



Rajinder Sahota
California Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: Comments of Haddington Ventures, LLC on CARB's 2022 Draft Scoping Plan

Dear Ms. Sahota

Haddington Ventures, LLC ("HV") thanks the California Air Resources Board ("CARB") for the opportunity to provide comments on its 2022 Draft Scoping Plan ("Scoping Plan") published May 10, 2022. Founded in 1998, HV, oversees a growing portfolio of successful conventional and renewable energy businesses that are bringing innovative new infrastructure to the U.S. energy sector. Haddington Ventures, through its private equity funds, generally makes control-oriented investments in portfolio companies acquiring or developing energy infrastructure underwritten by long term contracts. HV is a private equity firm behind various renewable energy hubs designed to produce, store, and deliver green hydrogen to the Western United States.

HV respectfully offers the following comments on the Scoping Plan.

Scenario Adoption

In developing the Draft Plan, CARB staff modeled four Alternatives to achieve carbon neutrality, and selected modeling Scenario Alternative 3 ("Proposed Scenario") as the most viable, cost-effective and feasible to achieve the State's 2030 and carbon neutrality targets. The Proposed Scenario achieves carbon neutrality by 2045, deploys a broad portfolio of existing and emerging fossil fuel alternatives and clean technologies, and aligns with California's statutes and Executive Orders. HV agrees that the Proposed Scenario is the most robust for use in the Scoping Plan.

Additional Green Hydrogen Production Should Be A Policy Objective

Notwithstanding HV's support of the Proposed Scenario, we believe that green hydrogen can be produced and deployed to greater levels than envisioned in all of the scenarios to achieve better emissions and cost outcomes.

For example, if California is going to need to continue to depend on dispatchable gas power plants for reliability as indicated by the modeling, it can reduce those emissions by transitioning those plants to green hydrogen. Doing so could deliver up to an additional 30 MMTCO₂/year in emissions reductions and/or significantly reduce the need and cost associated with direct air capture of carbon dioxide removal to capture back that CO₂ from the power sector once it's been emitted.

HV supports and encourages policies to decarbonize industry, especially through the use of green hydrogen. CARB can leverage its existing policies – including Cap-and-Trade, the Low Carbon Fuel Standard, and implementation of SB 596 (Becker) – and may want to consider new ones, to encourage more rapid adoption of green hydrogen in the industrial

sector to achieve additional GHG emissions reductions from that sector.

The western US states represent a nearly unlimited high quality resource of solar and wind energy. Due to these nearly unlimited resources, capital markets are well prepared to support the creation of massive amounts of green hydrogen to support accelerated demand resulting from aggressive adoption of policies that drive such demand.

Out Of State Renewable Energy Is Needed to Meet California's Policy Objectives

The rapid load growth envisioned in Proposed Scenario (and others as well) highlights the need to develop as much renewable energy as possible – as quickly as possible. The magnitude of the demand growth is such that it can't be met exclusively by in-state resources. California should, as it always has, encourage out-of-state energy resources. HV is primed to provide a significant portion of California's growing renewable energy requirements, either by direct delivery of green hydrogen into the state or via wire from green hydrogen-produced electricity from power facilities connected to its projects in the western U.S.

It should be noted that California currently has a capacity shortage, and in-state land use and other concerns (for example, potentially listing the Joshua Trees as a threatened species) would make it harder to develop solar in state and could slow such development. These concerns make out of state renewable energy resources an important part of the various energy strategies to meet California's policy objectives.

Strengthen Low Carbon Fuel Standards ("LCFS")

HV supports strengthening the LCFS – both before 2030 and beyond. If California is going to achieve carbon neutrality, and especially since the LCFS is the only policy that currently accommodates carbon dioxide removal, it would seem that a post-2030 carbon intensity target should at some point reach zero, if not negative, levels.

The Need For Green Hydrogen Pipelines

Pipelines are the lowest cost and least environmentally impactful method of moving green hydrogen to market even, if it requires a completely new route and construction. For nearly a century, natural gas pipelines have been moving gas throughout the US and the world, there is no reason to believe that hydrogen pipelines cannot do the same. CARB should develop policies that incentivize the development of both interstate and intrastate hydrogen pipelines to meet its renewable energy objectives.

In the Transportation portion of the Scoping Plan, CARB states that it wants to continue and accelerate funding support for zero emission vehicles and refueling infrastructure through 2030. To efficiently meet the volumes necessary to meet the demand growth in the Transportation sector alone, it is highly likely that interstate pipelines will be necessary to meet that demand.



The Need for a Regional Level Playing Field

As stated above California has historically encouraged out-of-state energy resources. As such, California hydrogen policies should be performance-based and indifferent to the geographic origin of hydrogen. It should make no difference if the hydrogen is produced out of state, as in the end, the goal is to reduce instate carbon emissions through the consumption of hydrogen in California. If out of state pipelined hydrogen helps California meet its carbon reduction goals, California should encourage its development, without regard to borders.

Further, CARB has identified the need for out of state resources as one of its Strategies for Success to “Continue to explore the benefits of regional markets to enhance decarbonization, reliability, and affordability”. Clearly, the move to renewable energy is a national objective, and regional solutions are required to achieve individual states’ goals.

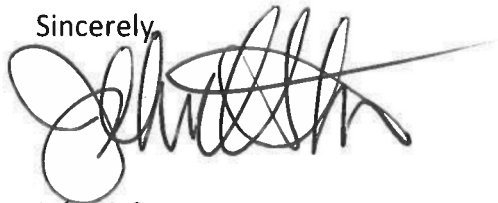
This regional perspective is advanced throughout the Scoping Plan, for example:

- CARB wants to incentivize private investment in new zero-carbon fuel produced in California. As stated above, this should not be California specific, as the benefits of the use of out of state-produced green hydrogen consumed in California clearly benefits the policy objectives of the state.
- Regarding electricity production, HV supports CARB’s continued desire to explore the benefits of regional markets to enhance decarbonization, reliability, and affordability. Such a regional perspective benefits the long-term goal of a robust network of hydrogen demand.
- Leveraging low-carbon hydrogen programs, including the Bipartisan Infrastructure Law, for regional hydrogen hubs, hydrogen electrolysis, and hydrogen manufacturing and recycling. A regional view is the appropriate policy approach for scaling state and federal efforts to expand production and use of green hydrogen.

Thank you for the opportunity to provide HV’s perspective on the Draft 2022 Draft Scoping Plan.

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Sincerely,



John A Strom

Managing Director

Haddington Ventures, LLC

