

**Connecticut’s Draft VW Environmental Mitigation Plan:
Summary of Comments Received**

Contents

I. Clean Diesel..... 3

II. Compressed Natural Gas (CNG)..... 4

III. DERA Option for Emission Control and Idle Reduction Technologies 5

IV. Electric Vehicles (EVs) & Equipment..... 6

V. Fuel Cell Electric Vehicles (FCEVs) & Hydrogen (H₂) Fueling 11

VI. Propane..... 12

VII. Operational Comments..... 14

VIII. General Comments 14

IX. Outside the Scope of the VW Settlement..... 16

Connecticut's Draft VW Environmental Mitigation Plan:

Summary of Comments Received

On January 18, 2017, the Connecticut Department of Energy and Environmental Protection (DEEP) posted a draft of its Beneficiary Mitigation Plan (Plan) on its VW Settlement website.¹ DEEP's draft Plan seeks to provide the public with insight into its vision and overall approach for utilizing the mitigation funds allocated under the Trust. 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 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.

Once the plan had been posted, DEEP published an informal request for comments on its VW website; the same information was sent via e-mail to stakeholders who had requested information on the settlement. Sixty-five written comments and questions² were submitted through the website before the comment period ended on March 6, 2017. In addition, on February 23, 2017, DEEP hosted a public informational session on the Plan at the headquarters in Hartford. Thirty-five individuals participated in the public session, of whom fifteen presented oral comments. Separately, DEEP staff fielded eleven questions from the audience.

Most of the commenters were advancing the cause for prioritizing particular technologies listed in Appendix D-2 to the Partial Settlement document. As a result, 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."

¹ DEEP VW Settlement Information at: <http://www.ct.gov/deep/vw>

² The original comments can be found on the DEEP VW website at: http://www.ct.gov/deep/lib/deep/air/mobile/vw/VW_Settlement_-_Comments_Received.pdf

I. Clean Diesel

DEEP received two written comments, and one comment presented at the informational session on February 23, that were primarily supporting the replacement or repowering of eligible trucks and equipment with Tier 4 diesel engines. Several commenters who were promoting other technologies also advocated for clean diesel programs.

Cost Effectiveness: The primary argument in favor of clean diesel was that the technology is the most cost effective option for reducing NO_x emissions through replacing and repowering diesel vehicles and equipment. Putting an emphasis on cost effective clean diesel replacements would benefit small businesses and non-urban locations in the state.

Proven Technology: For heavy-duty applications that produce the greatest amount of pollution, notably locomotive, marine and construction equipment, commenters provided data supporting clean diesel as a proven replacement technology that yields high emission benefits when compared to other technologies.

Greater NO_x Reductions: All commenters in this group noted that Tier 4 diesel engines meet or exceed the U.S. Environmental Protection Agency's emission standards for heavy-duty on-road vehicles and non-road equipment. One commenter cited a 2012 Clean Air Task Force study concluding that replacing a diesel bus with a new, clean diesel bus yielded greater NO_x reductions than replacement with a new, compressed natural gas (CNG) bus.

Multiple Applications: Diesel-powered freight switchers, ferries and tugs represent industry sectors that are important, and should be considered for replacement or repower funding. Clean diesel commenters also supported shorepower technologies, which provide electric support to replace long-term diesel idling at ports and truck stops.

Supports Diesel Emissions Reduction Act (DERA) Option: Because clean diesel technologies can be applied to vehicles and equipment that are not eligible under the VW settlement but are eligible for DERA funding, a number of these comments include supporting the use of VW Settlement funds as matching funds for the DERA Option. Examples of DERA-eligible projects not included in Appendix D-2 of the settlement are construction equipment, agricultural equipment, marine applications (apart from ferries and tugboats), and diesel engine upgrades.

II. Compressed Natural Gas (CNG)

Five comments were received primarily advocating for the use of mitigation funds for natural gas vehicles (NGVs) and CNG infrastructure. While most comments related to prioritizing 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 from the public and private sectors.

Proven & Commercially Available: Commenters recommended that the highest levels of funding should be used to fund proven, commercially available, CNG technologies which have emissions well below the federal standard of 0.2 grams of NO_x per brake horsepower-hour (g/bhp-hr) and meet California's optional low NO_x or near-zero emissions standards. Funding focus areas were wide ranging and included 1) large diesel engine conversions to dual-fuel operation, 2) complete diesel to CNG engine replacements, 3) CNG school buses, 4) medium and heavy-duty trucks and 5) other high mileage fleets such as mass transit, para transit, and refuse fleets.

