

April 10, 2017

The Honorable Mary Nichols
Chair, California Air Resources Board
1001 I Street
Sacramento, California 95814

RE: Comments of Linde North America on the Volkswagen Group of America's California ZEV Investment Plan Cycle 1

Dear Chair Nichols:

Thank you for providing Linde North America with the opportunity to provide comments on the VW Investment Plan (the VW Plan) that is under consideration by the Air Resources Board. We have significant concerns with the VW plan and ask that you revise it to include investments that will further the deployment of fuel cell electric vehicles and hydrogen fueling infrastructure.

Linde North America (Linde) is a member of the Linde Group, a world leading gases and engineering company operating in the U.S. since 1907. Linde manufactures and supplies industrial, specialty and medical gases and related equipment. The company also builds and operates hydrogen fueling facilities in California. Linde has two retail fueling stations, located in West Sacramento and San Juan Capistrano. The company has also built and is operating two hydrogen fueling stations for California's AC Transit to fuel twelve hydrogen fuel cell buses in Emeryville and Oakland. Linde expects to open another five stations in California during the coming year, starting in the San Francisco Bay Area.

We appreciate the work that you, the Board, and the ARB staff have done to promote the development and deployment of zero emission vehicles (ZEV) and infrastructure. You have been leaders on these issues. Your continuing support for the hydrogen market will facilitate the buildout of fueling stations in northern and southern California, which will allow the state to meet the projected demand for fuel from the increasing number of fuel cell electric vehicles.

Unfortunately, the VW Plan that is before the ARB fails to equally promote the deployment of all forms of ZEVs. The VW plan solely focuses on electric vehicles and charging infrastructure and allocates nothing toward hydrogen fuel cell vehicles and infrastructure despite ARB's commitment to fuel cell technology and low carbon fuel. Additionally, the omission of fuel cell technology and hydrogen infrastructure from the VW plan appears to be in conflict with ARB's own direction to Volkswagen. In the February 2017 guidance to Volkswagen, ARB states that, "VW is strongly

encouraged to include hydrogen investment.”¹ ARB further argues that including hydrogen in the VW Plan will promote ZEVs but remain technology neutral. The reason it should be included is that, “Hydrogen fuel has attributes that may mitigate grid supply and demand inequities, be applicable to medium and heavy duty transportation, and provide long-range refueling as quickly as gasoline or diesel. Although VW has expressed more interest in plug in technologies, California has many opportunities to invest in the early development of the hydrogen refueling station network. Establishment of an efficient, reliable and accessible fueling network will open up the market for fuel cell vehicles and provide an opportunity for a more renewable transport sector, opening new opportunities for car makers including VW to successfully market zero emission vehicles fueled by zero emission sources of energy.”²

Linde agrees with the recommendations made in the ARB February guidance to Volkswagen and urges ARB to revise the VW plan to include allocations to hydrogen infrastructure. The VW Plan should reflect the state's commitment to ZEVs and not favor one technology over another.

We appreciate your consideration of our request and look forward to our continued work together to promote the development of hydrogen fueling technology and the buildout of stations.

Sincerely,



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cc: The Honorable Jim Beall, Chair of Senate Transportation Committee
The Honorable Bob Wieckowski, Chair of Senate Environmental Quality Committee
Ms. Alice Reynolds, Advisor to Governor Edmund G. Brown, Jr.

¹ California Air Resources Board, Guidance to Volkswagen on First 30 Month Electric Vehicle Infrastructure Investment Plan of the 2.0 Liter Diesel Engine Partial Consent Decree Settlement, February 10, 2017, 11.

² Ibid