.[9]

Multiple states have further highlighted environmental justice concerns in their Plans by listing specific tools used to identify disproportionately impacted communities. For example, Washington State will use environmental justice tools such as *Washington Tracking Network* and *Ecology Comprehensive Emissions Inventory*.[10] Additionally, Ohio includes a map in its Plan highlighting communities identified using the U.S. EPA's *EJScreen: Environmental Justice Screening and Mapping Tool*. Ohio states these environmental justice communities will receive primary and secondary priority for available funds.[11]

While listing its objectives, DEEP notes it will support "statewide energy, environmental and economic development goals while also taking into account environmental justice considerations associated with each proposed eligible mitigation project." Recognizing DEEP's commitment to environmental justice in its own 1993 Environmental Equity Policy, we urge DEEP to: (1) include benefits to overburdened and environmental justice communities as a stand-alone priority for the state in its Plan, (2) commit to allocating a significant portion of EMT funds towards these communities, and (3) include a map/list of Connecticut's environmental justice communities in addition to non-attainment counties in order to allow project developers to align their proposals with the most at-need populations within Connecticut.

III. DEEP should prioritize use of electric technologies over fossil-fueled alternatives to promote the long-term transformation of Connecticut's transportation sector and achieve important climate co-benefits.

The Volkswagen EMT Agreement authorizes different cost share percentages for different fueling technologies with the intention of making fully electric conversions more feasible. DEEP should take advantage of this opportunity and drive forward our transportation sector towards a completely electric future. As such, we are supportive of DEEP's use of Diesel Emissions Reduction Act ("DERA") funds to drive electrification of transport vehicles and equipment, such as through truck stop electrification and electric repowering of diesel-fueled transport refrigeration units.

A valuable strategy to further support electrification, as employed by the Colorado Department of Public Health and Environment,[12] is to use the Volkswagen EMT funds to cover the incremental costs of cleaner electric vehicles as compared to dirtier fossil-fueled vehicle counterparts (e.g., diesel, compressed natural gas, propane), thereby eliminating the up-front cost differential between technologies. Connecticut should be pursuing this type of transformative change rather than simply subsidizing incremental changes that will not allow Connecticut to achieve its Global Warming Solutions Act goals. While the primary focus of the EMT is on

[9] *Id.*
[10] Department of Ecology State of Washington, Proposed Volkswagen Beneficiary Mitigation Plan (2017), available at https://ecology.wa.gov/DOE/files/41/417a6510-a669-4a10-927d-4ebc02282f4a.pdf.
[11] Ohio EPA, Draft Beneficiary Mitigation Plan (2017), available at http://epa.ohio.gov/Portals/42/documents/VW/OH%20Draft%20VW%20Beneficiary%20Mitigation%20Plan.pdf.
[12] CDPHE, Proposed Beneficiary Mitigation Plan Volkswagen, Audi, and Porsche Clean Air Act Settlements (2017), available at https://www.colorado.gov/pacific/sites/default/files/AP_VW_Beneficiary_Mitigation_Plan.pdf.

reducing NOx emissions—which, as recognized by DEEP in its Plan, is a critical need for Connecticut given its nonattainment ozone levels—strategies to mitigate NOx emissions can also have substantial climate co-benefits. As other states have recognized, these co-pollutant benefits are important. For example, Colorado identifies as a goal of its mitigation plan to "[m]aximize the trust's air quality benefits in Colorado, including reductions of NOx, greenhouse gases, and other pollutants."[13] The District of Columbia likewise notes that "[t]he principal air pollutants of concern in the District are NOx, fine particles (PM2.5), ozone, greenhouse gases (GHG), and air toxics" and that, "[a]lthough the VW Settlement is primarily focused on reducing NOx emissions, the District has also decided to consider reduction of PM2.5, GHGs, and air toxics in developing this spending plan."[14] And Minnesota expressly targets emission reductions in three categories: NOx, PM2.5 and GHGs.[15] Based on the composition of the New England grid and commitments Connecticut and the other Regional Greenhouse Gas Initiative States have made to further reduce electric sector GHG emissions and promote renewable energy, the co-pollutant benefits of electric vehicles relative to fossil-fuel alternatives are large and will continue to grow.

Moreover, electric vehicles predominate over fossil-fueled technologies in other categories besides climate benefits. Although some commenters on the initial Draft Plan suggest diesel and compressed natural gas ("CNG") fueled vehicles are the most cost effective options, this fails to consider lifetime costs. As explained below in Section IV below, low and stable electric fueling costs combined with minimal maintenance costs for electric transit buses (70 percent less) result in hundreds of thousands of dollars in lifecycle savings for fleet managers per vehicle. Additionally, although diesel and CNG backers argue the technology is well-recognized, electric medium- and heavy-duty vehicles have long since joined the ranks of demonstrated, proven transportation technologies. As of September 2017, California has over 400 zero-emission buses in operation and awarded throughout the state,[16] and as of September 2017, Worcester Regional Transit Authority has reduced 780 tons of CO_2, eliminated 110,700 gallons of diesel, and saved over $100 thousand in fuel costs alone with six battery electric transit buses in operation since 2013.[17] The VW EMT is Connecticut's opportunity to fully join this national shift away from fossil fueled vehicles and towards electric transit.

Unlike any other investment, a commitment to electrification of the transportation sector will completely eliminate tailpipe emissions, maximize health improvements for Connecticut residents long-term, and benefit our in-state economy by shifting money away from foreign fossil fuels and funneling money instead towards in-state generated electricity. Although we

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[13] Colorado Proposed Beneficiary Mitigation Plan: Volkswagen, Audi, and Porsche Clean Air Act Settlements (Aug. 28, 2017), at 8, available at https://www.colorado.gov/pacific/sites/default/files/AP_VW_Beneficiary_Mitigation_Plan.pdf.

[14] DC Department of Energy and Environment, The District's Draft Spending Plan For Volkswagen Settlement Funds (2017), at 2, available at https://doee.dc.gov/sites/default/files/dc/sites/ddoe/page_content/attachments/The%20District%27s%20Draft%20Spending%20Plan%20for%20Volkswagen%20Settlement%20Funds%20%28Draft%20Beneficiary%20Mitigation%20Plan%29.pdf.

[15] Minnesota Pollution Control Agency, Minnesota's Volkswagen Settlement Beneficiary Mitigation Plan – DRAFT (Feb. 2018), at 13, available at https://www.pca.state.mn.us/sites/default/files/aq-mvp2-32a.pdf.

[16] California Air and Resources Board (2017) Battery and Fuel Cell Electric Buses in California https://arb.ca.gov/msprog/ict/zbusmap.pdf.

[17] MassDOT, Worcester Regional Transit Authority Battery Electric Bus Deployment Project (2017), avialble at www.umasstransportationcenter.org/Document.asp?DocID=319.

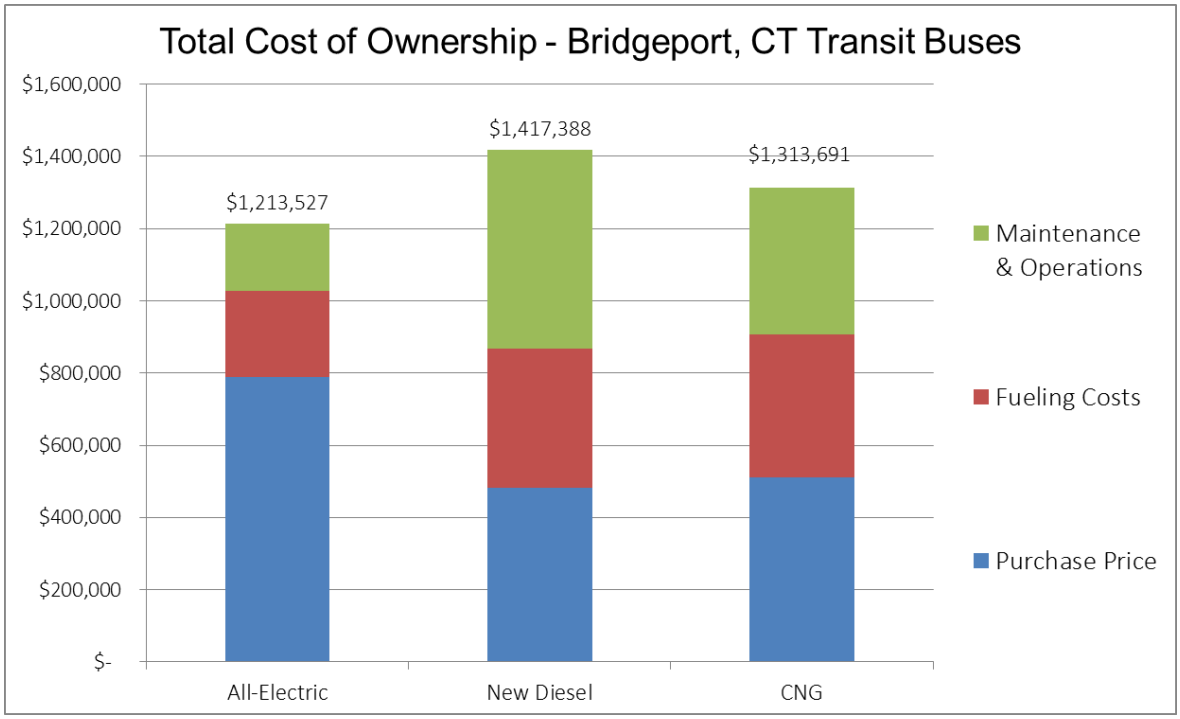
appreciate DEEP's intention to select the most cost-effective proposals in attempts to maximize EMT funds, adopting a myopic view of cost-efficacy that focuses only on up-front costs is shortsighted and hinders the opportunity for citizens to fully benefit from long-term economic, environmental, and health gains achieved through electrification of Connecticut's transportation sector.

IV. Investments that defray the incremental up-front cost of electric transit buses are a highly cost-effective use of VW settlement funds that can yield significant air pollution benefits in overburdened communities, produce transformative change in Connecticut's transportation sector, and achieve significant reductions in GHG emissions.

We urge DEEP to allocate a substantial fraction of its EMT funding to defraying the up-front cost of electric transit buses so that Connecticut's communities, especially those most impacted by pollution, do not miss a unique opportunity to upgrade their public transportation. Further, even if transit buses do not receive earmarked funding in the Plan, we urge DEEP to ensure that requests for proposals ("RFPs") for EMT funding are updated so as not to exclude or dissuade project proposals involving electric technologies—especially electric transit buses.

Electric transit buses are market-ready technologies that will promote electrification of our transportation sector, further Connecticut's commitment to addressing environmental justice communities, and save money over the lifecycle of the transit bus. No non-electric technology will completely eliminate all tailpipe emissions or appreciably reduce GHG emissions. DEEP should consider the long-term, net impacts of the EMT investments, recognize that low fueling and maintenance costs of electric transit buses lead to lower lifecycle costs as compared to diesel or CNG (see Figure 1), and therefore prioritize funding towards these electric technologies.

Figure 1. Comparative lifecycle costs of transit bus technologies.



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

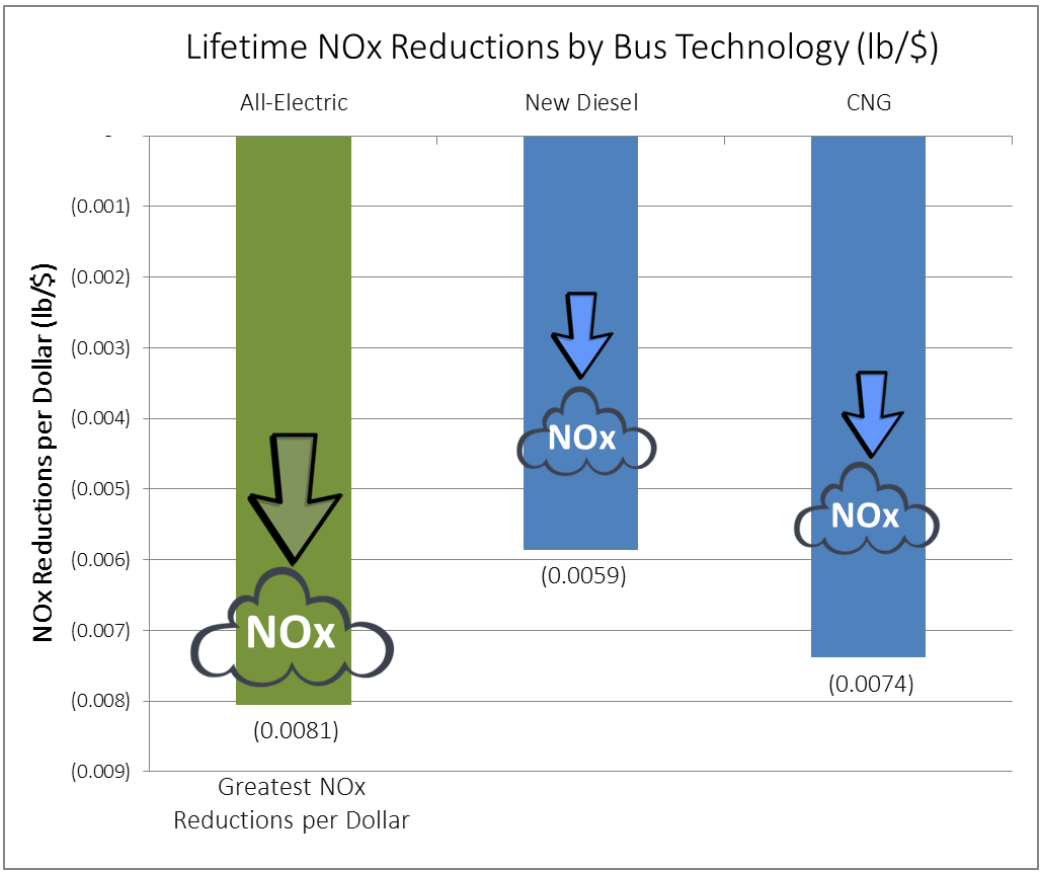
We appreciate that DEEP states it will implement projects that will "expedite deployment and widespread adoption of zero emission and near-zero emission vehicles and engines." Throughout its Plan, DEEP can encourage rather than discourage these zero emission technologies by updating its project criteria using a long-term benefit lens. Specifically, rather than prioritizing "projects scaled to achieve the greatest NOx emission reduction or offset per dollar invested (i.e. capital cost effectiveness in dollars/ton)," DEEP should prioritize projects scaled to achieve the greatest NOx emission reduction or offset per *total* dollar invested (i.e. *lifecycle* cost effectiveness in dollars/ton). With this long-term investment perspective, DEEP will promote rather than dissuade zero emission electric transit bus proposals since these buses achieve the lowest dollars/ton ratio as compared to diesel and CNG fueled transit buses (see Figure 2).[18]