Equitable Funding for CNG & Electric: With regard to medium and heavy-duty trucks, there was concern that an electric truck replacement, which costs substantially more than a CNG truck with nearly the same life-cycle emissions, would receive up to 75% of the cost under our plan while a CNG truck replacement would only receive up to 25%. It was suggested that the funding percentage for both CNG trucks and electric trucks be the same at 25%. Based on vehicle costs, electric trucks would still be treated fairly and receive close to twice as much actual funding as a CNG truck if both were set to 25%.

Access to CNG Infrastructure: CNG infrastructure comments ranged from support of natural gas fueling stations to funding CNG vehicles in areas where fueling infrastructure already exists leveraging investments that have already been made. Commenters noted that CNG vehicles are an excellent choice if fueling infrastructure is near to the fleet garage facility. It was suggested that private-public partnerships be used to develop infrastructure needed for new locations.

III. DERA Option for Emission Control and Idle Reduction Technologies

In addition to the clean diesel comments, which overlap the DERA Option, DEEP received one comment on diesel emission controls and six comments encouraging the use of VW funds as voluntary matching for the State DERA Option to promote idle reduction technologies. These applications are not eligible for funding under Appendix D-2 but are eligible under DERA. Some commenters were vendors and some were potential customers. Most recommended the integration of hybrid electric transportation refrigeration units (eTRUs) or truck stop electrification (TSE) into Connecticut distribution centers and truck stops. Both technologies require electric infrastructure (a.k.a. shorepower connections) for operation. Another commenter promoted an electrification unit to reduce exhaust emissions from ambulances parked outside hospital emergency rooms.

Exhaust Controls (a.k.a. Retrofits): One commenter recommended that DEEP support funding high-quality particle exhaust filters for vehicles with large diesel engines. Retrofits are a cost-effective way of reducing emissions from older diesel engines.

Benefits of eTRUs: Conventional TRUs are diesel-powered and run for long periods of time to keep cargo chilled while trucks are parked at distribution centers. Since such businesses are located adjacent to highways, these compound the emissions from the transportation corridors in the state. Trucks carrying refrigerated cargo can plug their eTRUs into shorepower stations at the distribution centers, eliminating the diesel idling emissions. Cost savings accrue from replacing the diesel fuel consumed during long periods of idling with electricity. Noise pollution is also greatly reduced by the use of eTRUs, an important feature where residences are nearby. Distribution centers are often located in areas disproportionately impacted by air pollution, so these benefits are consistent with that goal of VW's Mitigation Program.

Benefits of TSE: Two commenters noted that a significant amount (40% was cited) of engine run time for long-haul heavy-duty diesel trucks consists of idling while drivers fulfill their mandatory 10-hour sleep requirements. The idling engines provide electricity for heating and cooling the cab and for small appliances like televisions and refrigerators. They noted that TSE systems provide cost-effective electric power for cab comfort and amenities, eliminating the NO_x and PM_{2.5} emissions from long-term idling and reducing the amount of diesel fuel consumed.

Benefits of Ambulance Stop Electrification: Ambulances frequently idle outside of hospitals to maintain temperature controls so that sensitive equipment is in a mission-ready state. One commenter stated that this idling disproportionately impacts sensitive patients in the hospital and recommended the use of matched DERA funding to install its kiosks outside hospital emergency rooms so that ambulances can plug in and maintain or use their equipment while reducing patient exposure to idling emissions.

IV. Electric Vehicles (EVs) & Equipment

Airport Ground Support Equipment (GSE): DEEP received a detailed comment strongly encouraging DEEP and the State to maintain GSE electrification as an option in its mitigation plan and to ensure an effective and efficient process for disbursement of Trust funds for this highly beneficial eligible mitigation action. A second commenter expressed general support for deploying all-electric powered GSE equipment as long as it makes economic and operational sense; replacement of older electric equipment that is not maintaining required operational efficiency and presents safety concerns should be considered.

Commitment to Emission Reduction: Noting that airlines have worked to reduce emissions through cost effective projects that have included electrification of airport GSE, one commenter proposed that VW funding be geared toward GSE electrification projects. By reducing emissions at Bradley International Airport, the commenter continued, these projects would improve air quality in Hartford County, which has the highest highway NO_x emissions in the state.

