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July 7th, 2023

Rajinder Sahota
Chief, Industrial Strategies Division
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Comments submitted electronically

RE: Comments Related to the June 14th, 2023, Cap-and-Trade Amendment Workshop

Dear Ms. Sahota,

Air Products is pleased to provide comments in support of the California Air Resources Board (CARB) rulemaking for the Cap-and-Trade regulation (C&T). California leads the world with climate regulations like the C&T program and the Low Carbon Fuel Standard – and the design elements that CARB refines in these programs set important precedents for other jurisdictions. We support California's climate goals and believe that Air Products can help California with the energy transition needed to meet these challenges. Hydrogen will play a critical role in the energy transition and will be a useful in reducing greenhouse gas (GHG) emissions of sources covered by the emissions cap in California.

Air Products is the only U.S.-based global industrial gas company and the world's largest hydrogen producer and supplier for use in numerous markets, including transportation. Within California, the company safely operates 10 hydrogen production facilities, approximately 30 miles of hydrogen pipeline and currently supplies and operates a network of light-duty and heavy-duty hydrogen fueling stations, facilitating the transition to zero-emission transportation. Our hydrogen production facilities are subject to regulation under the Cap-and-Trade regulation.

On July 25, 2022, Air Products announced[1] that it will spend or commit at least $4 billion in additional new capital for the transition to clean energy by 2027. In the two years preceding this announcement, Air Products had announced approximately $11 billion in clean energy investments, including:

- A multi-billion-dollar project in Neom, Saudi Arabia which will be the world's largest green hydrogen project and require more electrolyzer capacity than has been deployed throughout the world to date. This project alone will serve to scale global electrolyzer production capacity and manufacturing, helping to bring down the costs of this important technology.

- An innovative $1.6 (CAD) billion net-zero carbon hydrogen production complex in Alberta, Canada, which achieves net-zero emissions through the combination of advanced

[1] Air Products, Air Products Announces Additional "Third by '30" CO2 Emissions Reduction Goal, Commitment to Net Zero by 2050, and Increase in New Capital for Energy Transition to $15 Billion (July 25, 2022)

hydrogen reforming technology, carbon capture and storage, and hydrogen-fueled electricity generation.

- A $4.5 billion blue hydrogen clean energy complex in Louisiana, which represents the company's largest investment ever in the United States and will sequester more than five million tons of carbon dioxide (CO_2) per year. This project will capture 95% of the facility's CO_2 emissions and produce blue hydrogen with near-zero carbon emissions.

- A green hydrogen facility based in Casa Grande, Arizona, just outside Phoenix, is expected to be onstream in 2023 and is anticipated to produce zero-carbon liquid hydrogen for the transportation market.

- A $2.5 billion major expansion project with World Energy to develop North America's largest sustainable aviation fuel production facility in Paramount, California. The project will expand the site's total fuel capacity to 340 million gallons annually, and among other investments, includes an extension and capacity increase of Air Products' existing hydrogen pipeline network in Southern California. The project is scheduled to be onstream in 2025.

- An investment of about $500 million in a large-scale facility to produce clean hydrogen at a greenfield site in Massena, New York. The facility will be powered by 94 MW of low-cost St. Lawrence River hydroelectric power and create 90 jobs in New York.

In the most recent example, Air Products and The AES Corporation have announced plans to invest approximately $4 billion to build, own and operate a green hydrogen production facility in Wilbarger County, Texas. This proposed mega-scale renewable power to hydrogen project includes approximately 1.4 gigawatts of wind and solar power generation, along with electrolyzer capacity capable of producing over 200 tonnes per day of green hydrogen, making it the largest green hydrogen facility in the United States.

Comments Related to Rulemaking Concepts

Air Products understands that CARB is planning to model different scenarios of stringency ranging from a 40% to 55% emissions cap reduction for 2030 relative to 1990 to inform target setting in the rulemaking. We recognize that the path to these goals requires significant public and private investment in clean technology and energy deployment. As you can see from the projects listed above, we are committed to rapidly scaling and decarbonizing global hydrogen and energy supplies, and to support rapid decarbonization efforts in California and internationally. Since the California Global Warming Solutions Act of 2016 set the current GHG emission reduction goal of 40 percent by 2030, the global effects of climate change have been more evident and are having a devastating impact on California's environment. Air Products looks forward to working with CARB in support of the state's climate ambitions.

In terms of market monitoring and rules, we understand that CARB will potentially revise provisions related to holding limits, corporate association reporting, and cost containment provisions. While we do not have specific recommendations on these topics now, we look forward to hearing more about CARB's amendment concepts in these areas to evaluate their market impact.

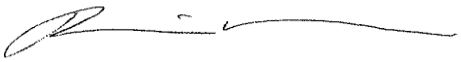
Because of our experience operating over 110 hydrogen production facilities worldwide, including 10 in California, we are very interested in providing input to the industrial leakage study that CARB is undertaking for finalization in 2025. It is important that CARB provide mechanisms to ensure the environmental integrity of the reductions that occur in California while protecting in-state businesses from the economic leakage that may occur to less-regulated jurisdictions. We believe our expertise in the hydrogen sector will be useful to CARB as it explores this important issue and proposes regulatory remedies.

We support CARB's recognition of the biogenically-derived emissions from the combustion of certain waste streams in Section 95852.2 (a) of the existing regulation, but request that this be extended to similarly derived process emissions as enumerated in Section 95852.2 (b). Similarly, the CO_2 derived from biogenic off gases originating from the production of renewable diesel or sustainable aviation fuel should be exempt from obligation whether it resulted from the combustion of fuel in 95852.2 (a) or a process emission as described in 95852.2 (b).

In terms of incentivizing industrial decarbonization, we suggest that CARB consider a voluntary program nested within the cap-and-trade to further incent the use of zero-greenhouse gas emission fuels like hydrogen when used at industrial sources. Next to transportation and electric generation, the industrial sector must realize substantial reductions as identified in the 2022 Scoping Plan Update and hydrogen is highlighted as playing a role in these emission reductions.[2] This incentive would provide credit beyond the reduced emissions at the source from the fuel switching. Such a program could use an allowance multiplier to provide additional economic inventive for the obligated facility that switches to a zero-GHG emission fuel or enable crediting through an adjusted benchmark in proportion to the amount of fuel used. Perhaps this is a program that could encourage early actions to help meet a higher reduction target and make use of surplus banked allowances to cover these reductions. Zero-GHG emission fuel would be defined based on both having zero GHG emissions at the point there the fuel is consumed at an obligated facility and a lower life-cycle carbon intensity than the fuel it is replacing at the industrial source. Crediting adjustments could be made based on a sliding scale to incent selection of the lowest carbon intensity fuel.

Air Products appreciates the opportunity to provide this feedback. Please feel free to contact me by phone (916-860-9378) or email hellermt@airproducts.com.

Respectfully,



Miles Heller
Director, Greenhouse Gas Government Policy

[2] 2022 Scoping Plan Update p. 207 "*Decarbonizing industrial facilities depends upon displacing fossil fuel use with a mix of electrification, solar thermal heat, biomethane, low- or zero-carbon hydrogen, and other low-carbon fuels to provide energy for heat and reduce combustion emissions." (emphasis added)*