By adapting this lifecycle approach and encouraging electric technologies, Connecticut will truly prioritize its "statewide energy, environmental and economic development goals," commit to making transformative and lasting investments to limit its contribution to climate change, and provide air quality benefits to the urban areas most likely to be disproportionately

[18] Argonne National Laboratory, Alternative Fuel Life-Cycle Environmental and Economic Transportation (AFLEET) Tool (2017), available at https://greet.es.anl.gov/afleet_tool.

impacted by air pollution caused by Connecticut's transportation sector. Bringing electric school buses to low-income and communities of color where students and families have been disproportionately impacted by air pollution would also be a beneficial use of VW settlement funds.[19]

Figure 2. NOx emission reduction per dollar invested per transit bus fueling technology.



Regardless of methodology, many states are recognizing the long-term benefits of electric transit buses and are using EMT funding to transform its fleets. Most notably, Georgia has committed 100 percent of its EMT funds towards almost entirely electric transit buses in the Atlanta Metropolitan Area, which bears a disproportionate share of the air pollution in Georgia. This $63 million investment in transit buses will satisfy Georgia's overall goals for EMT funding, including its aim of "implementing Eligible Mitigation Actions that further Georgia's energy, environmental, and economic development goals."[20] In proposing an $18 million investment to replace transit buses, Colorado expressly identified as goals to "[r]emove barriers to the adoption of zero emission transit vehicles," "[p]romote the development of zero emission vehicle technologies by expanding the market for large electric buses," and "[a]ccelerate the future adoption of zero emission or alternative fuel vehicles by demonstrating to transit fleet

[19] CHISPA, Clean Buses for Healthy Ninos, http://www.cleanride4kids.org/about-clean-school-buses/; http://www.cleanride4kids.org/blog/resource/electric-school-buses-webinar-vw-settlement-opportunity/.
[20] Georgia Governor's Office of Planning and Budget, Preliminary Draft Beneficiary Mitigation Plan for the State of Georgia (2017), available at https://opb.georgia.gov/vw-settlement-agreement.

operators and the public that these vehicles are viable and by allowing transit fleet operators to gain familiarity and expertise with them."[21]

Beyond Georgia and Colorado, other beneficiaries such as Washington[22] and Washington D.C.[23] have likewise committed substantial portions of their funding towards electric transit buses in environmental justice communities. We urge Connecticut DEEP to embrace the same commitment throughout its Plan and implementation of EMT funding.

V. Conclusion

We thank DEEP for the opportunity to submit these comments. We look forward to continued engagement of the agency with us and other stakeholders to promote forward looking, transformative, and environmentally friendly use of the Volkswagen EMT funds in Connecticut. Again, this opportunity is a rare chance to stimulate a sustainable, cost-effective, long-term strategy for our state's transportation sector, especially in an age that demands climate solutions more than ever. We urge you to actively advance electrification.

Respectfully submitted,

The Connecticut Electric Vehicle Coalition

- Acadia Center*
- American Lung Association in Connecticut
- Connecticut Fund for the Environment*
- Connecticut Nurses Association
- Connecticut Roundtable on Climate & Jobs*
- Connecticut Citizen Action Group
- ConnPIRG
- Conservation Law Foundation
- ChargePoint*
- Chispa-CT*

[21] Colorado Proposed Beneficiary Mitigation Plan: Volkswagen, Audi, and Porsche Clean Air Act Settlements (Aug. 28, 2017), at 14, available at https://www.colorado.gov/pacific/sites/default/files/AP_VW_Beneficiary_Mitigation_Plan.pdf. Colorado's proposed $18 million investment in transit buses represents approximately 26 percent of the state's initial allocation of trust funds.

[22] According to Washington DES's Proposed Volkswagen Beneficiary Mitigation Plan: "About half of urban transit bus routes occur in in low income and minority neighborhoods. Strategic deployment of electric transit buses could improve air quality and public health in communities that have historically borne an undue share of the air pollution burden. Converting diesel buses to all-electric buses would reduce fuel and maintenance costs by about 10%." (2017)

[23] According the District's Draft Spending Plan: "The DEAL Program only covers the following technologies: electric transit buses and infrastructure, electric refuse trucks and infrastructure, and CNG refuse trucks. The funds will cover approximately 80 percent of the incremental cost of purchasing electric vehicle technologies, and 55 percent of the incremental cost of purchasing CNG technologies, when compared with the cost of purchasing a new diesel vehicle. Although the DEAL Program will not cover 100 percent of the incremental cost, savings made through fuel and maintenance will help cover the remaining costs and provide overall long term savings through the life cycle of the new vehicle." (2017)

- Clean Water Action*
- CT League of Conservation Voters
- Drive Electric Cars New England
- Energy Solutions, LLC
- Environment Connecticut*
- Hamden Land Conservation Trust
- Hartford Climate Stewardship Council
- International Brotherhood of Electrical Workers*
- Northeast Clean Energy Council
- People's Action for Clean Energy
- Proton OnSite
- Plug In America
- RENEW Northeast
- Sierra Club*†
- Solar Connecticut, Inc.
- Tesla, Inc.
- Union of Concerned Scientists
- Westport Electric Car Club

* Connecticut EV Coalition Steering Committee Membership

† To whom correspondence should be directed. Josh Berman & Katherine Clements, Sierra Club. Email Josh.Berman@sierraclub.org or phone (202) 650-6062.

9 March, 2018

Connecticut Department of Energy and Environmental Protection
Bureau of Air Management, Mobile Sources Division
79 Elm Street, 5th Floor, Hartford, CT 06106
deep.mobilesources@ct.gov

Subject: GM Comments relative to the State of Connecticut Draft Mitigation Plan

Attention: CT DEEP

General Motors LLC (GM) appreciates the opportunity to provide comments on the State of Connecticut's Draft Mitigation Plan and applauds the Department of Energy and Environmental Protection's (DEEP) intention to use 15% of the allocated Trust funds for light duty vehicle charging infrastructure. There are currently over 7,500 EVs registered in Connecticut, and in order to grow the EV market and attract even more advanced transportation technologies to the state, such as self-driving EVs, Connecticut needs to invest in a charging infrastructure network that addresses consumer and industry concerns.

EV charging infrastructure today has not attracted sufficient investment to establish a compelling foundation of EV charging stations. This market will become more viable and competitive over time, but this early market currently requires additional investment to close the infrastructure gap and establish a network of charging stations that is highly visible to consumers and drives consumer-confidence in the ability to drive EVs anywhere in the state. EV infrastructure is also key to attracting innovative and advanced mobility solutions to Connecticut, such as car-sharing, ride-hailing, and autonomous vehicles. The ability to introduce and grow these advanced mobility services relies on a robust foundation of EV charging infrastructure, especially DC fast-charging.

Automakers have made enormous investments in the electrification of transportation – GM alone has invested billions of dollars to develop electrification technologies, including the state-of-the-art Chevrolet Volt and Chevrolet Bolt EV, which has swept the industry's most prestigious car awards, including North America Car of the Year, Motor Trend's® 2017 Car of the Year, MotorWeek's 2017

Drivers' Choice "Best of the Year" Award, and Green Car Journal's Green Car of the Year. The Bolt EV is the industry's first affordable, long-range EV with an EPA estimated range of 238 miles-per-charge, and is available at Chevrolet dealers across all 50 states, including Connecticut. This advanced technology will require more widespread charging infrastructure to convince consumers that EVs can be driven anywhere they need to go. Thus, the urgency to rapidly expand EV charging infrastructure in Connecticut. And again, we applaud DEEP's intention to apply 15% of the available funds to EV charging infrastructure for the light duty vehicle market.

To maximize the impact of limited state funds, it is important that Connecticut's Mitigation Plan include a cohesive strategy to invest the funds strategically and in a way that ensures the resulting EV charging infrastructure is as visible to consumers as possible. It's important to recognize that the quality of infrastructure placement is generally more important than the quantity of EVSEs deployed. This means it is key to establish an overall vision and strategy for the placement of EV charging infrastructure, based on sound expert stakeholder input, that will result in an overall compelling "story" that will change consumers' perceptions and convince them that EV charging infrastructure is everywhere it needs to be.

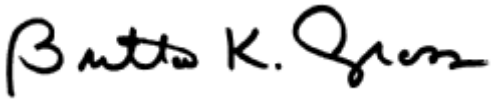
While the majority of all EV charging today is done at the home, there are still critical infrastructure needs not met by single-family home charging. And GM would prioritize today's key infrastructure needs as follows:

1. **Highway corridor DC fast-charging** most visibly inspires consumer confidence in the driving range, and practicality, of EVs. A 2016 survey of 2,500 consumers by Altman Vilandrie & Company found the top reason customers gave for not wanting to purchase a plug-in electric vehicle was a perceived lack of charging stations (85%). Highly visible corridor EV charging (SAE industry standard) can help address this consumer perception issue.
2. **Workplace EV charging** creates an EV "showroom" that very effectively grows EV awareness among corporations, and employees of these corporations. According to US DOE data, workplace charging results in employees 6X more likely to purchase an EV than employees at companies not offering workplace charging.
3. **Multi-unit dwelling EV charging** provides an important opportunity to expand EV adoption to consumers residing in townhomes, condominiums, and apartments, who may not have access to a "home" charger every evening. This is currently an untapped segment of potential EV buyers. This need can be met by Level 1 or Level 2 charging directly at the multi-unit dwellings, or by neighborhood DC fast-charge hubs that can serve these residents.
4. **Public EV charging at key destinations** is also important to increase the practicality of EVs and the number of places an EV can go, with a special focus on destinations typically outside a consumer's normal daily driving patterns (e.g. airports, beaches, hotels, resorts, etc.).

EV charging infrastructure is vital to the growth of the EV market and will lead to long-lasting emissions reductions that increase over time as the market expands. And the relatively low electricity prices compared to gasoline mean that electric vehicles are an important economic driver for Connecticut. Finally, we encourage the state to directly engage all electric utilities in the strategic planning of EV infrastructure to ensure the most cost-effective and grid-responsible EV charging solutions.

The VW Environmental Mitigation Trust is an opportunity to invest in forward-looking infrastructure that lays a much-needed foundation for EV market growth and will help attract even more advanced transportation technologies to Connecticut. GM greatly appreciates Connecticut's commitment to support the strategic transition to transportation electrification and all efforts to help drive this emerging market.

Sincerely,



Britta K. Gross, Director
Advanced Vehicle Commercialization Policy
britta.gross@gm.com
(586) 596-0382

VW Settlement Comments

Jeff Gross <jcgoss8@gmail.com>

Fri 3/9/2018 1:32 PM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

Categories: Important

Name: Jeffrey Gross
Job Title: Manager Information Protection

Comments:
I would like to emphasize and extend a sentence in the Draft Plan:

"Projects in areas that receive a disproportionate quantity of air pollution from diesel fleets such as but not limited to ports, rail yards, truck stops, airports, terminals, and bus depots. .."

This description applies to school yards served by diesel buses. School buses cause yet more disproportionate damage by the fact that one of our most vulnerable populations, young children, are in very close proximity to concentrated exhaust pollutants.

Children in urban areas that already have elevated levels of particulate and NoX pollution are at further risk. Asthma and other respiratory illnesses in this population are at crisis levels.

For these reasons I request that the evaluation criteria place a high weight on the impact to school children in cities with high NoX levels.

VW Settlement Comments

Rich Gaivoto <rgaivoto@usarecycle.com>

Fri 3/9/2018 10:25 AM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

Categories: Important

Name: Richard Gaivoto, Eric Frederickson
Job Title: Project Manager, Operation Manager
Company: USA Hauling, All American Waste

Comments:

USA Hauling and All American Waste have made great strides in helping our environment, and we believe that it should be everyone's responsibility to take part. We have made great financial commitments to equip our fleet with 67 Natural gas units, and have built natural gas slow-fill stations for our fuel needs and fast-fill stations for the public's. This mitigation plan can further our goal by adding another 2 or possibly 3 CNG units with a Near Zero emissions engine, the Cummins ISX12N. We know that Natural Gas units emit less NOX and GHGs (Green House Gases) with a net reduction in particulates. Our Natural Gas units and our infra-structure have created a cleaner ambient air quality environment for our company and for our surrounding neighbors. An addition would help in the offset of Volkswagen's damage in Hartford County, and help fulfill the states commitment. As mentioned, our plans are to add two (2) or three (3) new Near Zero Emissions vehicles, in return scrapping two (2) or three (3) trucks from 1992-2009.

