

California Energy Commission
Dockets Office, MS-4
Re: Docket No. 08-ALT-1
1516 Ninth Street
Sacramento, CA 95814-5512

Transmittal to: docket@energy.state.ca.us

DOCKET**08-ALT-1**

DATE _____

RECD. FEB 27 2009

re: AB 118 Investment Plan (Docket Number 08-ALT-1) Advisory Committee

Linde, Inc., a leading global supplier of hydrogen, and alternative fueling solutions appreciates the opportunity to submit comments related to the CEC's AB 118 Draft Investment Plan.

We believe that the Investment Plan will be an important tool to help reduce dependence on imported oil, reduce greenhouse gas emissions, improve local air quality and stimulate California's economy. California's efforts will provide benefits to the state's population and also set a beacon for other states and countries that can help address issues that are increasingly global in nature.

The use of hydrogen powered fuel cell vehicles offers the best hope of achieving our long term targets for greenhouse gas reductions and energy independence. Hydrogen can be produced from a multitude of production techniques. Even the most common and economical methods in use today, when combined with the zero emissions and high efficiency of a fuel cell vehicle, have a total GHG footprint less than half of the gasoline powered vehicles on the road today.

Linde's view is that CEC's funding priorities should:

1. support the recommendations from CaFCP and invest at least \$100 million through 2012 to support the early hydrogen fuel stations needed and fuel for thousands of vehicles coming to California through 2014.
2. promote the deployment of hydrogen vehicle fueling station that can dispense motor fuel hydrogen with a customer friendly experience and match the fueling pattern of normal drivers
3. recognize that the deployment of hydrogen vehicle fueling stations during the early FCV deployment have a weak basis for private capital investment
4. encourage the development of biogas source recovery projects that are able to convert waste energy to ULC, SULC and ZEV fuels

There are huge global environmental and local health benefits associated with shifting to electric drive vehicles using hydrogen fuel cell technology, yet the costs of H2 production, distribution and dispensing stations will need subsidy until hydrogen fuel volumes approach parity with volumes of gasoline dispensed at a fueling station. **Linde supports the recommendations from CaFCP for CEC to invest at least \$100 million through 2012 to support the early hydrogen fuel stations needed to fuel thousands of vehicles coming to California through 2014.** We must start immediately with at least \$40 million in 2009 and 2010 to fund and place the first 20

Page 2

to 100,000 H2 FCV on the streets of LA before 2020. Linde believes that once California has one million hydrogen FCVs on the road, the transition to hydrogen will take care of itself with normal competition, capital investment and fair profit.

The CaFCP action plan describes the deployment of hydrogen stations to support the next generation of up to 4000 fuel cell vehicles into California by 2014, and 50,000 vehicles by 2017. Linde fully endorses this plan for funding and deploying hydrogen fuel stations beginning in 2009. **CEC's funding priorities must encourage the continued deployment of pre-commercial hydrogen fueling stations** so as to enable the continued developing our fuel cell vehicle fleet in California and lead the nation towards a sustainable future and an early deployment of high efficiency zero emission vehicles

In the past 5 years hydrogen fueling stations deployed in California and the rest of North American have focused on concept validation and supporting demonstration programs. The first paying FCV customers will expect the fueling experience to resemble their gasoline fueling experience. They will want to pull into the station and fuel quickly and completely at either 350 or 700 bar. **CEC's funding priorities must favor the deployment of retail hydrogen fueling stations that can dispense hydrogen to meet customer demands for a safe, quick and convenient fueling experience.**

Finally, biogas sources, including landfill gas, and anaerobic digester gas from agricultural sources and wastewater treatment plants provide an invaluable source of feedstock's for ultra low carbon and super ultra low carbon fuels including conversion of waste material into hydrogen that can sold as a motor fuel for fuel cell vehicles. **CEC's funding priorities must encourage the development of biogas source recovery projects that are able to convert waste energy to ULC, SULC and ZEV fuels**

We appreciate the opportunity to comment.

Very truly yours,



Mike Beckman
Vice President West Market
Linde, Inc