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Proposal for Structuring the Environmental Mitigation Fund Allocation January 24, 2017

Thank you for the opportunity to provide comments on structuring Washington's Environmental Mitigation Trust (EMT) allocation under the Volkswagen settlement.

As North America's largest provider of natural gas transportation fuel with almost 20 years of leading industry experience, Clean Energy provides construction, operation and maintenance services for refueling stations and is a producer of renewable natural gas (RNG). We have a deep understanding of the growing marketplace, and our portfolio includes 589 stations in 43 states including several in the Garden State.

The EMT was established to promote reductions of NOx emissions in the medium and heavy-duty vehicle sectors in order to mitigate the air quality damage caused by Volkswagen's non-compliant light-duty diesel vehicles. Reductions are to be achieved, in part, by providing grants for the scrappage and replacement of older diesel vehicles with new diesel, hybrids or alternative fuel vehicles. The question presents itself: How should these funds be spent in order to provide the greatest overall benefit?

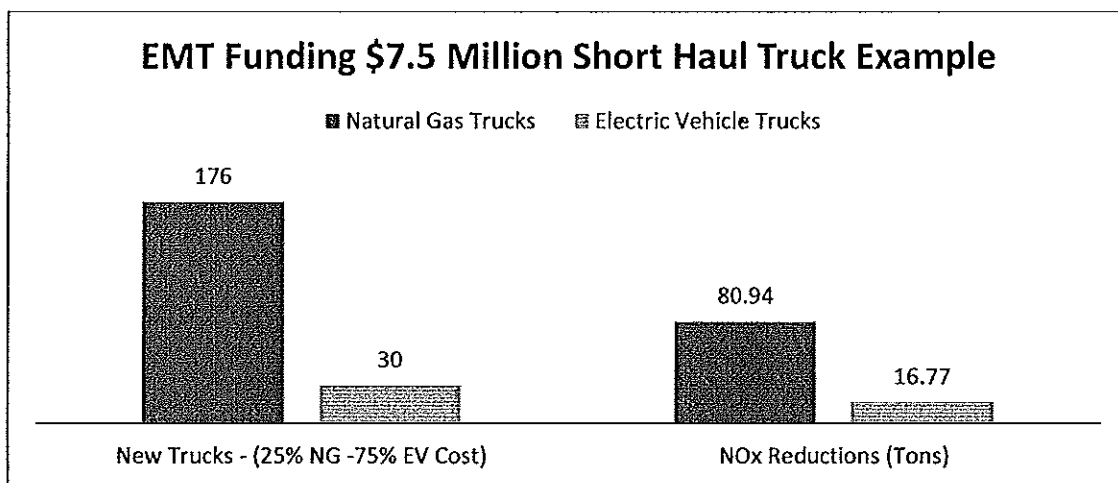
Recommendation #1: A majority of the EMT funds should be used to deploy vehicles that perform below today's federal NOx emissions standard of 0.2 g/bhp-hr (low-NOx, near-zero and zero emission vehicles)

The EMT fund provides a unique opportunity to transform the medium and heavy-duty truck sector by deploying the most cutting edge engine technologies. While new diesel engines simply meet the required federal NOx standard, many natural gas engines have gone farther and are certified to either the California Air Resources Board's optional low NOx or near-zero emissions standards. These engines are therefore certified to produce 50-90 percent fewer NOx emissions than new diesels, respectively. Additionally, a recent study¹ conducted by the University of California Riverside, found the actual in-use NOx emissions of the near-zero natural gas engine to be up to 95 percent cleaner than diesel (0.001g/bhp-hr). Given the EMT has been created because of the NOx pollution associated with non-compliant diesel vehicles, we believe that the majority of the funding should be set aside for vehicle projects which make improvements beyond the current federal NOx standards.

Recommendation #2: Grants should cover the same percentage of the vehicle cost for all alternative fueled vehicles which perform below today's federal NOx emissions standard

¹" Ultra Low-NOx Natural Gas Vehicle Evaluation ISL G NZ", College of Engineering for Environmental Research and Technology, University of California at Riverside, February 2016.