Thank you for this opportunity to help the State of Connecticut, D.E.E.P and all other organizations to remedy the damage that has been done by Volkswagen. Looking forward to the proceedings.

Regards,

Richard Gaivoto
Project Manager
RGaivoto@USArecycle.com
860.200.4426
860.746.3200 ext. 3415

University of Connecticut Comments on the VW Settlement Mitigation Plan 2018

Bolduc, Mark <mark.bolduc@uconn.edu>

Fri 3/9/2018 9:54 AM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

Categories: Important

To Whom It May Concern:

The following is my comment on the proposed State of Connecticut Mitigation Plan under the VW Settlement Grant Funding Program:

- On page 12 of the proposed Plan, Part V. Section B.i, consider the following revision:

Eligible trucks include 1992 - 2009 engine model years; and eligible buses include 2009 engine model year or older. [19] ~~**For Beneficiaries that have State regulations that already require upgrades to 1992-2009 engine model year trucks at the time of the proposed Eligible Mitigation Action, eligible trucks and buses shall also include 2010-2012 engine model year vehicles.**[19]~~

Since Model Year 2010 and newer medium and heavy duty trucks and buses are not eligible for this program in Connecticut, it would be clearer to note which model years are eligible and maintain footnote 19 to explain why newer model years are not eligible.

A few questions that I have based on my review of the provided information are as follows:

1. Will there be a limit on the amount of funding granted for mitigation projects to any one individual facility?
2. Can projects that have been completed in 2018 or earlier, prior to the awarding of grant funds, be eligible to receive funding?
3. What type of information would be needed to demonstrate NOx emission reductions for proposed mitigation project proposal submittals?
4. Is there a dollars/ton of NOx reduction target that DEEP is looking at in order to prioritize funding awards for proposed mitigation projects?
5. Will you be providing guidance on what projects might be considered “exceptionally high quality and merit that advances the State goals and objectives” that would qualify for the maximum allowable funding allocation?

Thanks for your consideration of my revision and assistance with answering these questions.

Mark

Mark L. Bolduc
Energy and Compliance Manager
LEED Green Associate
University of Connecticut
Facilities Operations & Building Services
25 LeDoyt Rd. Unit 3252

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website: http://www.fo.uconn.edu/
Please consider the environment before printing this email & recycle whenever possible.

VW Funds - Shore up CT Green Bank

Richard Walser <richard.walser@gmail.com>

Fri 3/9/2018 9:38 AM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

Categories: Important

To whom it may concern:

I write to express my view that the Funds Connecticut stands to receive from the Volkswagen settlement should be used to shore up the finances at the CT Green Bank.

As you know, the Connecticut Green Bank leverages public and private funds to drive investment and scale up clean energy deployment across the state. Because of the leverage these funds provide, much more clean energy deployment can take place than if this money were spent outright on a single or even multiple one-time projects.

Connecticut must keep its investments in clean energy going and the CT Green Bank is one of the best means we have for accomplishing our goals and meeting our clean energy targets. I therefore urge you to use these funds to shore up the CT Green Bank.

Sincerely,

Richard Walser
64 North Lake Drive C2
Hamden, CT 06517
203-209-3425
richard.walser@gmail.com

March 8, 2018

Commissioner Robert Klee
VW Settlement Comments
DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION
79 Elm Street
Hartford, CT 06106

RE: VW Formal Public Comment due March 9, 2018

Commissioner Klee:

Cusson Automotive is corporately based in South Windsor, CT; we employ 15 people, have been in business for 25 years and specialize in Fleet Repair, Recreational Vehicle service, General repair and Alternative Fuels up-fitting services. We are the exclusive ICOM North America[1] equipment and installation distributor in Connecticut utilizing propane autogas using EPA approved (mono & bi-fuel liquid injection technology) in an aftermarket application. Our alternative fuels division is dedicated to supporting Municipal, Private and Intuitional Fleets to economically adopt propane autogas and assist these clients to reduce NOx and other carbon emissions. Over the last few years, we have been working with such clients as Yale University and the Town of Greenwich to assist their fleets in environmental sustainability programs involving fleet vehicle operations;

YALE VEHICLES

YALE VEHICLES Continued


TRANSIT 150
PROPANE AUTOGAS
AMERICA'S CLEAN ALTERNATIVE FUEL
C127249


PROPANE
AUTOGAS
3500 HD

TOWN OF GREENICH VEHICLES

The transportation sector in our state produces 36% of our total carbon emissions and a good percentage of this our produced by trucks. The more trucks we can get operating on clean alternative fuels such as electricity, propane, compressed natural gas for example will have an immediate impact on reducing carbon emissions. (ROI) return on Investment, The new thought process that we can bring to the table. Propane because of its domestic abundance, low fuel and infrastructure cost is in an ideal position to reduce carbon emissions.

Propane Autogas was designated as a “Clean Fuel” in the 1992 Energy Policy Act. Today, over 27 million vehicles operate on propane and it is the third leading transportation fuel in the world. Our Coalition is supportive of all alternate fuels including electricity. However, electrification technology does not practically exist for Class 4 – 7 vehicles and adoption of propane to power these vehicles is the best way to immediately reduce NOx, Particulate Matter (PM) and non-criteria emissions like GHGs. The utilization of Propane Autogas reduces Particulate Matter to ZERO. NOx is reduced approximately 90% compared to the diesels noted for replacement

Propane Autogas specifically optimally suits Class 4 to 7 Trucks, Shuttle buses and School Buses. Medium and heavy duty vehicles represent 4% of the total vehicle population though they contribute 29% of all carbon emissions in our country. Most if not all of these vehicles Class 4 – 7 vehicles can efficiently be installed to run on clean Propane Autogas.We would like to see VW funds targeted to assist the following fleet groups to adopt propane autogas to replace older diesel vehicles in operations today;

1. **TOWING INDUSTRY**: Diesel trucks in Class 4 to Class 7 often utilize up to 15,000 gallons of fuel per year. Trucks utilizing Propane Autogas will reduce NOx and PM over 90%.

2. **PROPANE INDUSTRY**: Propane Companies utilize numerous trucks within their operations most of which are in Class 4 to 7. These trucks are most all diesels at this time and tend to utilize about 5,000 gallons of diesel per year. These trucks are often kept for 12 to 15 years. This industry brings propane to market and buys its fuel at cost. It is in the best position to achieve Return on Investment breakeven analysis.

3. **MUNICIPALITIES**: Counties and State Agencies: Municipalities utilize numerous trucks within their operations which are in the Class 4 to 7 range including: Shuttles, Transit and Paratransit vehicles consume a great deal of fuel in their annual operations

4. **DELIVERY:** Package and Delivery trucks of the box, walk-in and beverage variety Class 4 to 7 ranges are also heavy consumers of fuel. Incentives to adopt propane and other alternative fuels in this vehicle sector would have large environmental benefits.

The development of VW Grant Money programs to incentivize the adoption of propane autogas overnight would go a long way in reducing NOx and carbon emissions in our state. Please develop meaningful programs to assist some of our biggest polluters in cleaning up their act.

Sincerely,

Donald Cussons
President
CUSSON AUTOMOVITE

[1] ICOM leads the industry with over 800 EPA certified vehicle conversion platforms and supports select vehicles manufactured by Ford, Chevrolet, GMC, Lincoln and Mercury

To: Department of Energy and Environmental Protection

From: David B, Bingham, MD,
Co-Chair CT League of Conservation Voters; Board Member, Audubon CT, the CT Land Conservation Coalition, the Salem Land Trust, and the Eightmile River Wild and Scenic Coordinating Committee

Re: Funding zero-emission buses

It is my understanding that DEEP is currently considering possible projects to be paid for out of funds received in the VW air pollution settlement.

These funds should be used in a way that compensates for or at last mitigate the air pollution VW caused.

Although I am a member of numerous conservation organizations (noted above), I am writing as a concerned physician who has delivered thousands of children who will inherit a planet that has significant air pollution that must be reduced because of the significant risks to their health and happiness. This funding is an opportunity to do something significant.

Zero-emission school buses have been proposed to replace buses that are a significant polluter of air in the vicinity of schools and children's homes. I can think of no better use of the funds than to target the most vulnerable of us, and to reduce this exposure at its source. Savings in future health costs by reducing devastating cases of asthma and pneumonia will repay this cost over time.

Moreover, such a project not only removes dangerous pollutants that cause disase, but also diminishes the greenhouse gas emissions that are causing climate change, putting all our citizens at risk from rising sea-water, floods, draught, fire and storm severity, by switching from fossil fuels to electricity that can be generated with cleaner fuel sources such as wind, solar, and hydro power.

Thank you for your consideration,

David B. Bingham, MD
860-859-1247
50 White Birch Road, Salem, CT

Greater New Haven Clean Cities Coalition
61 Rolling Green Road, Bethany, CT 06524
T: 203.627.3715 | F: 203.393.3433
nhcleancities.org | grannis@nhcleancities.org
Cleaner Air with American Energy

March 9, 2018

These comments are focused on Connecticut's Draft Final Mitigation Plan under the VW Environmental Mitigation Trust Agreement. We are listing our suggested priority for the listed actions.

Since a significant amount of funding has already been designated for the light duty electric vehicle sector as part of the agreement in Appendix C, we believe the medium- and heavy-duty transportation sector should be focused on by the state for this funding. Below is the priority from Appendix D-2, we believe would achieve a greater level of nitrogen oxides (NOx) and greenhouse gas (GHG) emissions reduction to include: achieving a better return on investment (ROI) and environmental justice benefits. The Greater New Haven Clean Cities Coalition (GNHCCC) requests that private fleets, companies, and organizations receive priority for the funding over state and municipal organizations as those fleets tend to drive many more miles over far greater areas and emit more NOx, criteria emissions, and GHGs than municipal and government fleet vehicles. There is one exception to this and that is Class 4-8 School buses, shuttle buses, and transit buses as school buses may be either privately owned by a contractor or publicly owned by the school district. School buses are our number one priority. Shuttle buses should be awarded funding based on miles driven making them excellent systems for propane, natural gas and hybrid powertrains. Transit buses are mostly municipal operations and are excellent platforms that can use alternative fuels to reduce significant amounts of NOx. This does not include electric school buses because of their high costs, undercapitalized manufactures, and immature technology, nor should these buses be confused with electric transit buses, which we support.

Priority 1. #2. Class 4-8 School Bus, Shuttle Bus and Transit Bus (Eligible Buses).

There are over 18,000 propane autogas safely and efficiently operating nationwide. Several school districts in Connecticut have already started operating or are already considering propane autogas school buses. The new school bus propane autogas engine technology makes them a good fit both in terms of emission reduction, cost, safety, noise reduction and operational efficiency to include excellent cold weather starting. In addition, while poor air quality is harmful to everyone, children are a population most at risk from air pollution that propane autogas powered buses mitigate by providing a clean breathing environment, as there is no emission generated particulates. Because of the economics of propane autogas fuel and the related ease of infrastructure deployment, these propane autogas powered buses are the best use of the funding. More specifically the most popular school bus propane engines will be certified at 0.05 grams of NOx per brake horsepower-hour (g/bhp-hr), which is 75% cleaner than today's cleanest diesel school buses (http://www.roushcleantech.com/wp-content/uploads/sites/all/themes/roushcleantech/pdf/ROUSHCleanTech_Program_Overview_2018). As

this is the intended emission type VW is supposed to mitigate, and school buses get 100% funding under the settlement, this is an excellent use of the funding for local schools and Connecticut tax payers.

Propane autogas and compressed natural gas (CNG) alternative fuels used in shuttle buses are very advantageous in the terms of NOx, GHG and other criteria emissions reduction and noise reduction. They also provide a better return on investment (ROI), better operational/maintenance efficiency, and environmental justice benefits. Similar adverse health issues that affect children on school buses apply to the population of adults 65 and older that use the transit and paratransit buses and are mitigated by the use of clean propane autogas and CNG.

This section also allows for the use of transit buses to deploy new electric powered transit buses. Electric buses that exceed all other powered buses in terms of "Made in the USA" are available in fast charge and long range electric bus versions for deployment along traditional transit bus routes should be a priority use of the funds. These buses have all the emission reduction advantages that light duty vehicles have, plus help to reduce the number of single occupancy gasoline powered vehicles on the road. This funding could be made available to municipal transit agencies and private companies to defer the higher capital cost of these vehicles for an example. It would behoove Connecticut to start operating electric transit buses on the road in order to address challenges involving heavy duty electric vehicle charging, as well as to give the utilities and regulators a benchmark to determine their requirements related to providing heavy vehicle charging. CT DOT has been trying to find the funding to deploy electric transit buses with little some recent positive results, and this would be a great way to ramp up the funding to deploy these buses.

