

Volkswagen Environmental Mitigation Trust:

Reducing Risk and Enhancing Accountability in the Funding Distribution

A Concept Paper

Submitted by: A multidisciplinary team at the University of Texas at Austin (UT) with experience implementing similar risk reduction activities in federally funded vehicle programs.

Technical Point of Contact: Michael Lewis, (512) 232-5715, [REDACTED]

Objective: To provide a data driven approach to program management and assessment. This is accomplished by collecting operational data and reporting on metrics such as fuel efficiency and emissions in two phases: (1) a validation phase upon receipt of the vehicles to verify vehicle performance, and (2) a data collection phase throughout the life of the vehicles to assess lifetime fuel and emissions savings.

Opportunity: The recent Volkswagen (VW) settlement funding awarded to the State of Texas presents an opportunity to greatly reduce vehicle nitrogen oxide emissions in the state while also supporting and accelerating the adoption of alternative fuels and new vehicle technologies. The Texas Commission on Environmental Quality (TCEQ) was selected by Governor Greg Abbott to lead the administration of the \$209 million trust. The funding is intended to offset the total lifetime excess NO_x emissions from affected Volkswagen vehicles that were found to be in violation of the federal Clean Air Act.

As TCEQ develops plans on how best to distribute and use these funds, researchers at UT propose a risk reduction and accountability strategy that will provide a means of evaluating and documenting the effectiveness of VW settlement funds before and after projects are awarded. Such a strategy could serve as a model for the nation and provide assurance that the funds fulfilled their intended purpose.

Strategy: The envisioned strategy has two components aimed at pre- and post- deployment of vehicles. In the pre-deployment (or planning) phase, it is critical to understand how the new vehicles will perform in everyday use. This not only includes their fuel efficiency and emissions profiles, but also their ability to satisfy operational requirements. Often new vehicle technologies are deployed with a “buy and test” approach. This approach can be costly in both time and money if the technology is not ready or suitable for the particular application.

The UT researchers have developed tools that allow fleet managers and vehicle operators to simulate new vehicle technologies prior to procurement and avoid the pitfalls typically associated with the “buy and test” approach. The tool includes a method for collecting duty cycle information for the specific vehicles and then modeling the new vehicle technology as a

replacement. The models provide an assessment of the vehicle's performance capability, fuel consumption, emissions, and overall life cycle cost. These results allow fleet managers and vehicle operators to make informed decisions and choose an alternative fuel or new vehicle technology that will perform well in the intended application and meet expectations for fuel savings and emissions reductions.

Implementation: The first part of the proposed risk reduction and accountability strategy will use a similar approach and method to evaluate applications for the TCEQ administered VW settlement funds. Specifically, the initial evaluation becomes a requirement for the application and is carried out by a third-party institution, contracted by TCEQ with a portion of the VW settlement funds. Potential applicants would consult with the third-party evaluator(s) during their application process and use their services when selecting alternative fuel or new vehicle technology replacements. The findings will then be included in the application, in a consistent format for all applicants, for review by TCEQ when making selections for award.

An alternate approach would be that the evaluator(s) could be contracted to review proposals as they are submitted to TCEQ rather than working up front with applicants prior to proposal submissions. This would likely be a less costly approach but risks, however, introducing an adversarial structure that may be detrimental to the goal of the program.

Upon award and implementation, there will be a need to continue the third-party evaluation services (i.e., the accountability aspect of the proposed strategy) post-deployment of the alternative fuel or new vehicle technologies. UT researchers are experienced in this process, as they have provided similar services for Federal funding agencies deploying alternative fuel vehicle technologies. Such post-deployment data collection and reporting efforts could provide TCEQ, the State of Texas, and the nation feedback on the impact of the VW settlement funding and to what degree the mitigation funds offset the lifetime NO_x emissions of the affected Volkswagen vehicles.

The proposed strategy provides data to demonstrate that best efforts are made to maximize the impact of the available funding while also following up during the life of the vehicles to document the program success. Costs for implementing this strategy are minimal compared to the total settlement funding and the benefit it would provide to Texas.

Next Steps: The UT team would welcome a discussion of these ideas with TCEQ as plans are developed for utilizing the VW settlement funding. The discussion could focus on UT's experience in using this strategy in Federal programs and whether, for the Texas program, it would be more beneficial if UT played that role or if they transferred their know-how and experience to another Texas agency or the private sector. Both approaches have costs and benefits.