

Rajinder Sahota
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California Air Resources Board
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October 22, 2021

Re: Scenario Inputs Technical Workshop (2022 Scoping Plan Update)

Dear Ms. Sahota,

The undersigned thank you for the opportunity to comment on the Scenario Inputs Technical Workshop hosted by the California Air Resources Board (CARB) as part of the 2022 Scoping Plan Update on September 30th, 2021. We represent a diverse set of stakeholders from industrial, environmental, labor, and research sectors. We are tracking this Scoping Plan update process with great interest, as it is the most ambitious and challenging one yet, in light of the state's mid-century climate goals. We offer brief comments below on a number of topics that were brought up during the workshop and comments.

The proposed scenarios and modeling assumptions are directionally correct

We believe that the four proposed alternatives serve the purpose of investigating the interplay and tradeoffs between different options in California's climate portfolio. The two proposed timelines - 2035 and 2045 - reflect the state's goals as laid out in Executive Order B-55-18.

The assumptions regarding carbon capture and sequestration (CCS) and carbon dioxide removal (CDR) are of particular interest to us. We believe that CARB is justified in considering both alternatives that do not include CCS and CDR, and also alternatives that do. This way, modeling results can be derived on the value and necessity - or lack thereof - of these technologies in meeting the state's goals.

As a general point, we urge CARB to be consistent, to the extent possible, with parallel modeling exercises currently underway by state agencies, such as the California Energy Commission's efforts to assess the value of long-duration energy storage.¹

¹ CEC EPC-19-056.

We reiterate the multiple ways in which CCS and CDR can help the state

As we have pointed out numerous times in past comments,² CCS and CDR can offer multiple benefits to the state. This family of technologies can significantly increase the likelihood of achieving our climate goals by drastically reducing or eliminating emissions from large point sources that do not have many other cost-effective decarbonization options,^{3,4} strategies that can negate any remaining greenhouse gas emissions that cannot be eliminated,⁵ and strategies to remove CO₂ from the atmosphere.⁶ CCS and CDR can also help maintain and grow a healthy workforce and mitigate job losses resulting from a shift away from fossil fuels, they may be able to reduce local air pollution, and they can assist the state in its efforts to prevent and reduce the severity of wildfires.

We believe that it is incumbent on California to address emissions from sources located within its borders, and not to offshore them while importing products from other jurisdictions.

We are aware of objections and concerns that are being raised regarding these technologies, on the grounds that they may increase or perpetuate air emissions or adversely impact communities. We believe that these concerns do not reflect the true nature or capabilities of this large family of technologies. We urge a science-based examination of their benefits and risks.

We also believe that CCS and CDR projects can be deployed in a manner that not only addresses carbon emissions but also equity and justice, and that improves the well-being of communities and earns their support for projects. Carbon 180 recently summarized the potential to do so, and provides guidelines to that effect.⁷ We urge that a considered approach be followed by the state in assessing the benefits and risks of CCS and CDR technologies, and that project proposals be evaluated on an individual basis and in consultation with the communities concerned in each case.

² See, for example:

<https://www.arb.ca.gov/lists/com-attach/45-sp22-co2-removal-ws-UTRROQdhADoFbVQx.pdf> and <https://www.arb.ca.gov/lists/com-attach/16-sp22-kickoff-ws-UjFXMgFvVXYBbghm.pdf>

³ A strong example of this is the cement industry. See recent report by California Nevada Cement Association: <https://issuu.com/askono/docs/cnca.carbonneutrality.vfinal.03.28.21>

⁴ CCS can also be used to provide zero-carbon, dispatchable power while contributing to grid affordability, stability and reliability. See former comments:

<https://efiling.energy.ca.gov/GetDocument.aspx?tn=232356&DocumentContentId=64351>

⁵ Examples of emissions that may remain by mid-century include aviation, certain vehicle types, agriculture and wildfires.

⁶ These include both approaches that utilize carbon already embedded in biomass waste streams, and direct air capture applications.

⁷ Carbon 180, "Removing Forward: Centering Equity and Justice in a Carbon-Removing Future", August 2021.

<https://static1.squarespace.com/static/5b9362d89d5abb8c51d474f8/t/6115485ae47e7f00829083e1/1628784739915/Carbon180+RemovingForward.pdf>

We thank CARB once again for the opportunity to comment and engage in this Scoping Plan Update process, and stand ready to provide further information for the purpose of this update and beyond.

Respectfully submitted,

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Geoff Holmes, Carbon Engineering

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