Priority 2. #1. Local Freight Trucks and Port Drayage Trucks (Eligible Larger Trucks)

Class 8 trucks, especially owned by private companies have not been offered any funding assistance in years, except by Clean Cities grants. Congestion Mitigation and Air Quality (CMAQ) from the Federal Highway Administration (FHWA) funding has been withheld from private companies by the state of Connecticut since the 1990s, even though it is allowed by CMAQ federal rules. This section allows funding for a sector of vehicles like CNG heavy-duty vehicles, which travel many more miles than a government/municipal vehicle. NOx and GHG emissions would be reduced more per vehicle, especially in our state, which is in nonattainment for ozone, and trying to maintain the PM2.5 attainment maintenance status which would be easier to achieve by using this fuel. There are three refuse companies deploying CNG heavy-duty trucks in central Connecticut and attempting to expand their fleets. The infrastructure is available to support these types of vehicles in several parts of the state, and this funding would stimulate the growth of more CNG refuse/trash vehicles by more companies and municipalities deploying the technology.

Priority 3. #6. Class 4-7 Local Trucks (medium)

These types of vehicles are a great use case for propane autogas powered vehicles. This could be in the form of dedicated or bi-fuel (gasoline & propane) trucks. These trucks are usually in the form of box trucks making the last mile delivery to small and midsize stores. These trucks are on the road and proven to be reliable and cost effective. They may also be in the form of vehicles delivering work clothes, hospital or hotel linens, or bottled water. Nestle Waters North America, a large beverage company based in Stamford, Connecticut, operates nearly 600 delivery trucks powered by propane autogas

(https://ngtnews.com/nestle-waters-adds-400-propane-powered-trucks). These vehicles operate in and around buildings that are often in congested areas, to include schools and medical facilities. These are areas that NOx accumulation can stimulate an unhealthy ozone level as well as adding to noise pollution. Propane can reduce a whole host of unhealthy criteria emissions as we as cutting NOx, PM2.5, and GHG as well as reducing noise levels. When electric trucks in this category are available in quality and quantity they would be an excellent choice to deploy, but for of a variety of factors that are not just limited to the vehicle's premium upfront cost, which can be twice as much as a propane powered vehicle, creating a long ROI, but to a lack of heavy-duty charging infrastructure, a lack of trained service and maintenance professionals, fleets adopting electric trucks will be slow.

CNG vehicles can be an excellent choice if the logistics of the fueling infrastructure are favorable for the fleet. Propane autogas infrastructure is more akin to a diesel or gasoline fueling station as propane is a liquid. Either CNG or propane autogas powered vehicles provide an option that alleviates the maintenance issues, and down time associated with the maintenance intensive diesel regeneration requirement on today's diesel vehicles, and have excellent cold weather starting charterists.

Priority 4. #8. Forklifts

We think that the newly emerging fuel-cell forklift technology is a viable choice. It is a non-road electric vehicle with a fuel-cell axillary power unit to charge it. Many of the large companies like Wal-Mart are starting to use fuel-cell powered forklifts due to their predictability of full run time. Batteries can run out of operating power without notice, and do require time consuming battery exchanges. The fuel-cell forklift industry has gained popularity over the last few years, because of how they operate and lower vehicle costs. From industry reports the big box company warehouses are increasingly turning to fuel-cell forklifts, and we see no reduction in their deployment. Hopefully they will be allowed under this category.

Priority 5. #7. Eligible Airport Ground Support Equipment

We support deploying most all-electric powered equipment and propane powered tugs as long as it makes economic and operational sense. Replacement of older electric equipment that is not maintaining required operational efficiency and creates safety concerns might be considered.

Priority 6. #9. Light Duty Zero Emission Vehicle Supply Equipment

We support EVSEs especially fast charger on major vehicle corridors easily assessable to the public. In the case of hydrogen infrastructure, we believe that incentive support will be essential to support the high cost of the systems. This is an excellent opportunity to try multiple technologies that produce sustainable hydrogen if allowed.

Priority 7. #3 Freight Switches, #4 Ferries/Tugs, #5 Ocean Going Vessels (OGV) Shorepower

The GNHCCC is supportive of freight switchers, ferries/tugs and ocean going vessels shorepower technologies listed in other sections, and reducing their NOx profile. While the Clean Cities program does not include these technologies in their list of technologies, and we do not focus as much on them,

we think these technologies and industry sectors are important, and should be considered for funding if applicable.

Lee

Lee Grannis
Coordinator
Greater New Haven Clean Cities Coalition
grannis@nhcleancities.org
203-627-3715

107 Selden Street, Berlin, CT 06037
P.O. Box 270, Hartford, CT 06141-0270

Rosemary K. Leitz
Senior Counsel

(860) 665-5497
Rosemary.Leitz@eversource.com

March 9, 2018

Bureau of Air Management
Mobile Sources Division
Department of Energy and Environmental Protection
79 Elm Street, 5th Floor
Hartford, CT 06106
E-mail: deep.mobilesources@ct.gov

Re: Notice of Public Comment Period for CT's Draft Mitigation Plan under the Volkswagen Environmental Mitigation Trust Agreement

1. Introduction

Eversource Energy ("Eversource") respectfully submits the following comments in response to the Notice of Public Comment Period for CT's Draft Mitigation Plan under the Volkswagen Environmental Mitigation Trust Agreement ("Draft Mitigation Plan"), which requested that interested parties file comments with the Connecticut Department of Energy and Environmental Protection ("DEEP") by March 9, 2018.

On March 1, 2017, Eversource provided comments to DEEP on ways that it could maximize the Volkswagen Environmental Mitigation Trust ("Trust") funds that the State of Connecticut will manage as part of the Volkswagen diesel emission settlement. The Trust funds can be used to support Eligible Mitigation Actions ("Actions")[1] for projects that reduce emissions of nitrogen oxides ("NOx"). Eversource is pleased that many of its suggestions have been incorporated into the Draft Mitigation Plan ("Plan") and herein submits comments for further consideration.

2. Utilization of 15 Percent Of Available Funds Under The Trust For EV Charging Infrastructure is Commendable

The Trust provides funding for environmental mitigation projects that reduce NOx emissions, and light-duty vehicles are the single largest mobile source of NOx emissions in Connecticut, being the source of more than 46 percent of the State's NOx emissions. A maximum of fifteen percent of funds from the Trust are available for light-duty zero emission vehicles charging infrastructure. Eversource recommended funding Direct Current ("DC") Fast Charging and Level 2 charging infrastructure, which are the fastest means to charge plug-in electric vehicles ("EVs").[2] These charging systems are suitable

[1]The ten types of Eligible Mitigation Actions are defined in Appendix D-2 of the October 25, 2016 Trust Agreement. Appendix D-2 also defines the funding parameters for each of the actions.

[2] Level 2 chargers rely on a 240-volt connection and are capable of fully charging most existing EVs in approximately eight hours or less depending battery capacity. Lastly, DC Fast Chargers utilize direct current and are the fastest method for charging an EV. However, DC Fast Chargers are also the most expensive form of charger. Existing DC Fast Chargers permit a typical EV drive to obtain a full charge over lunch.

for EVs, which are commercially available today and will improve the economic return of current and future public investments in infrastructure while also reducing NOx emissions significantly. The Plan includes this suggestion along with the option to fund Level 1 ("L1") charging infrastructure. The Company notes that charge time is an important consideration for consumers, and further that L1 charging requires significantly more time than Level 2 or DC Fast Charging., Consequently, these latter two forms of charging methods should take precedence over L1 system.

3. Accelerate Deployment Of Alternative Fuel Vehicles Over Diesel

The remaining portion of the funds from the Settlement provide an unprecedented opportunity to accelerate the use of alternative fuels in Connecticut. Eversource commends DEEP for scaling the incentives based on NOx reduction levels to provide greater funding for medium-duty and heavy-duty engines that deliver NOx reductions below current federal requirements. The Company also supports the recommendation for a higher level of funding for technologies that historically have demonstrated lower in-use emissions. In addition, Eversource appreciates that the Plan adjusts the funding levels available under the Trust to maximize the benefit of the program and to accelerate the deployment of additional alternative fueled vehicles.

With respect to the many complications of charging heavy-duty vehicles and supplying hydrogen fuel for the emerging fuel cell powered fleet of light and heavy-duty vehicles, Eversource recommends that DEEP consider deployment of natural gas powered fuel cell charging infrastructure to accommodate such vehicles.

4. Conclusion

Eversource wishes to thank DEEP for its consideration of these comments. The following representative of Eversource is available to work with DEEP and project developers to ensure that the infrastructure to support these projects is done in a coordinated fashion: Kevin Boughan, Manager-Research and Business Development (tel: 860.728.4843; e-mail: kevin.boughan@eversource.com).

Sincerely,
Rosemary K. Leitz
Rosemary K. Leitz
Senior Counsel
On Behalf of Eversource Energy

NGVAmerica Comments on the VW EMT Funding for CT

Sherrie Merrow <SMerrow@NGVAmerica.org>

Fri 3/9/2018 2:58 PM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

Cc: Daniel J. Gage <dgage@ngvamerica.org>; Clarke, Jeff <jclarke@ngvamerica.org>;

3 attachments

NGVAmerica CT VW Mitigation Plan Comments - Feb 27 2017 - Final.pdf; NGVAmerica CT VW Mitigation Plan Comments - Mar 8 2018.pdf; NGVA VW Flyer.pdf;

Dear Commissioner Klee:

Natural Gas Vehicles for America is pleased to submit additional comments (file dated Mar 8 2018) to the Connecticut Department of Energy and Environmental Protection regarding the State of Connecticut Mitigation Plan to use funds from the Volkswagen Partial Consent Decree. As the national trade association for natural gas vehicles, we know that natural gas vehicles play an unmatched role among alternative fuel vehicles in delivering the most NOx reductions for the lowest cost and therefore should have a strong role in the Connecticut Mitigation Plan.

Please contact us with any questions or if you would like to meet in person to discuss our comments.

Thank you.

Sherrie Merrow
Chair, State Government Advocacy Committee

NGVAmerica
400 N. Capitol St. NW STE 450, Washington, D.C. 20001
303-883-5121 [m]
smerrow@ngvamerica.org
ngvamerica.org | ngv.com

March 8, 2018

Commissioner Rob Klee
Connecticut Department of Energy and Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

RE: NGVAmerica Comments on the Connecticut Mitigation Plan for Using the Funding from the Volkswagen Environmental Mitigation Trust

Dear Commissioner Klee:

Natural Gas Vehicles for America (NGVAmerica), the national trade association for the natural gas vehicle industry, respectfully submits the following comments on how the Connecticut (CT) Department of Energy and Environmental Protection (DEEP) can best use the Environmental Mitigation Trust (EMT or Trust) funds ($55.7 million) that the state will receive as part of the Volkswagen (VW) diesel emission settlement.

As stated in our VW Comment Letter submitted on February 27, 2017 (attached), NGVAmerica believes that natural gas vehicles (both LNG and CNG) offer the best solutions for the projects that will address the goals of the EMT, to reduce the most nitrogen oxide (NOx) for the least cost. Please see the diesel, electric vehicle and natural gas vehicle comparisons on the attached NGVA VW Flyer for heavy duty trucks, transit buses, refuse trucks and school buses.

The CT DEEP states that its CT VW Mitigation Plan (Plan) has as its primary goal to "improve and protect ambient air quality by reviewing, analyzing and implementing eligible mitigation projects that will:

- Improve air quality by achieving significant and sustained cost effective reductions in NOx emissions,
- Expedite deployment and widespread adoption of zero emission and near-zero emission vehicles and engines, and
- Support statewide energy, environmental and economic development goals while also taking into account environmental justice considerations associated with each proposed eligible mitigation project."

The CT Plan effectively follows the overall goals of the Volkswagen Diesel Emissions Settlement, especially in the Trust's first stated consideration for Eligible Mitigation Actions: "The selection of eligible Mitigation Actions that will on whole strive to maximize the use of Environmental Mitigation Trust funds in reducing NOx emissions." Natural gas engines provide the lowest NOx reductions for the cost, especially if the near zero engines are deployed.

The VW EMT funds provide an extraordinary opportunity for Connecticut to cost-effectively accelerate the transition to cleaner vehicles and lower emissions. Commercially available natural gas vehicles (NGV) offer the best solutions today for addressing the goals of the EMT, delivering the most nitrogen oxide emission reductions for the least cost. If renewable natural gas (RNG) is used, life cycle greenhouse gas emissions from NGVs are reduced further. Using low NOx NGVs today allows Connecticut to accelerate achievement of clean air for its people now, while complementing its transition to zero emissions applications in the future.

Current State Beneficiary Mitigation Plans

Nineteen 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 provides a relative parity for funding for the various fuels through its choice of percentage funding by fuel type. 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).

The CT Plan does provide parity in its funding percentages for government vehicles, but unlike Colorado it provides diesel an unfair advantage by including diesel vehicles for this funding. Parity is not achieved for non-government owned vehicles by giving electric vehicles "up to 60%" funding while other alternatives are limited to the Trust percentage of "up to 25%" (40% for repowers) and diesel is also included in this category. NGVAmerica strongly recommends that Connecticut consider adopting a similar "parity" approach to non-government alternative fuel vehicles, excluding diesel vehicles.

Additional Options for Vehicle Scrappage

NGVAmerica also recommends that DEEP 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 natural gas vehicles that meet the year criteria to be scrapped and replaced with new NGVs

Use the Most Current Emissions and Cost Benefit Calculation Tools – HDVEC created for VW Projects

The Argonne National Laboratory's AFLEET tool should be used to calculate vehicle / fuel type emissions since this tool has recently been updated to include current data on all vehicles and fuels including 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

ANL has also just released a new vehicle emissions calculator (HDVEC) to provide state officials and fleet managers with an accurate tool to gauge emissions reductions across various medium- and heavy-duty vehicle project options affiliated with the Volkswagen Environmental Mitigation Trust Settlement. The HDVEC tool is available at: http://afleet-web.es.anl.gov/hdv-emissions-calculator/.

