

DOCKETED

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**Air Products Comments on Draft Zero Emission Vehicle
Infrastructure Plan**

Additional submitted attachment is included below.

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May 13, 2022

Commissioner Patty Monahan
California Energy Commission
715 P Street
Sacramento, CA 95814

RE: 2022 Statewide Zero Emission Vehicle Infrastructure Plan (ZIP) Docket No. 21-TRAN-03

Dear Commissioner Monahan,

Air Products is pleased to provide additional comments on the California Energy Commission (CEC) 2022 Statewide Zero Emission Vehicle (ZEV) Infrastructure Plan (ZIP).

Air Products (NYSE:[APD](#)) is a world-leading industrial gases company in operation for 80 years. The company is a world leader in the supply, distribution, and dispensing of hydrogen and has hands-on operating experience in over 250 hydrogen fueling station projects worldwide in 20 countries. Our dispensers have completed over 11 million vehicle fills since 2005 and our equipment is currently providing over 100,000 fills per month to a wide range of vehicles.

Chapter 1: Background
H2 Fueling Infrastructure and Supply

Regarding the company's hydrogen production capabilities mentioned in the draft CEC ZIP that can serve the California mobility market, CEC should also include that Air Products [announced](#) on March 8, 2022, that it will build, own and operate a 10 metric ton per day facility to produce green liquid hydrogen in Casa Grande, Arizona. The zero-carbon liquid hydrogen facility is expected to be on-stream in 2023 and its product will be sold to the hydrogen for mobility market in California and other locations requiring zero-carbon hydrogen. This is in addition to company announcements in 2021 of new low-carbon hydrogen production facilities in [Edmonton, Alberta](#), Canada and eastern [Louisiana](#) expected onstream in 2024 and 2026 respectively.

And most recently, Air Products [announced](#) on April 22, 2022, it is teaming up with World Energy to build a commercial scale, \$2 billion sustainable aviation fuel production facility in Southern California that includes a new hydrogen production plant and an extension to its existing hydrogen pipeline network.

Purpose of the ZIP

Air Products understands and supports the CEC's greater emphasis on medium- and heavy-duty zero emission vehicle (ZEV) infrastructure investment in the plan to due to the equity concerns of rapidly transitioning the most polluting vehicles to ZEVs. The company also supports the CEC equity strategy of

targeting over 50 percent of Clean Transportation Program (CTP) funds to benefit low-income and disadvantaged communities, which often suffer disproportionately from poor air quality from the transportation sector.

Air Products also strongly supports the priority of leveraging public funding to increase private sector funding in ZEV infrastructure. We encourage CEC and other agencies to design programs in such a way as to maximize and accelerate ZEV infrastructure funding, such as transition competitive grant solicitations for hydrogen stations to performance-based rebates that are available to all projects on a first-come, first-served basis upon completion. Expanding capacity credits under the Low Carbon Fuel Standard to heavy-duty hydrogen fueling stations is critical to supporting private sector investment during the early stages of this market. Streamlining permitting for hydrogen stations – including greenfield developments – and upstream hydrogen supply infrastructure is also important to expanding private sector investments and reliable hydrogen supplies.

However, at the same time, with the state [goal](#) of 100% light-duty ZEV sales by 2035 and 100% of medium/heavy-duty ZEVs by 2035-2045, it may be premature to stop funding light-duty hydrogen refueling stations at the 200 station goal called for in Governor Brown's [Executive Order B-48-18](#).

Air Products appreciates the discussion of potential impacts from the State's ZEV efforts on California's electricity grid. While we hope the assessment in the Draft ZIP proves correct and California's grid is able to adapt to ZEV load, we must recognize that CEC and the California Air Resources Board (CARB) -- in scenarios developed pursuant to SB 100 and the Scoping Plan -- have suggested that the State will have to add "record breaking" renewable and energy storage capacity to the grid, averaging 6-10+ GW per year for the next 25 years, to meet existing state goals related to SB 100 and carbon neutrality. CARB has suggested achieving carbon neutrality will require an additional ~40 GW of behind the meter solar to provide energy to produce hydrogen. Coupled with the fact that California already imports 30% of its electricity, 70% of its oil and 90% of its natural gas – and that our historical peak build rate for renewable power and storage is 3 GW/year – these numbers are daunting. We encourage the State to continue to pursue performance-based policies, such as the Low Carbon Fuel Standard, to treat fuel supplies equally based on carbon emissions intensity and avoid discriminating against out-of-state projects that can help meet California's energy needs and climate goals.

Air Products also appreciates the discussion of other applications for hydrogen, and strongly feels that supporting the use of hydrogen in the industrial, power, and other sectors will support the more rapid development of low-cost, low-carbon, reliable hydrogen supplies for the transportation market. We encourage CEC to make this point clear in the Final ZIP and recognize that growing hydrogen demand in all sectors will only serve to reduce costs, increase private sector investment and broadly support the goals of the ZIP.

Chapter 3: Assessment of Infrastructure Need and Challenges

Air Products looks forward to providing input on the SB 643 Statewide Assessment of FCEV fueling infrastructure and fuel production needs to support ZEV truck, bus and off-road vehicles to meet Governor Newsom's [Executive Order N-79-20](#) and state agency regulations. Per the statute, CEC is to complete this assessment by December 31, 2023, and every three years thereafter until January 1, 2030,

as a complement to the annual Joint Agency AB 8 Annual Assessment of Time and Cost Needed to Attain 100 Hydrogen Refueling Stations in California.

**Chapter 4: Infrastructure Deployment Plan
Charging and Hydrogen Fueling for MDHD ZEVs**

Near-Term Actions

Continue to Deploy Appropriated Funding for MDHD ZEV Infrastructure

Air Products strongly supports the EnergIIZE Program and encourages authorization of the full amount of \$276 million over the initial program allocation of \$50 million. This program has significant potential benefits as it supports a wide range of medium- and heavy-duty vehicle infrastructure projects, for both public and private fleets across the state. However, Air Products would like to see more equal funding levels for both battery electric vehicle charging and hydrogen fuel cell vehicle refueling infrastructure. As currently structured, the ratio of funds is 70:30 skewed towards battery electric vehicle charging funding.

We look forward to working with you on these important transportation decarbonization efforts.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric J. Guter". The signature is fluid and cursive, with the first name "Eric" being the most prominent.

Eric J. Guter
Vice President, Hydrogen for Mobility
Air Products & Chemicals, Inc.