Programmatic Infrastructure and Experience: Member airlines have experience and programmatic structures in place to effectively implement GSE electrification projects to reduce emissions. They also have experience with the Federal Aviation Administration's Voluntary aircraft Low Emissions (VALE) Program,³ California's Carl Moyer Program, and have implemented projects effectively in other locations. VALE funding has allowed member airlines to convert equipment at airports in Arizona, New Mexico, Washington, Texas, Florida, and California among others. Securing funding from the VW Mitigation Trust for GSE electrification will allow the airlines to realize similar air quality benefits for Connecticut.

Partnerships for Charging Infrastructure: Member airlines recognize that as non-government entities they may have to share the capital because electric GSE cannot be deployed without supporting infrastructure, which is owned and operated by the airport. As a result, airlines envision partnering with airport operators in integrated GSE electrification projects that will enable cost-effective investments in electric GSE.

Electric Buses: DEEP received five written comments focused on electric buses and charging infrastructure and several other commenters included electric buses among their funding priorities. On-road heavy-duty diesel vehicles, such as buses and trucks, are accountable for 13% of Connecticut's 2014 NO_x pollution. Many comments recommended that money from the VW settlement should be used to cover some or all the cost of purchasing electric buses and installing bus charging stations. This funding could be made available to municipal transit agencies and private companies to defer the higher capital cost of these vehicles.

³ Information on the Voluntary Airport Low Emissions Program can be found at <https://www.faa.gov/airports/environmental/vale/>

Proven technology, Easily Integrated into Connecticut Fleets: Commenters cited many national and international examples of fleets of school, transit, and shuttle buses that have been successfully converted to or replaced by electric buses. There were also several examples of transit operators within Connecticut that have been working with Connecticut Department of Transportation (DOT) to initiate an electric bus pilot project. It was also noted that federal funding sources have been identified that might be available to help leverage funding; some pre-procurement work has been completed.

Large Emission Reductions: Several commenters noted that electric buses have the potential to drastically reduce lifetime NO_x, CO₂ and other greenhouse gas emissions because, as compared to the lifetime emissions of fossil-fueled engines and vehicles, an all-electric bus produces no tailpipe emissions. Many references, tables and graphs were provided showing how electric buses compare to other fuels and technologies used in buses. Commenters also cited the numbers of people who ride through and/or live near transit hubs and are in close proximity to air pollution emitted by buses that are idling or in transit. Several commenters remarked that 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.

Economically Beneficial and Energy Efficient: Commenters 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. Tables, graphs and examples were provided to support the savings calculations. Commenters also noted that electricity prices do not fluctuate on international markets, as the prices of other fuels do, and thus provide fleet owners with better information for future investment planning efforts.

Commenters also noted that electric buses are a viable option for businesses, institutions and governments that are looking for opportunities to incorporate more energy efficient sustainable transportations options into their fleets, both to save money and to meet their sustainability goals.

Supported by State and Regional Planning Efforts: Commenters pointed to Governor Malloy's encouragement of efforts to attain Connecticut's clean air goals by providing a more reliable, cleaner and cheaper transportation system. Connecticut's Air Toxics Control Regulation of 1986 and the 1990 Clean Air Act Amendments⁴ also direct the state to work on lowering pollution from mobile and other sources.

Several commenters also recognized that Connecticut is a signatory on the Zero Emission Vehicle Memorandum of Understanding (MOU)⁵ and that under the MOU the state is

⁴ Information on these and other Connecticut efforts to control air toxics can be found on DEEP's website at http://www.ct.gov/deep/cwp/view.asp?a=2684&q=322230&depNav_GID=1619

⁵ 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

obligated to support and facilitate the successful commercialization of zero emission vehicles (ZEVs) and efforts to maximize the electric miles driven by these vehicles. In addition, commenters noted that electric bus proposals are often a part of current Regional Plans of Conservation and Development and have been found, through pre-scoping work, to garner support from various public and private organizations.

California Zero-Emission Truck and Bus Program:⁶ One commenter referenced the California Hybrid and Zero-Emission Truck and Bus Voucher Incentive Program (HVIP) as a potential model that Connecticut could replicate using Appendix D funds. The Program encourages manufacturers of zero-emission technology to partner with transit agencies and compete for project funding.