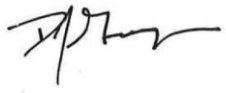
Summary of NGVAmerica's Recommendations for EMT Funding

- ✓ 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 and HDVEC tools** are the most current tools available

Compared to other alternative fuels and to diesel vehicles, natural gas vehicles that are commercially available today, offer the best solution for addressing the goals of the EMT and delivering the most nitrogen oxide (NOx) emission reductions for the lowest cost. The DEEP recognizes the value of cost effective NOx reductions that NGVs provide, and that these emission reductions can be realized today while Connecticut prepares for a zero emission vehicle future.

NGVAmerica welcomes the opportunity to provide further information and analysis on the economic and environmental benefits of natural gas vehicles in Connecticut. Please contact Jeff Clarke, NGVAmerica General Counsel & Regulatory Affairs Director at 202.824.7364 (jclarke@NGVAmerica.org), or Sherrie Merrow, NGVAmerica State Government Advocacy Director at 303.883.5121 (smerrow@NGVAmerica.org) to set up a meeting and for additional information.

Sincerely,



Daniel J. Gage
President

Volkswagen Diesel Settlement Funding Opportunity

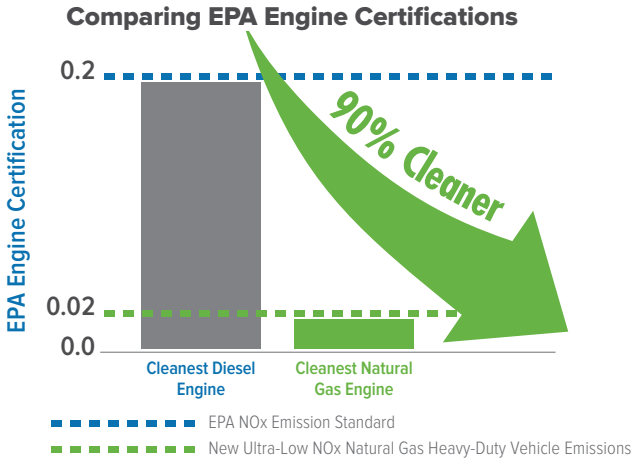
Make a Bold Impact on Air Quality Today

Allocating funds to deploy low-NOx natural gas vehicles provides the best way to deliver immediate and cost-effective NOx reductions and air quality benefit. Nearly 40% of Americans are exposed to unhealthful levels of ozone and particulate pollution. Volkswagen's $2.9 billion Environmental Mitigation Trust fund provides each state an incredible opportunity to make an immediate and tangible impact on air quality by targeting medium- and heavy-duty vehicles, the leading source of these toxic air contaminants in almost every metropolitan area.

Natural gas vehicles (NGVs) are transforming the medium- and heavy-duty transportation sector.

Sustainable:

NGVs Offer the Cleanest Heavy-Duty Truck Engines in the World



Natural gas medium- and heavy-duty engines provide unmatched reductions of smog-forming emissions of nitrogen oxides (NOx). In 2015, a revolutionary natural gas engine was certified by the U.S. Environmental Protection Agency and California Air Resources Board to a level 90% below the EPA's current exhaust standard and 90% below the cleanest diesel engine. A truck with this engine has an emission profile equivalent to that of a heavy-duty battery electric truck.

Available:

NGVs are Commercially Available Today Across All Applications Qualified for Funding

NGVs are commercially available from traditional truck and bus OEMs with established sales and service networks. Retrofit and repower options are also available from a variety of manufacturers.

Applications Include:

- Cement Mixer
- City Delivery Truck
- Conventional Van
- Dump Truck
- Fuel Truck
- Heavy Semi Tractor
- Large Walk In Van
- Motor Coach
- Rack Truck
- Refrigerated Van
- Refuse Truck
- Single Axle Van
- School Bus
- Shuttle Bus
- Transit Bus
- Tow Truck
- Utility Truck

Responsible:

Dollar-for-Dollar, NGVs Deliver the Most Cost-Effective NOx Emissions Reductions

The calculations shown below assume the deployment of the cleanest commercially available model for each application. Funding natural gas vehicles will lead to the largest total reduction in NOx emissions.

Short/Regional Haul Trucks

Natural Gas	Diesel	Electric
$39 per lb of NOx	$54 per lb of NOx	$85 per lb of NOx
Technology Cost $150,000	Technology Cost $100,000	Technology Cost $324,000
NOx Reduced 3,810 lbs	NOx Reduced 1,858 lbs	NOx Reduced 3,810 lbs

Refuse Trucks

Natural Gas	Diesel	Electric
$140 per lb of NOx	$190 per lb of NOx	$313 per lb of NOx
Technology Cost $300,000	Technology Cost $270,000	Technology Cost $670,000
NOx Reduced 2,141 lbs	NOx Reduced 1,417 lbs	NOx Reduced 2,141 lbs

School Buses

Natural Gas	Diesel	Electric
$220 per lb of NOx	$291 per lb of NOx	Not Commercially Available
Technology Cost $148,000	Technology Cost $115,000	
NOx Reduced 671 lbs	NOx Reduced 396 lbs	

Transit Buses

Natural Gas	Diesel	Electric
$273 per lb of NOx	$540 per lb of NOx	$569 per lb of NOx
Technology Cost $360,000	Technology Cost $300,000	Technology Cost $750,000
NOx Reduced 1,318 lbs	NOx Reduced 555 lbs	NOx Reduced 1,318 lbs

NGVAMERICA
Natural Gas Vehicles for America

Rev. 4/26/2016

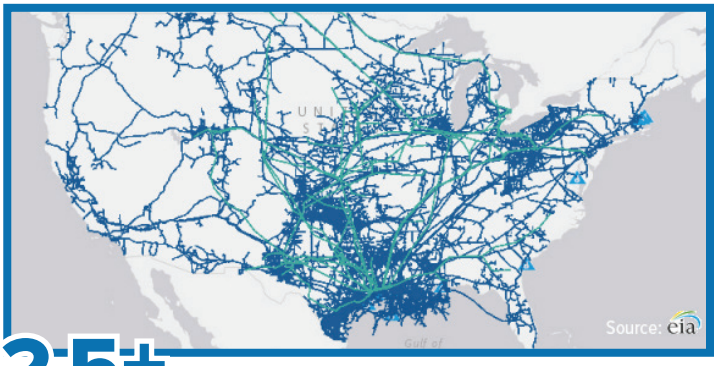
For more information visit: **www.ngvamerica.org/vwsettlement**

#1 Natural Gas Producer in the World

90+ years supply of recoverable natural gas

Continual supply by harnessing **renewable sources**

Source: U.S. Energy Information Administration



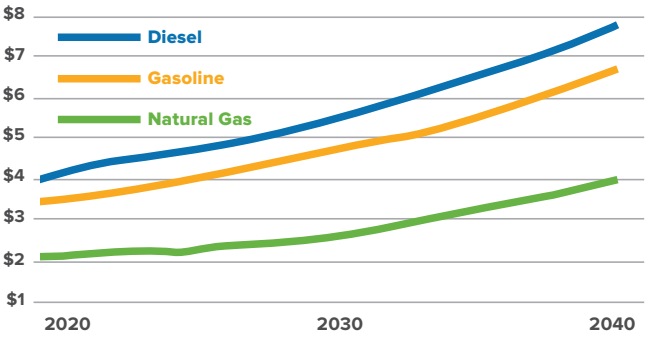
2.5+ million miles of U.S. pipeline infrastructure

The U.S.' expansive natural gas pipeline system is well poised to support a national network of natural gas fueling stations. Nearly 2,000 CNG and LNG fueling stations are operating today, with continual expansion underway.

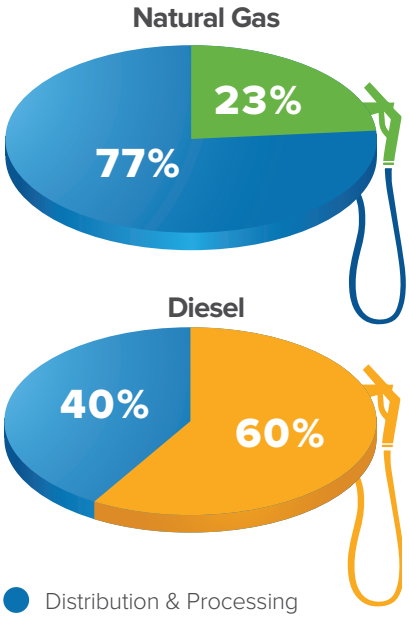
Natural gas is a clean, low-cost, and domestically abundant transportation fuel.

Natural Gas Provides Long-Term Fuel Price Stability and Cost Savings

Projected Fuel-Price Differentials
(prices per $DGE)



Source: U.S. Energy Information Administration



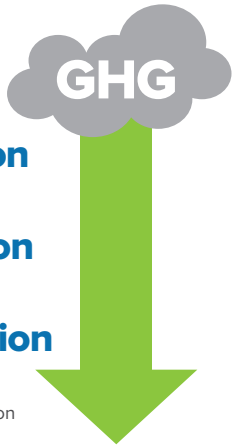
Currently, natural gas prices can be $0.75 to $1 or more lower than diesel at the pump, with a firm price advantage expected to remain for decades as shown in the chart above.

Beyond the fuel-price differential, the pump price of natural gas remains relatively stable for two reasons. First, it is domestically sourced. Second, the commodity cost of natural gas only makes up 23% of the pump price so price fluctuations have minimal impact.

In contrast, approximately 60% of the price of diesel fuel is impacted by the market cost of crude oil, which is largely sourced from politically unstable, high-conflict regions. When crude oil prices increase, diesel prices follow suit which can lead to significant swings in a fleet's fuel costs.

Natural Gas Reduces WTW Greenhouse Gas Emissions

Compared to Diesel:



- LNG **11% reduction**
- CNG **17% reduction**
- RNG **115% reduction**

Source: NGVAmerica Fleets Run Cleaner on Natural Gas White Paper 2016

Volkswagen EMT Funding Recommendations

- Fund alternative fuel vehicle projects that cost effectively maximize NOx reductions for both public and private fleets
- Provide higher funding levels for medium- and heavy-duty engines that deliver NOx reductions greater than current EPA standards
- Target funding for technologies that have demonstrated lower in-use emissions
- Prioritize funding for commercially available products and projects that are ready to begin
- Stay flexible in plans and leverage private investment to stretch dollars and get more alternative vehicles on the road

Natural gas vehicles can fulfill all of these recommendations today!

February 27 , 2017

Commissioner Rob Klee
Connecticut Department of Energy and Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

RE: NGVAmerica Comments on the Volkswagen Environmental Mitigation Trust Implementation for the States

Dear Commissioner Klee:

Natural Gas Vehicles for America (NGVAmerica) respectfully submits the following comments on how the Connecticut Department of Energy and Environmental Protection (CT DEEP) can best use the Environmental Mitigation Trust (EMT or Trust) funds ($55.7 million) that the state will receive as part of the Volkswagen (VW) diesel emission settlement.

The CT DEEP states that its CT VW Mitigation Plan has as its primary goal to "improve and protect ambient air quality by reviewing, analyzing and implementing eligible mitigation projects that will:

- Improve air quality by achieving significant and sustained cost effective reductions in NOx emissions,
- Expedite deployment and widespread adoption of zero emission and near-zero emission vehicles and engines, and
- Support statewide energy, environmental and economic development goals while also taking into account environmental justice considerations associated with each proposed eligible mitigation project."

NGVAmerica concurs with this focus and believes that natural gas vehicles offer the best solutions for these projects.

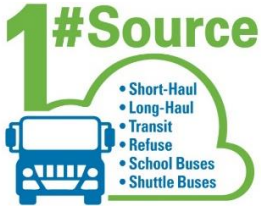
The following pages outline key facts related to vehicle emissions, total cost of ownership, and current availability, as well as NGVAmerica's recommendations on how EMT funds should be allocated to maximize results.

The Need to Take Meaningful Action Today

The funding available through Volkswagen's Environmental Mitigation Trust comes at a time when it is critical to address transportation emissions. The American Lung Association's "State of the Air 2016" report found that air pollution continues to be a pressing concern with more than half of all Americans—166 million people—living in counties where they are exposed to unhealthful levels of ozone and particulate pollution.

Medium- and heavy-duty on-road vehicles are the number one source of ozone-forming emissions of nitrogen oxides (NOx) in almost every metropolitan region in the U.S., therefore there is considerable opportunity to develop and deploy funding programs that make an immediate and tangible impact on air quality and related public health issues.

Approximately 50% of Americans live in areas with air that is unhealthy to breathe



Medium- and heavy-duty vehicles are the #1 source of smog

Sustainable, Responsible, Available: Natural Gas Vehicles

Today's natural gas vehicles (NGVs) are proven technologies that can uniquely, immediately, and cost-effectively transform our nation's medium- and heavy-duty transportation sector. The advantages of natural gas as a transportation fuel include its domestic availability, widespread distribution infrastructure, low cost, and inherently clean-burning qualities.

