

April 10, 2017

Dear Members of the Air Resources Board,

ITM Power appreciates the opportunity to submit comments to the California Air Resources Board (ARB) regarding the VW Investment Plan.

ITM Power made the decision to base its US business in California due to the forward thinking of the CA government and the fact that the approach to supporting zero emission technology has always been technology agnostic allowing multiple technologies to benefit from the states ZEV vision.

Upon reading the proposed plan from VW, ITM Power are **very concerned** that the proposal only supports battery electric vehicle (BEV) charging technology and allocates zero funding to hydrogen fuel cell technology, this is most certainly not technology agnostic. VW currently does not retail any hydrogen vehicles but does retail a variety of BEVs therefore the proposed plan clearly conflicts with the Court Decree requirements to provide 'brand neutrality'.

Unlike BEVs which can be charged at home, hydrogen vehicles require a robust infrastructure to be in place in order to allow vehicle sales. Each hydrogen station is capable of supporting many more vehicles per day than charging stations due to the 3 minute refill times and the 300+ mile range per refuel.

ARB's own AB 8 report projects that by 2020/2021, more FCEVs are projected to be on California's roads than hydrogen fueling stations would be able to supply. This creates a position whereby without further investment the hydrogen vehicle industry will stall.

Many Californians travel for work or commute long distances to work along freeways, many into and out of disadvantaged communities. These individuals will not make the change to BEV technology regardless of the availability of more charging stations along their routes. The inconvenience of stopping for long periods of time to charge, even 30 minutes, is unacceptable to customers familiar with short refuel times and long ranges. In addition ZEV technology for medium and heavy duty vehicles is severely limited using batteries alone due to the weight and packaging constraints of batteries. Hydrogen technology provides all of these customers with a 'like-for-like' technology that produces zero emissions.

In addition to this ITM Power urges ARB to consider the impact of wide spread BEV fast charging stations on the CA electricity grid. The proposed plan from VW does not tackle the negative impact that multiple fast chargers will have on the local electrical grids, instead opting to simply use the funds to cover demand charges at the stations. This does not solve, in fact it severely worsens, the early evening grid ramping problems experienced today and in fact would

reduce the percentage of renewable energy used to charge vehicles. Creating zero tailpipe emissions but increasing well to wheel emissions.

Using hydrogen fuel created from centralized electrolysis benefits the grid in a number of ways; a) the electrolysis loads can be ramped up and down in order to stabilize the grid and ease the evening ramping issues b) allows more renewable energy generation to be connected to the grid by providing a reliable and controllable load for the energy c) allows for disadvantaged communities, who already host the majority of large scale wind and solar installations, to benefit from local growth and job creation.

ITM Power therefore urges the ARB to reject the ZEV current investment plan from VW and require an amended plan to be drafted that includes funding for hydrogen fuel cell vehicles as well as BEVs. This plan should also include funding for the large scale production of renewable hydrogen in California which would create permanent business and job creation in the state.

ITM Power thank the ARB for their continuing efforts in developing ZEV technologies and fuel production. The process of hearings and public comment periods is extremely valuable and we thank you for the opportunity to voice our business concerns.

Kind regards,



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