A report from the California Energy Commission indicates that the near-zero natural gas engine produced by Cummins-Westport can reduce the life-cycle emissions of medium and heavy duty vehicles to levels near or equal to those of zero emission electric vehicles. For example, the South Coast Air Quality Management District of California views the near-zero NOx standard to be zero emission equivalent based on the District's mix of electric generation supplying their grid. Moreover, their electric generation mix is one of the cleanest in the country. While comparable in regard to NOx emissions, natural gas and electric vehicles (EVs) are miles apart on cost. An all-electric medium or heavy duty vehicle can cost twice the amount or more of a similar vehicle powered by a near-zero natural gas engine. Yet, under EMT guidance, EVs may receive a grant up to 75 percent of the total vehicle cost while natural gas vehicles (NGVs) may only receive a grant for up to 25 percent of the total vehicle cost. Funding the more expensive EV and at a greater percentage will result in fewer vehicles being deployed and therefore fewer reductions in NOx emissions. Below is a chart illustrating these points by showing the benefits of a \$7.5 million investment in NGVs versus that same investment in EVs.



Source: NGVAmerica compiled from Gladstien, Neandross and Associates Game Changer Report Data

There is no policy reason for providing a 500% larger incentive (in terms of dollars) for an EV truck which has similar life-cycle NOx emissions as a low-NOx or near-zero natural gas truck.

Example

	Vehicle Cost	Funding Percentage	Grant
Class 8 EV Truck	\$300,000 ²	75%	\$225,000
Class 8 Nat. Gas Truck	\$170,000	25%	\$42,500

The funding percentage for both natural gas trucks and EVs which perform below federal NOx emissions standard should be the same. Therefore, both EVs and NGVs should be funded at 25 percent of the total vehicle cost.

² The vehicle cost provided by BYD Motors Inc. to the State of New York for their 2016 Class 8 T9A truck: <https://truck-vip.ny.gov/NYSEV-VIF-vehicle-list.php>

Example of Recommended Approach

	Vehicle Cost	Funding Percentage	Grant
Class 8 EV Truck	\$300,000	25%	\$75,000
Class 8 EV Nat. Gas Truck	\$170,000	25%	\$42,500

Our recommendation is more than fair to EVs as under this approach an EV will receive close to twice as much funding per vehicle as an NGV.

Recommendation #3: Either no more than 20 percent of all funds should be used for government fleets or the funding percentage for government vehicles should be reduced to 50 percent of the total cost

The 100 percent funding level for government vehicles provides a great opportunity for public fleets to reduce their emissions. However, the allure of “free” vehicles for the government should not be permitted to dissipate the greater potential deployment of cleaner vehicles in the private sector. The full funding of government vehicles results in fewer vehicles being deployed per dollar and therefore a reasonable cap must be put in place. A proper balance can be achieved by limiting the funding for government fleets to 20 percent of all EMT funds or by reducing the funding per vehicle to 50 percent of the total cost.

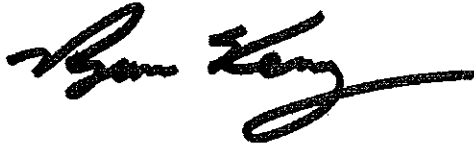
Recommendation #4: Mass transit, para transit and refuse fleets should be the main focus of funding for government vehicles

Mass transit, para transit and refuse fleets are high mileage fleets and are therefore a key target for achieving meaningful NOx reductions. They also directly serve the community thereby making them highly visible investments. Moreover, these fleets also return to a central hub for refueling which makes them ideal for cleaner alternative fuel applications since only a single station is required rather than an expansive network. Over the past decade many mass transit agencies have recognized the unique positioning of their fleets for utilization of alternative fuels. L.A. Metro operates the largest natural gas bus fleet with over 2,000 buses. It is important to note that grants for public mass transit buses should take into consideration the 80 percent matching funds from the federal government for capital maintenance investments. Therefore, public mass transit grants should not exceed 20 percent of the vehicle cost where the federal match is applicable. In the refuse industry, over half of all newly purchased trucks now operate on natural gas due in part by funding made available by states.

Conclusion

Low NOx and near-zero NGVs produce 50-95 percent fewer NOx emissions than diesel vehicles and are the most economical alternative. From an implementation standpoint, NGVs are the only alternative fuel vehicle option that offers commercially available vehicles for all the categories that qualify for funding under the EMT. Therefore, we urge you to provide significant funding for the deployment of medium and heavy-duty natural gas vehicles in Washington’s mitigation plan and take into consideration the foregoing recommendations. Thank you for the opportunity to submit comments on this truly unique opportunity.

Sincerely,

A handwritten signature in black ink, appearing to read "Ryan Kenny". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Ryan Kenny
Senior Public Policy & Regulatory Affairs Advisor
Clean Energy