In these comments NGVAmerica presents the compelling reasons that states should prioritize funding for NGVs to *maximize the impact* of the available funding. As your organization is aware, the EMT was set up to fund projects that make an impactful reduction on NOx emissions to mitigate the excess emissions currently in our air from the non-compliant light-duty diesel vehicles VW sold. NGVAmerica strongly believes that NGVs are the best solution to meet the core goals put forth by the Volkswagen EMT funding. NGVs are:

1. **Sustainable:** NGVs maximize long-term emission reductions
2. **Responsible:** NGVs extend the funding and foster economic development
3. **Available:** NGVS meet the diverse operating requirements of every fleet application

1. Sustainable: NGVs Maximize Long-Term Emission Reductions

- **Key Point:** Today's natural gas medium- and heavy-duty engines provide *unmatched* reductions of smog-forming emissions of nitrogen oxides (NOx).

"Near Zero-Emissions": EPA and CARB Certified a Heavy-Duty Natural Gas Engine to 0.02 g Standard

In September 2015, the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) certified the world's first heavy-duty engine that emits oxides of nitrogen (NOx) at levels so low they are considered "near-zero" (0.02g NOx/bhp-hr). This is the cleanest commercially available heavy-duty truck engine available in the market today, offering the ability to reduce emissions 90% below even the most stringent U.S. EPA standards.

Today's natural gas engines offer a 90% NOx reduction over the EPA's strictest emission standards, making them the cleanest commercially available technology

The "Game Changer" report shows that "Near-Zero" NGVs are cleaner than "Zero-Emission" All-Electric trucks

NGVs Have Lower NOx Emissions Than All-Electric Trucks

The emission benefits of the new "Near-Zero" engine are well documented in the 2016 *Game Changer* report issued by Gladstein, Neandross and Associates (GNA)[1]. The GNA report indicates that a truck or bus equipped with a natural gas engine that has been certified to the 0.02 g/bhp-hr Optional Low NOx Standard has tailpipe NOx emissions that are comparable to – or possibly lower than – the amount of NOx emitted to produce electricity used to charge a comparable heavy-duty All-Electric Truck.

[1] Gladstein, Neandross & Associates, *Game Changer Technical White Paper* (2016) http://ngvgamechanger.com/, Section 6.4 and Appendix 1. Emissions of low-NOx natural gas engines produce NOx emissions that are comparable to or lower than similar electric drive vehicles in all 50 U.S. states when considering upstream NOx.

Heavy-duty drayage trucks: Diesel trucks tested in study exceed certification level

Critical Insight:

Study Finds that Natural Gas Engines Outperform Diesel Engines in Real World Situations

Natural gas (NG) engines today meet an optional Low NOx standard that is ten times cleaner than the standard required for new diesel and natural gas engines. However, the in-use emission benefits of NG engines could be even more significant.

A recent report published in *Environmental Science and Technology*[2], evaluated in-use emissions of earlier model year NG vehicles and found that NG engines performed much better in real world conditions (i.e., operating within city limits in low-speed, high-idling situations), registering NOx levels that were 96% lower than levels produced by tested diesel engines equipped with the latest emissions controls. The study found that diesel NOx emissions operating in similar conditions produced emissions that were 5 -7 times higher than in-use certification limits in some cases.

Related Recommendations for EMT Funding

- ✓ **Provide a higher level of funding for technologies that are proven to exceed federal emission levels for nitrogen oxides**
  - Vehicles with engines certified to California's Optional Low-NOx Standard should receive the highest level of funding (e.g., 25% in the case of private sector vehicle replacements)
  - Use the state's approved DERA plan to fund low-NOx natural gas trucks (i.e., 35% of the replacement cost for private vehicles equipped with low-NOx engines)
- ✓ **Provide the highest level of funding to applications that will reduce the largest share of NOx emissions**
  - Evaluate the main mobile source(s) of NOx emissions in urban and non-attainment areas (Note: In most regions, this means prioritizing funding for short-haul, regional-haul, and refuse trucks)
  - Do not segment the funding – fund the projects that best achieve the most NOx reductions

[2] *Environ. Sci. Technol.*, **2015**, *49* (8), pp 5236–5244 (Emission Rates of Regulated Pollutants from Current Technology Heavy-Duty Diesel and Natural Gas Goods Movement Vehicles).

2. Responsible: NGVs Extend the Funding and Foster Economic Development

- **Key Point:** NGVs are far more cost-effective in delivering emission reductions than other alternative fuel options, such as hybrid and electric vehicles.

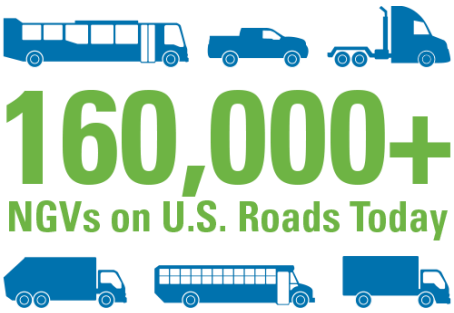
Due to lower fuel and maintenance costs, NGVs offer an 18 to 24 month payback. As production increases and fuel tank prices come down, vehicles will become less expensive and enjoy a shorter payback period

NGVs Offer a Fast Return on Investment

While NGVs typically cost more than gasoline or diesel vehicles upfront (largely due to the cost of high-pressure and insulated fuel tanks which are necessary to store CNG or LNG), owners and operators of high mileage vehicles typically see a pay back in as little as 18–24 months. This is due to:

- **Lower Fuel Costs**: Natural gas fuel is currently $0.50 to $1.00 less per gallon. The savings in fuel costs can translate into significant savings over the life of a vehicle, depending on fuel efficiency and the number of miles driven. The greatest savings are currently being seen in heavy-duty, high mileage fleets.

- **Lower Maintenance Costs**: NGVs are easier and cheaper to maintain than diesel trucks because they have:
  - No diesel particulate filter (DPF)
  - No DPF regeneration or waste disposal
  - No selective catalytic reduction (SCR)
  - No diesel emission fluid (DEF)



High-profile fleets across the U.S. are using natural gas vehicles in their everyday operations, transporting passengers, and hauling waste, packages, beverages, and other goods

NGVs Have Been Road-Tested by Leading Fleets

There are more than 160,000 NGVs on U.S. roads today, spanning all weight classes and vehicle applications. The adoption of NGVs has been pioneered by several high-profile fleet operators, including UPS, Anheuser-Busch, Kroger, FedEx, Frito Lay, Waste Management, LA Metro, all of which performed exhaustive analysis to determine the best vehicle and fueling options for their fleet based on application, range, duty cycle, and payload.

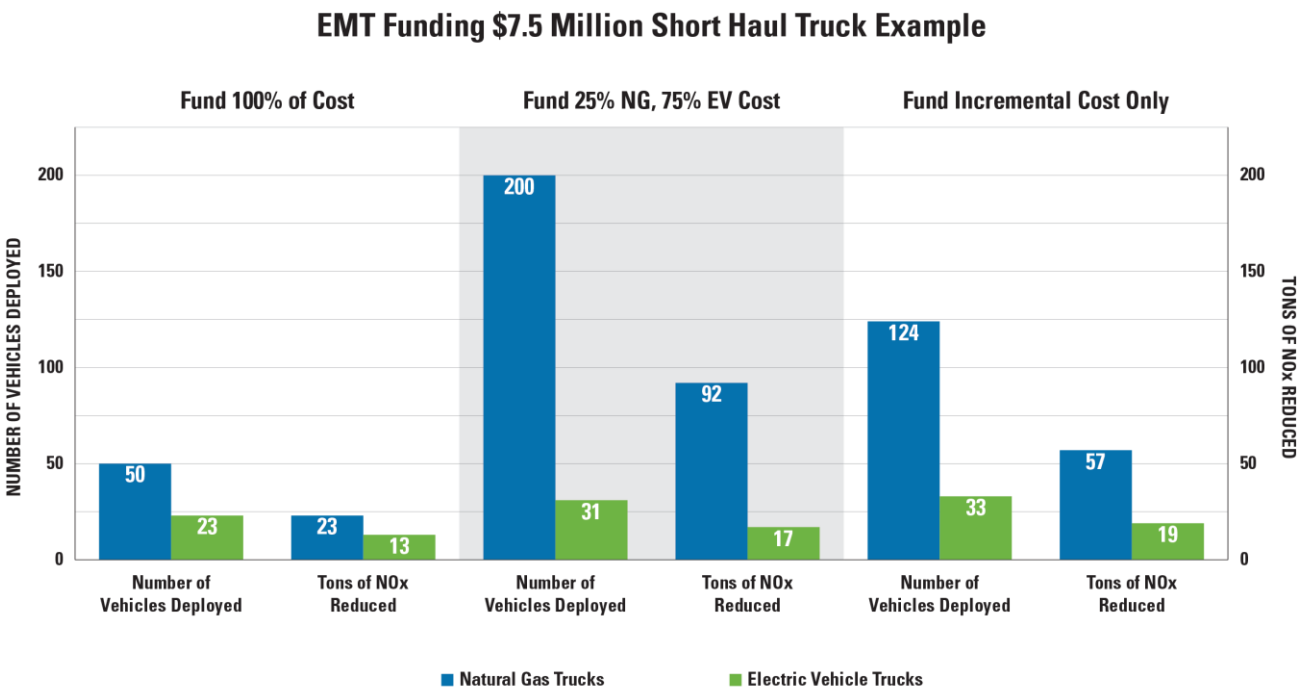
Given the significant fuel and emission reductions realized by early adopters, the popularity of NGVs has continued to build in the U.S., with 20% of all U.S. transit buses now running on CNG or LNG, 35 airports operating NGVs in their private fleets or championing policies that encourage use by private fleets, and more than 50% of new refuse trucks running on natural gas.

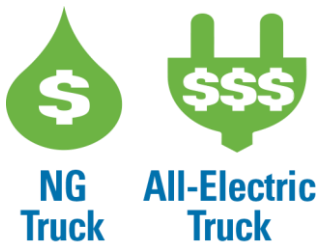
To fuel these vehicles, natural gas infrastructure is rapidly expanding with more than 1,640 CNG and 123 LNG fueling stations operating today.

Dollar-for-Dollar Natural Gas Delivers Greater Numbers of Total Vehicles and Greater Total Tons of NOx Emission Reductions

This is illustrated by the chart below which looks at several different funding options for natural gas and electric vehicles including providing 100% of the cost of new, replacement vehicles for public fleets, using the maximum funding levels specified in the settlement for natural gas and electric vehicles purchased by private fleets, or funding only the incremental cost of new, replacement vehicles. In each case, the deployment of natural gas vehicles (e.g., regional haul trucking, refuse trucks, and transit buses) will provide the most NOx emissions reduction to comply with the EPA's latest national ozone standards.

Chart: Heavy-Duty Truck Deployment & NOx Reduction Comparisons Under Different Funding Scenarios





<u>Critical Insight:</u>

Comparable All-Electric Vehicles Cost 2-3x More Than an NGV

While actual cost depends on the application, an all-electric medium- or heavy-duty vehicle usually costs two to three times the amount of a comparable vehicle powered by a 0.02 g NOx natural gas engine. As noted above, funding heavy-duty NGVs delivers greater emission reductions than similar projects involving all-electric trucks, and they offer the best ability to reduce emissions on a large scale because the funding will extend further.

Related Recommendations for EMT Funding

✓ **Ensure that funding incentivizes adoption by both public and private fleets**

- While it might be tempting to fund public vehicles at the 100% level, this will limit the total number of deployed vehicles and therefore lessen the overall emission reductions
- Funding levels should be large enough to offset the incremental cost of new, cleaner vehicles, as well as to address the fact that replaced vehicles must be scrapped

✓ **Prioritize funding for clean vehicles rather than fueling infrastructure**

- Funding should be used to incentivize fleets and vehicle acquisitions where existing fueling infrastructure exists to better support investments that have already been made
- If fueling infrastructure needs to be developed, funding should be secured as part of private-public partnerships. Using the funding in this way will encourage additional economic development in the state and increase the availability of stations for future deployments

3. Available: NGVs Meet the Diverse Operating Requirements of Every Fleet Application

❖ **Key Point:** Dozens of models of medium- and heavy-duty low-emission natural gas vehicles and engines are commercially available from reputable, world-known OEMs with established sales and service networks.

Wide Array of NGV Options Commercially Available

There are many natural gas vehicle options available from several original equipment manufacturers (OEM). These vehicles can be purchased from the dealership through a process that has been streamlined for the customer.

Many other medium- and heavy-duty vehicle options are available through small vehicle modifiers (SVM). These companies manufacture conversion systems that have been certified and approved by the U.S. Environmental Protection Agency and/or the California Air Resources Board. These approved systems can be installed on new and used vehicles to run on natural gas.

Additionally, Cummins Westport currently offers the 6.7L ISB-G, 8.9L ISL-G and the 11.9L ISX-G natural gas engines. These spark-ignited engines are used in a variety of applications, including refuse trucks, transit buses, cement trucks, short- and regional-haul tractors, delivery trucks, school buses, and shuttles. Roush offers a school bus engine that is certified to the Low-NOx standard of 0.10. Retrofit and repower options are also available from a variety of manufacturers.

For a full list of EPA and CARB certified engines, visit www.ngvamerica.org/vehicles/vehicle-availability. A list of available NGV manufacturers and conversion companies follows.