Electric Buses as a Transformational Marketing Tool: Several commenters stated that because transit buses are used in rural, suburban and urban areas, they represent the best opportunity to increase consumer awareness of the benefits of electrification. Bus transit accounts for the largest percent of public transportation trips and total passenger miles. Millions of people rely on transit buses to get to school, work and for recreation. Electric buses would provide a platform for people to see, experience and interact with the technology on a daily basis, thus potentially speeding up EV market transformation.

Include Electric Bus Charging Infrastructure: Electric buses require chargers to operate and, due to the fixed itineraries, bus depots and/or common intersection points where buses cross would be good locations to install chargers. The buildout of electric bus infrastructure may also lead to the incorporation of electric buses in more transit agency fleets in the future. One commenter noted that there is currently available charging technology that will allow buses and cars to charge at the same charger, thus increasing the potential usage of a charger and accelerating light duty EV adoption.

Heavy-Duty EVs: Four commenters prioritized replacing heavy-duty diesel vehicles with electric equivalents. Three supported heavy-duty (Class 4-8) trucks and one encouraged the deployment of electric school buses. Heavy-duty EVs have been identified as a significant means of addressing transportation and air quality issues; hybrid-electric technologies are also said to offer an ideal suite of attributes for heavier loads and higher utilization rates of the medium-duty sector. Replacing or repowering heavy-duty diesel vehicles with zero emission transportation, they noted, will provide reductions in the greatest sources of NO_x emissions in Connecticut. One of the propane proponents also remarked that Class 4-7 electric trucks would be an excellent choice, once they are deployed in sufficient quantities, and would greatly benefit from VW funding because of their premium cost, which can be twice as much as a propane powered vehicle.

Reductions from the Largest NO_x Sources: Emphasizing heavy-duty diesel would concentrate funding for projects based on the largest sources of statewide NO_x emissions including on-road heavy-duty diesel vehicles, non-road diesel equipment, commercial

⁶ The California Hybrid and Zero-Emission Truck and Bus Voucher Incentive Program (HVIP) is currently in the process of being implemented. Information is available at <https://www.arb.ca.gov/msprog/aqip/hvip.htm>

marine vessels and locomotives. The commenters urge the prioritization of funding through allocations based on the diesel-generated sources of NO_x emissions, dedicating the largest amount for on-road diesel projects (one commenter recommended dedicating 60%) and the remainder to address non-road, locomotive, and marine projects.

Benefits to Areas Disproportionately Burdened with Air Pollution: Heavy-duty trucks and transit buses operate in Connecticut's population centers and along key corridors, such as I-84, I-91, and I-95, contributing to the undue burden on urban residents in these areas. Replacing heavy-duty diesel trucks and buses with electric equivalents would provide targeted benefits to these neighborhoods. One commenter recommended setting a minimum threshold requirement (e.g., "75% of mileage must be accrued with Connecticut's nonattainment counties") to directly address the state's need to fund projects in communities that bear a disproportionate share of diesel pollution. Electrified Class 5, 6, and 8 on-road trucks also create benefits for the overall environment and for the truck operators.

Expand Definition to Include Heavy-Duty Non-Road Freight Handling Trucks: Terminal trucks are heavy-duty, class 8 trucks that move cargo containers within logistics yards, around the clock, with more hourly usage than the on-road semi tractors going between states. Class 8 diesel terminal trucks, used mostly off road, can be repowered as 100% electric vehicles to meet DOT standards. Terminal trucks should be included for funding as "Class 8 Local Freight Trucks and Port Drayage Trucks (Large Trucks)" both on and off highway and as "Cargo Handling Equipment," both on and off highway.

Expand Operational Definition to Include All Logistics Hubs: Terminal trucks are used in many sites, not just "ports." They should be allowed to be funded at any site where used (e.g. railroad, distribution center, manufacturing plant, etc.). A broader definition would better serve state interests, reducing harmful emissions in non-attainment areas and disadvantaged communities. As an example, this commenter cites California's Goods Movement Program, which defines eligible Cargo Handling equipment to include any "existing diesel yard truck" operating "at a seaport (port), intermodal railyard, or freight facility." This general language allows for broad inclusion resulting in greater emissions reductions.

Heavy-Duty Hybrid-Electric Vehicles: One commenter promoted the benefits of repowering heavy-duty diesel vehicles with hybrid-electric technology. Hybrid-electric engines can cost-effectively reduce harmful emissions and can be quickly installed on new or existing vehicles. Allowing funds to be used for new gasoline-fueled vehicles equipped with hybrid technologies can result in superior cost-effectiveness and emission reduction benefits. Replacing an existing diesel vehicle with a gasoline-hybrid vehicle can more effectively "right size" the horsepower and torque suitable to the application, and reduce emissions across the spectrum of pollutants.

