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SB 423 Emerging Renewable and Firm Zero-Carbon Resources Report

Air Products appreciates the opportunity to comment on this report. Please find our comments attached.

Additional submitted attachment is included below.

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May 15, 2026

Commissioner Hochschild
California Energy Commission (CEC)
715 P Street
Sacramento, California 95814

Docket # 21-ESR-01

RE: Air Products Comments on the SB 423 Emerging Renewable and Firm Zero-Carbon Resources Report

Dear Chair Hochschild:

Thank you for the opportunity to comment on the Staff Report, *Senate Bill 423: Renewable and Firm Zero-Carbon Resources Update*. Hydrogen can play an important role in the clean energy transition, including in the power sector, where hydrogen offers an important complement to other renewable and clean energy resources and adds to energy diversity and resiliency along the path to achieving California's clean energy goals. We appreciate the release of a separate, more detailed SB 423 Report Update to supplement related information provided in the Draft 2025 Integrated Energy Policy Report (IEPR) and it highlighted the importance of a diverse portfolio of zero carbon resources for California – especially those capable of providing firm and dispatchable capacity. Accordingly, this comment letter supports and complements our associated comments on the Draft 2025 IEPR (IEPR Docket 25-IEPR-04).

It is important to recognize that California is home to a world-leading private hydrogen market, which has safely and effectively operated for decades under a strong regulatory regime to competitively serve industrial and transportation customers. Leveraging and building on these existing, functioning markets will allow California to bolster its leadership position in the global clean hydrogen market, while also driving policy and economic changes on the regional, national, and international levels.

Background on Air Products

Air Products is a global, and the only United States-based, industrial gases company with substantial experience producing, storing, and deploying hydrogen in a safe and environmentally conscious manner. Within California, for more than 50 years, Air Products has safely operated hydrogen systems, including 9 hydrogen-production facilities and 30 miles of hydrogen pipelines. Air Products also supplies a network of light-duty hydrogen fueling stations.

Hydrogen is an Important Firm Zero-Carbon Resource for California

We appreciate characterization of hydrogen’s promise to advance California’s energy goals in the SB 423 Report Update, as a compelling firm zero-carbon resource that provides local reliability, resilience and system reliability, as well as the description below (pg. 44):

Hydrogen presents a critical opportunity for California’s clean energy transition. It may be a viable solution for firm, dispatchable capacity and enables decarbonization of the power sector. When integrated with renewables, hydrogen can absorb surplus solar generation to create a long duration storage solution for excess electricity and help mitigate curtailment...

We also appreciate recognition that hydrogen turbines have an important role to play, and may be best suited for large-scale hydrogen plants. Hydrogen turbines provide a clear pathway for converting existing natural gas plants to produce zero-carbon electricity. This is an appealing strategy that leverages existing assets that are already interconnected to the electricity grid, and which continues to serve as the largest source of dependable capacity to ensure reliability of California’s electricity system.¹

CEC Should Maintain a Technology-Neutral Approach to Hydrogen

We appreciate the technology-neutral approach reflected in the SB 423 Report Update, which includes a wide array of firm zero carbon resources in the assessment, including carbon capture and sequestration (CCS) as well as hydrogen produced via various pathways. This reflects important progress compared to the 2023 IEPR, which focused primarily on a single hydrogen production technology – renewable electrolysis – and other planning documents that have diminished the potential role for CCS and hydrogen. A technology-neutral approach to clean energy supports competition, scale, best-fit solutions for individual facilities, and more rapid beneficial air quality and climate outcomes for California.

Still, there remain lingering biases, such as the statement that, “Electrolytic hydrogen produced with renewable electricity is the most scalable pathway” (pg. 3). While we agree that electrolysis is a scalable pathway, so is hydrogen produced with CCS, or via biomass,² or other strategies. Deploying carbon capture on fossil-based projects can deliver similar – and potentially better – emissions outcomes than green hydrogen pathways. Biomass, biogas, and other clean hydrogen production pathways deserve complete evaluation, as well, including their ability to support the State’s forest management, avoided agricultural burning, and other biomass-related goals.

Additionally, we agree with the key takeaway in the Draft 2025 IEPR that large end use demand would be best served by pipelines and large storage, which will likely be necessary to support widespread use of hydrogen as a firm zero carbon resource. However, we caution against presuming outcomes, such as, “California must invest in large-scale hydrogen storage, potentially out of state, and develop pipeline infrastructure to support strategic delivery.” (pg. 45) Large scale hydrogen projects, including in the power sector, need to manage hydrogen supply and use, including through targeted transportation and storage solutions. Those solutions will likely be

¹ CAISO (2026) 2026 Summer Loads and Resources Assessment: Technical Appendix, California Independent System Operator, May 4. <https://www.caiso.com/documents/2026-summer-loads-and-resources-assessment-technical-appendix.pdf>

² For example, see Sarah E. Baker et al, Getting to Neutral: Options for Negative Carbon Emissions in California, January 2020, Lawrence Livermore National Laboratory, LLNL-TR-796100. https://gs.llnl.gov/sites/gsl/files/2021-08/getting_to_neutral.pdf

unique to each project, and should consider existing, available infrastructure, as well as the array of transportation and storage options available, to identify the lowest cost, most practical and beneficial approach.

Enabling Hydrogen as a Firm Zero-Carbon Resource

We support the recommendations provided in the report, including:

- Aligning market and contracting mechanisms with reliability attributes through central procurement or long-term contracting structures that value their unique operational characteristics,
- Continuing public investment in demonstration and early deployment projects, and
- Continuing to improve permitting coordination to accelerate deployment and reduce uncertainty for firm zero-carbon infrastructure.

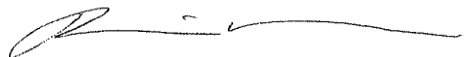
As the state looks to support early market development for firm zero-carbon resources in the power sector, we suggest that the CEC evaluate ports as regional anchors for hydrogen demand growth. Some of the most severe air quality impacts occur in communities in and around port complexes, which often host heavy industry, aviation, maritime and power production. Ports offer an opportunity to scale infrastructure using a hub model to achieve a wide array of cross-sectoral benefits, including demonstration of large-scale, early market projects for hydrogen as a firm zero-carbon resource in the power sector.

Conclusion

California is a global leader in the green economy, with renewable and low carbon energy markets that drive state, national and international policies. The SB 423 Report Update is an important element to support an array of emerging resources that will be needed to meet the state's goals, including hydrogen. We look forward to building on this report with you and working to further incorporate these important resources into California's energy planning and resource mix.

Thank you again for the opportunity to comment. If you have any questions, please feel free to contact me at hellermt@airproducts.com.

Respectfully,



Miles Heller
Director, Greenhouse Gas, Hydrogen, and Utility Regulatory Policy