HD Vocational OEMs
- Autocar Truck
- Capacity
- Crane Carrier
- Elgin
- Johnston
- Kalmar
- McNeilus
- Mack
- Peterbilt
- Power Solutions Int'l.
- Schwarze
- Tymco

HD Truck OEMs
- Cummins Westport
- Freightliner
- Kenworth
- Mack
- Peterbilt
- Volvo

HD Bus OEMs
- Blue Bird Bus
- DesignLine
- El Dorado
- Gillig
- New Flyer/NABI Bus
- NOVA Bus
- Motor Coach Industries
- Thomas Built Bus

HD Retrofit/ Repowers
- American Power Group
- Clean Air Power
- Diesel 2 Gas
- Fyda Energy Solutions
- NGV Motori
- Omnitek Engineering

MD Retrofits
- AGA Systems
- Altech-Eco
- Crazy Diamond Performance
- Greenkraft
- Landi Renzo USA/Baytech
- M-Tech Solutions
- NAT G
- NGV Motori USA
- PowerFuel Conversions
- Roush CleanTech
- STAG
- Westport Fuel Systems
- Zavoli

Fuel Systems
- Agility Fuel Systems
- Mainstay
- Momentum Fuel Technologies

Critical Insight: Heavy-Duty Electric and Fuel Cell Vehicles are Not Commercially Available

As of today, three unique fuel-technology combinations hold the most promise to successfully transform America's HDV transportation sector to zero and near-zero emissions:

1. Near-zero-emission internal combustion engines fueled by conventional or renewable natural gas
2. Zero-emission battery-electric-drive systems
3. Zero-emission hydrogen fuel cell systems

While battery-electric and hydrogen fuel cell systems can offer extremely low emissions profiles, the lack of commercially available heavy-duty and limited medium-duty products and charging/fuel distribution networks makes implementation in the near future impractical or very difficult. Furthermore, these vehicles are being developed by niche, start-up companies and have only been used in early test programs; comparatively, medium- and heavy-duty NGVs from major OEMs have been widely, commercially available in dozens of applications for over two decades. Near-zero-emission internal combustion engines fueled by conventional or renewable natural gas are the only option to immediately and cost-effectively provide extremely low NOx and GHG emissions in high-impact HDV sectors.

Related Recommendations for EMT Funding

✓ **Prioritize funding for commerically available products**
- Given that the NOx emissions from Volkwagen vehicles are already in the air, funding should be concentrated to projects that allow us to deploy the cleanest vehicles available today (i.e., not pre-commercial or research and development projects)

✓ **Scale funding to incentivize the cleanest engines available**
- Provide greater funding for medium- and heavy-duty engines that deliver NOx reductions over and above what is currently required for new diesel vehicles
- 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 and should not be used to fund more diesel fueled vehicles

Let's Transform Clean Transportation Together

NGVAmerica and its members are eager to serve as a resource to assist the CT DEEP in their evaluation and development of Connecticut's Beneficiary Mitigation Plan. We strongly encourage the state to recognize the superior and unmatched role that natural gas vehicles can play in delivering nitrogen oxide (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 Connecticut. Please contact Jeff Clarke, NGVAmerica General Counsel & Director Regulatory Affairs at 202.824.7364 or jclarke@NGVAmerica.org, or Sherrie Merrow, NGVAmerica State Government Advocacy Committee Chair at 303.883.5121 or smerrow@NGVAmerica.org to set up a meeting and for additional information.

Sincerely,

Matthew Godlewski
President

Summary of NGVAmerica's Recommendations for EMT Funding

- ✓ 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 to begin
- ✓ Prioritize funding for clean vehicles rather than fueling infrastructure
- ✓ Scale funding to incentivize the cleanest engines available
- ✓ Ensure that funding incentivizes adoption by both public and private fleets
- ✓ Accelerate the funding in the early years to maximize the NOx reduction benefits
- ✓ 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

VW Settlement Comments

Bruno Venero <bruno.venero@uconn.edu>

Tue 3/6/2018 5:01 PM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

To Connecticut Department of Energy and Environment Protection,

My name is Bruno Venero. I am a born citizen of Connecticut as well as my younger brother. I am concerned about the level of air pollution in my neighborhood. It is clear that the toxic emissions release from motor vehicles contributes to the air pollution causing harmful damages to the environment and the population. The smog and the clogging up of the air harms my younger brother who suffers from asthma. His conditions varies throughout the year from the diesel fueled toxins. I no longer want him or others to suffer. I hope and encourage you to put the Volkswagen funds to good use for the communities. Please invest in zero-emission school buses.

Thank you for your time,

Bruno Venero
41 Newington Road, West Hartford 06110
(860) 593-8198
b.venero4@gmail.com

VW Settlement Comments

Kait Williams <kait.williams@outlook.com>

Wed 3/7/2018 3:27 PM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

To the Connecticut Department for Energy and Environmental Protection:

I'm writing today to encourage you to invest the $55.7 million in electric school buses for our kids. Hundreds of thousands of children in Connecticut ride the bus to school each day and are exposed to dangerous toxins that can lead to asthma and other illnesses.

The best place to start reducing air pollution is by cleaning up the air our kids breathe. Electric school buses will help improve the health of Connecticut's children and of our neighborhoods. Please use these funds to replace our dirty diesel buses with clean, electric buses.

Thank you,

Kaitlyn Williams

Sharon Williams <sharonmax422@gmail.com>

Wed 3/7/2018 3:57 PM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

To the Connecticut Department for Energy and Environmental Protection:

As the concerned parent of 2 children who attend Connecticut public schools and ride the bus to school each day, I urge you to use the Volkswagen settlement funds to buy electric zero-emission school buses. My kids are my #1 priority, and I worry about the toxic air they breathe in each day they ride the school bus and while they're waiting to load the bus. Diesel has been shown to emit the worst kinds of toxins, toxins that cause respiratory illnesses and may lead to cancer. I don't want to put my children through this, but they have no other option but to ride the bus to school each day. I encourage you to put the Volkswagen funds to good use for the health of our kids and invest in zero-emission school buses.

Sincerely,

Sharon Williams

119 Center Street
Windsor Locks, CT 06096
(860) 539-1794
sharonmax422@gmail.com

VW Settlement

william zamora <willzamora1@hotmail.com>

Wed 3/7/2018 10:25 PM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

To the Connecticut Department for Energy and Environmental Protection:
I'm writing today to encourage you to invest the $55.7 million in electric school buses for our kids. Hundreds of thousands of children in Connecticut ride the bus to school each day and are exposed to dangerous toxins that can lead to asthma and other respiratory illnesses.
Communities of color and low income neighborhoods are disproportionately affected by air pollution. We don't deserve to breathe in dirty air, and diesel school buses are worsening this problem.
The best place to start reducing air pollution is by cleaning up the air our kids breathe. Electric school buses will help improve the health of Connecticut's children and of our neighborhoods. Please use these funds to replace our dirty diesel buses with clean, electric buses.
Thank you,
Will Zamora
willzamora1@hotmail.com

VW settlement clean buses

Henry Lowendorf <grnhpeacecouncil@gmail.com>

Thu 3/8/2018 8:40 AM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

This state should immediately begin to move from diesel buses to clean, zero emission buses. If we take our kids' health seriously, we must stop poisoning their air.

Henry S. Lowendorf
42 Young St.
New Haven, CT 06511-2953
203-389-9547
henry.lowendorf@gmail.com

I Demand Clean Buses For Kids

Garrett Sullivan <garrettsull@gmail.com>

Thu 3/8/2018 12:56 PM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

We have a historic opportunity. After Volkswagen cheated federal emission tests, they are paying back the consumers and states they harmed with a $14.7 billion settlement.

Our state is set to receive millions of dollars from the settlement and you need to put it to immediate use by transitioning to zero-emissions electric school buses and reducing toxic diesel pollution! This will protect the health of our kids who ride buses to and from school, as well as the air of the communities they drive through every day.

Our kids shouldn't have to pay any price in order to receive an education. I urge you to use our state's VW Mitigation Trust Fund money to upgrade our aging diesel-powered school buses to zero-emissions electric buses, giving our kids the clean ride they deserve!

Garrett Sullivan
23 Clark Ave.
East Haven, CT 06512

To: Department of Energy and Environmental Protection

From: David B, Bingham, MD,
Co-Chair CT League of Conservation Voters; Board Member, Audubon CT, the CT Land Conservation Coalition, the Salem Land Trust, and the Eightmile River Wild and Scenic Coordinating Committee

Re: Funding zero-emission buses

It is my understanding that DEEP is currently considering possible projects to be paid for out of funds received in the VW air pollution settlement.

These funds should be used in a way that compensates for or at last mitigate the air pollution VW caused.

Although I am a member of numerous conservation organizations (noted above), I am writing as a concerned physician who has delivered thousands of children who will inherit a planet that has significant air pollution that must be reduced because of the significant risks to their health and happiness. This funding is an opportunity to do something significant.

Zero-emission school buses have been proposed to replace buses that are a significant polluter of air in the vicinity of schools and children's homes. I can think of no better use of the funds than to target the most vulnerable of us, and to reduce this exposure at its source. Savings in future health costs by reducing devastating cases of asthma and pneumonia will repay this cost over time.

Moreover, such a project not only removes dangerous pollutants that cause disase, but also diminishes the greenhouse gas emissions that are causing climate change, putting all our citizens at risk from rising sea-water, floods, draught, fire and storm severity, by switching from fossil fuels to electricity that can be generated with cleaner fuel sources such as wind, solar, and hydro power.

Thank you for your consideration,

David B. Bingham, MD
860-859-1247
50 White Birch Road, Salem, CT

VW Funds For Electric School Busses For Kids

Taylor Robertson <taylor.ctlcv@gmail.com>

Thu 3/8/2018 4:56 PM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

To the Connecticut Department for Energy and Environmental Protection:
I'm writing today to encourage you to invest the $55.7 million in electric school buses for our kids. Hundreds of thousands of children in Connecticut ride the bus to school each day and are exposed to dangerous toxins that can lead to asthma and other respiratory illnesses.
Communities of color and low income neighborhoods are disproportionately affected by air pollution. We don't deserve to breathe in dirty air, and diesel school buses are worsening this problem.
When I was younger, I rode buses to school everyday. As I got older, I would experience shortness of breath after about 15 minutes of playing with all my friends. One day, my teacher sent me to the nurse because I started to wheeze. The nurse called my parents and told them I should make a doctors appointment because I might have asthma. My parents made the appointment right away. The doctors explained to my parents that I had asthma, they prescribed me two inhalers, one red and the other yellow. As I grew older, I wanted to play sports but was always advised not to, as it was too high of a risk for my health. This experience disheartened me. That was always a burden upon my shoulders. I always wondered where I got this "asthma" from but no one could answer the question. So I started doing my own research, and I found out that African American and Latino communities are more likely to develop asthma, Hartford County's failing ozone grade is a prime example. Most of this air pollution is coming from diesel school buses that our youth ride 5 days a week. They breathe in nitrogen oxides that are cancerous to their health, and I will not stand for this!
The best place to start reducing air pollution is by cleaning up the air our kids breathe. Electric school buses will help improve the health of Connecticut's children and of our neighborhoods. Please use these funds to replace our dirty diesel buses with clean, electric buses.
Thank you,
Taylor Robertson
71 Natick St, Hartford CT, 06106
(860) 331-5257
Taylor.ctlcv@gmail.com

Give us clean buses with Volkswagen settlement

Benjamin Martin <bendicoot@yahoo.com>

Thu 3/8/2018 7:47 PM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

For years, Volkswagen cheated federal emission tests and polluted our air. Now they're paying $14.7 billion to the states, and Connecticut stands to receive $55.7 million. This money *must* be spent reducing air pollution.

Across the country, 25 million kids are exposed to dangerous, cancer-causing toxins as they ride diesel-fueled buses to school each day. Our children deserve to breathe clean air, which is why we're asking Connecticut use the $55.7 million to replace these dirty, diesel school buses with clean, electric buses.

Ben Martin

329 Ward st

Wallingford, CT 06492

203-215-0395

State funds for Clean energy transportation

john watrus <jonwatrus@yahoo.com>

Thu 3/8/2018 8:59 PM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

Hello, my name is Rourke Kennedy and I'm a CT resident from Montville (06370).

My address is 39 Spruce Lane, Oakdale CT 06370

My email address and phone contact information is

Email- jonwatrus@yahoo.com
Phone- (860)-941-5179

I'm concerned about the VW funds the state will be receiving from the emissions settlement.

I believe CT should be investing in zero emission transportation, especially for children's school buses,
and I feel that this is how the funds should be used. We ought to lead the future in clean energy.

Thank you.

Re: VW settlement

Victoria Zacharewicz <vickizach@yahoo.com>

Thu 3/8/2018 9:49 PM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

I am writing to encourage you to spend $56 million to replace the aging diesel buses with low or zero emissions school buses. Buses are the perfect vehicle to use solar panels. Our children are our future. Let's lead by example.

Sincerely,

Vicki Zacharewicz
239 Hubbard Ave.
Stamford, CT 06905
Vickizach@yahoo.com
203-962-3438
Sent from Yahoo Mail on Android

Funds from VW settlement

bobmark@juno.com

Thu 3/8/2018 11:47 PM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

Greetings.

I implore you to earmark the $55.7Million from the VW settlement to be spent on upgrading school buses to electric vehicles. Children riding to school on gasoline and diesel powered buses are exposed to dangerous, cancer causing toxins each day. Besides reducing the overall air pollution within CT the children, the hope of our future, will benefit the most. They deserve to breathe clean air and zero-emissions buses will be a step in the right direction.

Your foresight and cooperation with this request will be greatly appreciated.