Hybrid technology has high NO_x reducing cost-effectiveness, particularly if the definition of cost-effectiveness is expanded to address other attributes such as

deployment time, cost for a medium duty vehicle, wells to wheels NO_x savings, infrastructure requirements and technology availability.

First Come-First Served Funding Mechanism: One commenter noted that replacing existing diesel trucks with all-electric models provides emissions reductions that are immediate and dramatic and requested that states adopt streamlined, first-come first-served funding mechanism. For vehicles and charging stations they recommend a point-of-sale discount program similar to Chicago's user friendly "Drive Clean Truck"⁷ program. For infrastructure projects, a rolling approval process with pre-approved funding amounts/percentages was suggested.

Conversion Kits Can Economically Electrify School Buses: One commenter encouraged the use of cost-effective conversion kits to electrify school buses. Reducing children's exposure to diesel emissions was cited as a benefit. It was also noted that the short-haul transportation patterns of school buses are suitable for scheduling the necessary charging.

Advanced Technology Benefits of Heavy-Duty EVs: One manufacturer promoted technology and charging systems that are capable of transforming "vehicles into a mobile power plant capable of supporting first responders in emergency situations or utilities in power outages." Hybrid vehicles continue to integrate transformational transportation technology such as the cloud-based XL Link™ Connected Vehicle System, which comes with some heavy-duty EV hybrids.

Electric Vehicle Supply Equipment (EVSE) & EVs: The greatest number of comments in support of a technology were the twelve encouraging deployment of EVs and EVSE. Municipalities, businesses, public interest groups and individuals all advocated using the maximum allowance (15%) of VW funds for alternative fuel infrastructure and for the replacement of diesel vehicles with electric equivalents. They encouraged support for EVSE, especially fast charging on major vehicle corridors easily assessable to the public. Almost all of the EVSE supporters included statements in support of EVs, so this summary includes some arguments seen in the preceding sections.

Prioritize Heavy-Duty Vehicles: Many commenters stated that heavy-duty EVs should be a target as heavy-duty diesel makes up the largest portion of NO_x emissions of mobile sources in the state. Electrification of buses and freight trucks have the most potential for emissions reductions.

Prioritize EVs Over Other Technologies: Regarding other technologies, some commenters stated that funding electrification should be preferred over other alternative fuels such as propane or natural gas because emissions benefits of electrification are

⁷ Information on Drive Clean Chicago's Drive Clean Truck program can be found at: <http://www.drivecleanchicago.com/CleanTruck/Default.aspx>

greater than those from other technologies. Electrification has significant budget-predictability advantage when the volatility in gas prices is taken into account.

Consider GHG Emission Benefits: Project selection should focus on GHG emission reductions as well as NO_x reductions.

Support EV Conversions: Grant funds should be used to convert vehicles to electric drives.

Prioritize Workplace Charging: Grants should be provided for charging infrastructure at workplaces. This could also incentivize workplaces to investigate and utilize better energy efficiency options such as solar power to provide additional emission reductions.

Regional Cooperation in Deployment Planning: One commenter was encouraging regional cooperation among Northeast states in planning the deployment of EVSE and other alternative fueling infrastructure, particularly along highways and transportation corridors.

V. Fuel Cell Electric Vehicles (FCEVs) & Hydrogen (H₂) Fueling

DEEP received five written comments from businesses and trade groups supporting the funding of FCEVs and H₂ fueling infrastructure. With regard to H₂ fueling infrastructure, it was pointed out that incentive support will be essential to support the high cost of the systems. One of the commenters also advocated making funding available for any and all of the eligible options listed in the Plan.

H₂ Fueling Infrastructure Network: Most of the commenters made the case for improving access to fueling infrastructure as a prime incentive for FCEV use in Connecticut. In the ZEV supply equipment category, DEEP should fund H₂ infrastructure projects, expanding the network of H₂ stations in the state. Private investment can be leveraged, funding H₂ stations in coordination with the private sector-funded network already being established by Air Liquide and its partners.

Production-Based Incentive: DEEP should offer a production based incentive that takes into account avoided emissions. Similar to California's Low Carbon Fuel Standard,⁸ this would involve evaluating life cycle emissions and comparing GHG emissions for the fuel being used to conventional fuel and assigning a "carbon intensity value." For DEEP's program, a NO_x intensity factor can also be used in determining the production incentive.

