
From: Jimmy W. Hosch
Sent: Monday, October 8, 2018 1:01 PM
To: VWSettle
Subject: Comment on Texas Volkswagen Environmental Mitigation Program

To: TCEQ, Oct 8, 2018

From: Jimmy W. Hosch, Ph.D.

Subject: Two Comments on Proposed Plan to Distribute

Volkswagen Diesel Engine Emissions Fraud Payout.

I am sending two comments on your proposal to spend Texas' portion of the Volkswagen diesel engine emissions fraud payout.

Comment #1

Is the disproportionate allocation of funds to San Antonio the result of your published Distribution Criteria #1: Proportion dollars by the level of ozone pollution in each city? If so, this criteria does not differentiate between the industries **producing** volatile organic compounds (VOCs) – the precursors for lower atmosphere ozone production.

I propose this money, that comes from the transportation sector (Volkswagen), be spent on reducing transportation generated pollution. Pollution sources near San Antonio originating from the oil and gas industries should be reduced by the for-profit oil and gas companies that produce the pollution -- not the transportation industry that has its own set of pollution problems.

Comment #2

I propose you spend the money to jump-start the use of hydrogen (H₂) in vehicles by placing strategically located hydrogen refueling stations to serve a maximum number of hydrogen fuel-cell vehicles in three major cities (Dallas, San Antonio, Houston) first, then in the transportation corridors between those cities, and then throughout Texas.

Strategically located hydrogen refueling stations would

- 1) Encourage the purchase and high mileage use of the hydrogen fuel-cell vehicles now being produced by the major manufacturers.

- 3) Promote the rapid adoption of H₂ fuel-cell electric hybrid trucks and cars that emit only water vapor. This is a practical way of **ELIMINATING -- NOT SIMPLY REDUCING** -- vehicle emissions of both health harmful gases and greenhouse gases. In addition, hydrogen refueling requires only 10-15 minutes -- not the hours to recharge batteries that degrade the faster they are charged. (I speak from personal experience of having two electric cars. I have driven the Nissan LEAF for seven years and worn-out and replaced one battery within 50k miles.)

- 2) Promote electrolytically produced hydrogen using the excess power generation capacity of Texas wind and solar installations by converting excess energy generated into a form of hydrogen (H₂) that can be easily stored, and transported to points-of-use.

- 5) Potentially establish Texas as a hydrogen exporter to the rest of the country.

Supporting Information:

A) Hydrogen Fuel-Cell Electric Hybrid Vehicles now being produced

Toyota Class 8 Truck (Generation 2) is in drayage service around the Port of Los Angeles, where H₂ refueling stations have been built. Toyota intends to build 5000 H₂ refueling stations in the US in the next few years.

Toyota Mirai sedan

Honda Clarity sedan

Hyundai Tucson SUV

Companies that have announced introduction dates for their hydrogen fuel-cell vehicles:

BMW; Mercedes-Benz; Honda and GM announced their partnership to build hydrogen fuel-cells in the midwest US.

The price of these vehicles and fuel-cells will come down as manufacturing volume increases.

B) Hydrogen Storage and Transportation as Ammonia (NH₃)

Australia has developed and is implementing the technologies to

<http://www.ammoniaenergy.org/tag/csiro/>

- 1) Produce H₂ with solar and wind electric power
- 2) Convert H₂ into NH₃
- 3) Liquefy NH₃ for energy storage and shipment to Asia
- 4) Convert NH₃ to H₂ at the point H₂ is need
- 5) Has demonstrated the series of processes produce high purity H₂ suitable for powering H₂ Fuel-Cell Hybrid Electric Vehicles.

C) Ammonia (NH₃) Advantages

- 1) NH₃ is easier to liquefy than H₂ – lowering cost of producing a safer liquid energy source for storage, transport, and handling.
- 2) Liquid NH₃ produces 50% more H₂ than an equal volume of liquid H₂ – lowering H₂ transportation cost.
- 3) A mature widely used NH₃ handling, storage, and transportation industry routinely delivers liquid NH₃ to agriculture.
- 4) About the same energy expenditure is used for delivering H₂
via. H₂ to liquid H₂ to H₂
and via. H₂ to NH₃ to liquid NH₃ to NH₃ to H₂

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