Bob

Robert F. Mark
825 Sherman Av
Hamden, CT 06514

VW settlement funds - Mitigation Plan

Susan Miller <susancmiller@comcast.net>

Fri 3/9/2018 7:14 AM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

To Whom it May Concern:

I strongly support using the VW settlement funds to purchase clean, electric school buses for the children of Connecticut. It makes perfect sense to me that we should spend this money to improve the air, and health, of those most vulnerable in our communities. For too long low income people and people of color have suffered the worst effects of fossil fuel use. Volkwagon's blatant disregard for the health of the planet to line it's own pockets is just another example of valuing corporate profit over the lives of ordinary citizens. Using these funds to mitigate the harm caused by fossil fuel emissions seems a just, fitting response.

Thank you,

Susan Miller

10 Ethan Drive

Windsor, CT 06095

susancmiller@comcast.net

860-205-4217

Use VW Funds for Electric School Buses for Kids

Elizabeth Williams <ewilliams@baypath.edu>

Fri 3/9/2018 10:02 AM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

To the Connecticut Department for Energy and Environmental Protection:

My name is Liz Williams, and I live in Windsor Locks, CT. I'm concerned about the level of air pollution in our neighborhood. Some days it's so bad that you can see the pollution clogging up our air. We have so many vehicles driving back and forth, adding to the smog. Especially with the airport right in town, the air quality is suffering enough as it is.

I have enjoyed going for jogs around my neighborhood for many years. I started avoiding going for jogs in the afternoon due to the fumes from the cars and school buses because I would notice I had a much harder time breathing during the time when children are getting picked up/dropped off from school.

That's why I support replacing diesel fueled cars with electric ones, especially school buses for kids. It's not right that our air quality is so bad, and it's even worse that children breathe in the worst of it riding diesel buses to school each day. Please use the $55.7 million available to the state to buy clean, zero-emission school buses. This will help air pollution in the neighborhoods, like mine, that these buses drive through daily. It's a smart investment that benefits our communities.

Thank you for your time.

Liz Williams
433 Litchfield Drive, Windsor Locks CT 06096
(860) 819-1260
ewilliams@baypath.edu

Draft "Mitigation Plan" for how to spend the Volkswagen settlement funds

Bert Goff <bert@tristoe.net>

Fri 3/9/2018 10:17 AM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

Dear Sir or Madam:
I am a resident of New Milford, CT. Please see my complete contact information at the end of this e-mail.

First, as a CT taxpayer, I insist that the Volkswagen settlement money be used to reduce air pollution. After all, this money is specifically because Volkswagen illegally worsened air pollution in our state.

I specifically support spending the money to replace dirty diesel buses with zero-emission electric buses. Our kids deserve clean air more than anyone else!

If, for some reason, electric buses are are not chosen, my second choice is that the money be spent on renewable energy facilities such as solar panel installations on local government and school buildings.
Bert

--
Bert Goff
65 Legion Rd
New Milford, CT 06776
Home: 860-355-8895
Cell: 203-885-5316
bert at tristoe dot net

volkswagen $

Lisa Leah Haut <lisaleah13haut@gmail.com>

Fri 3/9/2018 11:14 AM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

PLEASE invest Connecticut’s $55.7 million from Volkswagen into zero-emission school buses.
thank you,
Lisa Haut
1525 Noble Ave
Bridgeport, CT
06610
203-726-4295

Volkswagen Settlement Funds

Samuel King <sam@blueearthcompost.com>

Fri 3/9/2018 12:29 PM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

Hi there,

My name is Sam King (28 Kenyon Street, Hartford CT 06105) and I am writing you with the recommendation that you use the settlement funds to purchase electric buses for CT school districts, especially urban schools where the air pollution from diesel fuel is all the more harmful.

Other helpful projects would be solar charging stations for the buses so that they run off renewable energy.

Best,
SK

--
Samuel King
Marketing & Business Expansion
Blue Earth Compost, Inc - Check out our new website!
A CT Benefit Corporation
(413) 824-6504 (cell)
(860) 266-7346 (office)

"There is no such thing as waste, only failures of creativity."

Use VW Funds For Electric School Buses For Kids

Alexander Rodriguez <alex.ctlcv@gmail.com>

Fri 3/9/2018 4:58 PM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

To the Connecticut Department for Energy and Environmental Protection:

I'm writing today to encourage you to invest the $55.7 million in electric school buses for our kids. Hundreds of thousands of children in Connecticut ride the bus to school each day and are exposed to dangerous toxins that can lead to asthma and other respiratory illnesses.

Communities of color and low income neighborhoods are disproportionately affected by air pollution. We don't deserve to breathe in dirty air, and diesel school buses are worsening this problem.

As a kid, I loved to run – and I was fast. Track and field was my greatest passion. Until, I started experiencing difficulty breathing.

I became prone to bronchitis. I developed shortness of breath. Soon, I was diagnosed with asthma – something my mother, doctors, and I believe was the result of the toxic diesel pollution I was exposed to during years of riding the bus to and from school.

I required medication and an inhaler to regulate my breathing and to avoid bouts of suffocation. In what felt like the blink of an eye, track and field slipped away from me.

As a young adult, I wanted nothing more than to join the armed forces and become a pilot – but, my history of asthma and respiratory illness put a roadblock between me and serving my country. Asthma had disqualified me, and I wasn't afforded a medical waiver.

Fast forward to April 2017, when I found Chispa. Abi, another organizer with Chispa, told me about the program's work and its Clean Buses for Healthy Niños campaign – I was instantly sold on working to protect others from the toxic air pollution that affected me.

Chispa provides an opportunity to work with people like myself – who have felt the effects of climate change and pollution firsthand. And by making these personal connections to climate and one another, we are raising a new generation of environmentalists. Our promotores program works with youth and young adults to hold polluters and our elected officials accountable for decisions that impact our air and water, and our community.

In a time when our president and EPA administrator are doing all they can to advantage the polluter interests that have long-profited in this country, we are standing up for our communities. We refuse to be forgotten or saddled with environmental injustices.

I'm proud to be a part of this work. Following Hurricane Maria, my mother was stranded in Puerto Rico. It took weeks to reach her by phone. It took a whole month to get her back to Connecticut. I felt helpless. I felt scared. I felt angry. What happened in Puerto Rico—the devastation that our president so heartlessly overlooked—is not okay. But these are they type of environmental injustices we have to tackle.

My friends and I are standing up. I have organized community clean-ups, voter registration drives, and gathered countless signatures toward our campaign – we want to do everything possible to protect this earth from destruction, we want to leave it a better place than the one we inherited.

The best place to start reducing air pollution is by cleaning up the air our kids breathe. Electric school buses will help improve the health of Connecticut's children and of our neighborhoods. Please use these funds to replace our dirty diesel buses with clean, electric buses.

Thank you,

Alexander Rodriguez
195 Abbotsford Ave
860-840-6004
alex.ctlcv@gmail.com

Use VW Funds For Electric School Buses For Kids

H Rodriguez <hrodriguez1989@yahoo.com>

Fri 3/9/2018 6:57 PM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

To the Connecticut Department for Energy and Environmental Protection:

As the concerned parent of 4 children who attend Connecticut public schools and ride the bus to school each day, I urge you to use the Volkswagen settlement funds to buy electric zero-emission school buses. My kids are my #1 priority, and I worry about the toxic air they breathe in each day they ride the school bus and while they're waiting to load the bus. Diesel has been shown to emit the worst kinds of toxins, toxins that cause respiratory illnesses and may lead to cancer. I don't want to put my children through this, but they have no other option but to ride the bus to school each day. I encourage you to put the Volkswagen funds to good use for the health of our kids and invest in zero-emission school buses.

Sincerely,

Hilda Rodriguez
195 Abbotsford Avenue
West Hartford, CT 06110
hrodriguez1989@yahoo.com

Public request

Amarilis Franjul <franjul81@yahoo.com>

Fri 3/9/2018 7:02 PM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

To the Connecticut Department of Energy and Environmental Protection:

My child, Amarey, is 8 years old and suffers from asthma and sickle cell disease. Her asthma triggers her sickle cell and sends her into crisis, which in turns leaves her hospitalized for days a time. In her short life, she's been hospitalized more than 30 times, has received more than 20 blood transfusions and has suffered from acute chest syndrome countless times. Although this is a hereditary blood condition, she worsens when her illness is triggered by certain things. She struggles to breathe everyday, and every day she does not breathe in clean air, her health aggravates and intensifies her condition. Riding a diesel fueled bus to school is not making things better for her health. Diesel school buses pollute our air and release dangerous toxins into our neighborhoods. My child shouldn't have to suffer because she rides the school bus. Please do something about this and replace the diesel buses with electric buses that do not emit the same level of soot. Amarey, along with the rest of my family, is counting on you to make this change and improve the quality of life by making our air cleaner.

Thanking you in advanced for your support,
Amarilis Franjul
64 Vine Hill Road
West Hartford, CT 06110
301-259-5961
Franjul81@yahoo.com

Use VW Funds For Electric School Buses For Kids

JOSE RODRIGUEZ <jrodriguez1989@comcast.net>

Fri 3/9/2018 7:08 PM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

To the Connecticut Department for Energy and Environmental Protection:

As the concerned parent of 6 children who attend Connecticut public school(s) and ride the bus to school each day, I urge you to use the Volkswagen settlement funds to buy electric zero-emission school buses. My kids are my #1 priority, and I worry about the toxic air they breathe in each day they ride the school bus and while they're waiting to load the bus. Diesel has been shown to emit the worst kinds of toxins, toxins that cause respiratory illnesses and may lead to cancer. I don't want to put my children through this, but they have no other option but to ride the bus to school each day. I encourage you to put the Volkswagen funds to good use for the health of our kids and invest in zero-emission school buses.

Sincerely,

Jose L. Rodriguez

195 Abbotsford Ave

jrodriguez1989@comcast.net

Invest in zero-emission school buses

Alison Zyla <barral11@att.net>

Fri 3/9/2018 8:20 PM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

Dear Department of Energy and Environmental Protection:

The Volkswagen (VW) settlement funds should be invested into zero-emission school buses for our children's health and right to breathe clean air.

Thank you for your consideration.

Sincerely,

Alison Zyla

1 Shore Grove Road
Clinton, CT 06413
(860)552-4022

VW settlement funds for electric buses

Kevin Sullivan <ksullivan12@snet.net>

Fri 3/9/2018 8:43 PM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

Dear DEEP –

I strongly encourage you to consider using as much of the VW settlement funds as possible for purchasing zero-emission electric buses.

I believe replacing diesel buses will provide immediate and significant relief, exactly where it needs to be: for our children.

Thank you for your consideration!

Best regards,

Kevin T. Sullivan
79 Wright Rd
Wethersfield
860-690-4576
ksullivan12@snet.net

VW grant

Dawn Henry <dawn@henrystrategy.com>

Fri 3/9/2018 10:35 PM

To: DEEP MobileSources <DEEP.MobileSources@ct.gov>;

Please use a good portion of this money for electric school buses. They will take diesel off the road and help our most vulnerable. Thank you.

-Dawn

Dawn Henry, Principal
HENRY STRATEGY PARTNERS, LLC
205 Bayberry Lane - Westport, CT 06880
Office (203) 349-2642 - Cell (203) 293-5753
dawn@henrystrategy.com

Electric School Bus E-mail Petition #1

The following E-mail was received 7 times between February 15, 2018 and March 9, 2018.

To the Connecticut Department for Energy and Environmental Protection:

My name is [Contact Name] and I live in [Insert Town]. I'm concerned about the level of air pollution in our neighborhood. Some days it's so bad that you can see the pollution clogging up our air. We have so many vehicles driving back and forth, adding to the smog. That's why I support replacing diesel fueled cars with electric ones, especially school buses for kids. It's not right that our air quality is so bad, and it's even worse that children breathe in the worst of it riding diesel buses to school each day. Please use the $55.7 million available to the state to buy clean, zero-emission school buses. This will help air pollution in the neighborhoods, like mine, that these buses drive through daily. It's a smart investment that benefits our communities.

Thanks for your time.

Katrina Porch	West Hartford	Katrina.Porch@jerrysartsupplies.com
Xander Bayanilla	Windsor Locks	greaterhartfordtaskforce@gmail.com
Louis Sorbo	Hartford	Louis.sorbo@hotmail.com
Hassan Sultan	East Hartford	Louis.sorbo@hotmail.com
Dakquie jones	Hartford	dakquie@gmail.com
Anderson Elien	Hartford	andersonelien199@gmail.com
Jose Gonzalez	Hartford	goldogonzalez4@gmail.com

Electric School Bus E-mail Petition #2

The following E-mail was received 253 times between February 15, 2018 and March 9, 2018. Note: Duplicates may exist if submitted more than once from same email address

Dear Governor Malloy,

We have a historic opportunity. After Volkswagen cheated federal emission tests, they are paying back the consumers and states they harmed with a $14.7 billion settlement.

Connecticut is set to receive $55 million from the settlement and you need to put it to immediate use by transitioning to zero-emissions electric school buses and reducing toxic diesel pollution! This will protect the health of the 467,000 kids who ride buses to and from school, as well as the air of the communities they drive through every day.

Our kids shouldn't have to pay any price in order to receive an education. I urge you to use our state's VW Mitigation Trust Fund money to upgrade our aging diesel-powered school buses to zero-emissions electric buses, giving our kids the clean ride they deserve!

Regards,

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Christopher Lynch	clynch1918@hotmail.com
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