FCEV Projects for Cargo-Handling and Ground Support: At least two commenters suggested that DEEP should expand the eligible options to include the funding of projects involving the

⁸ Information regarding California's Low Carbon Fuel Standard can be found at <https://www.arb.ca.gov/fuels/lcfs/lcfs.htm>.

replacement or repowering of diesel container handlers (cranes), forklifts and ground support equipment with FCEVs and fuel cell electric engines.

Proposed Selection Criteria: Several commenters suggested adding selection criteria that would promote funding of FCEV projects.

Economic Impacts: DEEP should include an economic impact factor in the project selection criteria to help promote further growth to Connecticut's \$600 million fuel cell industry.

“Zero Emission Miles Dispensed”: DEEP should give consideration to the driving miles provided by individual infrastructure projects and include a “zero emissions miles dispensed” factor in the project selection criteria. By giving added preference to those projects capable of dispensing greater zero emissions driving miles, NO_x reduction benefits can be maximized.

Support of Other Options and Public Awareness: Following a detailed discussion in support of FCEVs, one commenter encouraged DEEP to fund all the categories outlined in the plan, except freight switchers. The commenter also encouraged the implementation of a multi-stakeholder involved educational initiative to enhance awareness of the programs established.

VI. Propane

Eleven e-mails were received from commenters supporting the use of mitigation funds for propane (a.k.a. autogas) vehicles. Six of the eleven comments were identical form letters.

Benefits of Propane: Generally, it was noted that propane is a proven shovel-ready technology with a long track record as a clean, alternative fuel, which is not an experimental fuel. Propane infrastructure is already in place and will allow the immediate reduction of NO_x with the implementation of propane vehicles under the mitigation plan. Additional propane benefits include 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.

Funding Priorities & Reimbursements: Propane supporters suggested that funding priorities should be geared towards private fleets, companies and organizations rather than municipal and government vehicles, with the exception of school, shuttle and transit buses and that shuttle buses should be reimbursed by miles driven.

Propane Applications: Commenter support in this category separated into two groups: those who primarily favored the funding of propane buses and those who primarily favored the funding of medium duty trucks. There was some overlapping support for both categories but each group was distinct in preference.

Propane Buses: Replacement of diesel school buses was the number one priority for many commenters. It was noted that newest and most popular propane engines for school buses will be certified for NO_x emissions at 0.05 g/bhp-hr, which is 75% cleaner than today's cleanest diesel school buses and 99% cleaner than the dirtiest school buses operating in the state. Propane school buses offer a 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: Others commented 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. Such vehicles operate in around buildings in congested areas, including near schools and medical facilities.

Vehicles that have high annual mileage and idling hours, such as vehicle service 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. Most, if not all, of these vehicles in Class 4 – 7 can be efficiently re-powered, up-graded or originally ordered to operate on clean burning propane.

Propane vs. Other Eligible Technologies: A number of commenters sought mitigation plan revisions to put propane in a more favorable light 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. According to one commenter, the present draft plan “puts a thumb on the scale” in favor of all electric technologies over more cost-effective, more readily available and lower NO_x emitting propane and natural gas vehicle technologies.

Correct Funding Discrepancies for Alternative-Fueled Vehicles: One commenter pointed out that, while the consent decree allows for uneven reimbursements for EVs as compared to alternative fueled vehicles, Connecticut is not required to reimburse at these uneven amounts. For private fleets, the commenter recommended that reimbursement for new alternate fuel vehicles (electric, NGV, LPGV, H₂) should be equal at 25% for new replacements and 40% for repowers.

Adjust Funding Criteria: The total energy/emissions profile (often referred to as “well-to-wheels”), which includes emissions from electricity production, should be considered in lieu of calling plug-in hybrid electric vehicles “zero emissions” vehicles. Commenters point out that when this more comprehensive emissions analysis is used, natural gas trucks, buses and shuttles (propane shuttles too) are the most cost-effective approach to removing NO_x for the least amount of money per ton of pollutant reduced.

VII. Operational Comments

Two commenters offered suggestions regarding the administration and operation of the grant program. One was advocating for a professional public awareness campaign and the second was recommending financing and cost share options.

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.

Submission Deadlines & Timing: Commenters advised that DEEP should be cognizant of municipal procurement and budgeting schedules as it sets deadlines for submission of applications.

Enhance Public Awareness: DEEP should implement a multi-stakeholder involved educational initiative to enhance awareness of these efforts.

Additional Criteria Recommended for Project Selection:

Local Economy: Consideration should be given to the local economy. Local contractors should receive more credit in grant selection.

Leveraging Funds: Consideration should be given to leveraging the available 15% of funds to projects that can access other sources of funding (cost sharing) to expand the overall effect of the money.

Environmental Justice Communities: Consideration should be given to choosing projects in environmental justice communities. Heavy-duty replacements and repowers, for example, have the potential for a large effect in environmental justice communities.

Broad Based Cost-Effectiveness: Connecticut should not use a NO_x-per-dollar cost effectiveness method of weighing projects. Cost effectiveness has already been factored in to selection of eligible projects. Cost benefit analysis should be done holistically, taking into account ancillary benefits such as fuel costs, operation costs and lower maintenance costs.

Previous Implementation Experience: The proposed plan should be amended so as not to give funding priority to entities with previous diesel project implementation experience. Favoring prior participants threatens to ignore potentially transformative projects and limit projects to traditional ideas and demographics.

Targeting Specific Fleets: It was recommended that mass transit, para transit and refuse fleets be the main focus of funding for government vehicles because they are very high mileage, highly visible, and impact and serve communities directly. Evaluating the main mobile sources of NO_x emissions in urban and non-attainment areas also means focusing on similar source categories.

Readiness of Electric Technology: This comment suggests that electric technology may not be sufficiently well established for all applications indicated in the plan, implying that technological readiness should be considered. The plan, as currently written, appears to focusing more on assisting “less-than-fully-commercialized electric vehicle technology” than in reducing NO_x, which is what the fund distribution to the states is intended to achieve.

Previously Neglected Options: Prioritize Class 8 freight trucks, especially privately owned, because, except for Clean Cities’ grants, they have not been offered funding assistance in years; CMAQ and FHWA funding has been withheld from private companies by Connecticut since the 1990s.

Leverage Funds by Aligning with Other State Initiatives: Two commenters suggested that VW funds could 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.

Equitable Funding to Maximize Benefits: Regarding general funding under the mitigation plan, it was suggested that funding should not be segmented between government and non-government projects. There was concern that if public fleets could be funded up to 100% of the project cost, that would limit the number of vehicles replaced or repowered and therefore limit total emission reductions from the program. Some suggestions to address the discrepancy between public and private fleets were:

- To have funding levels just large enough to cover the incremental cost of the new vehicles and scrappage of the vehicles;
- To cap public fleet incentives at 20% of all mitigation funds;
- To limit public fleet funding to 50% of project cost; or
- Set a lower reimbursement for government fleets than the allowed 100%. Any fleet manager (private or public/gov’t) should have “skin in the game” with a percentage of the investment coming from their own budgets. Commenter suggested a reimbursement system that pays government entities 60-75% of the replacement cost with monetary caps set for different vehicles GVWs. This would allow the state to stretch the impact of its dollars and achieve greater overall NO_x reductions.

Complementary Activities: One commenter recommended funding a short list of activities that would complement other eligible projects:

- Offsetting the added initial cost of hybrid-diesel or hybrid-CNG vehicles or all-electric buses;
- Offsetting conversion of some bus routes to short-range all-electric buses with rapid recharging at selected bus stations by overhead pantograph or wireless in-pavement equipment; and
- Electrification of the New Haven - Hartford - Springfield rail line to eliminate diesel engines on that line.

IX. Outside the Scope of the VW Settlement

DEEP received eleven comments advocating for the funding of environmentally desirable options that could reduce emissions, but fall outside the scope of eligible projects identified in Appendix D-2 of the VW settlement. These were from concerned citizens and state agencies.

Trails, Parks & Public Health: Four commenters recommended reducing diesel emissions by establishing more hiking and biking trails in the state. One of these included spending funds on chargers for electric bicycles. Two similar comments were received promoting expenditures for state parks. The improvement of public health was another recommendation for use of the VW settlement funds.

Miscellaneous Clean Technologies: One commenter advocated for remediating the NO_x problem through sequestration and another through transitioning to clean, renewable energy sources in the state. The funding of anaerobic digesters to reduce greenhouse gas emissions and provide clean energy was also recommended. Finally, one commenter suggested that funds be used to reduce emissions from classic cars by installing fuel injection systems.