

Rajinder Sahota
Assistant Chief, Industrial Strategies Division
California Air Resources Board
1001 I Street
P.O. Box 2815
Sacramento, CA 95812

September 8, 2020

Re: California Carbon Neutrality: E3 Pathways Scenario

Dear Ms. Sahota,

We are writing to express our concern over what we see as fundamental omissions in the draft report “Achieving Carbon Neutrality in California” prepared for CARB by E3. Our understanding is that this work was commissioned by, and prepared on behalf of, CARB as a basis for future California energy planning discussions. CRC would like to highlight two key concerns.

Carbon Capture and Storage (CCS) on Natural Gas Power Plants (NGCCs) is not considered

California Resources Corporation (CRC) is currently developing a CCS project at our Elk Hills energy complex. We are 75% through our initial Front-End Engineering Design (FEED) study, which we expect to be completed by the end of 2020. Given our current commercial evaluation of the project, we believe CCS on NGCC plants in California is a competitive and impactful alternative that must be considered.

CCS is a proven technology readily available and superior in both cost and technical readiness to most alternatives presented in the E3 report. Post-combustion CCS is projected by several credible international agencies and studies, including the International Energy Agency, Intergovernmental Panel on Climate Change and Energy Futures Initiative to be a major contributor (10-15%) to the “all-of-the-above” energy solutions needed to reach long-term global emissions goals while meeting society’s critical energy needs.

California’s true opportunity for climate leadership is to bring technologies to scale that are cost effective and viable for application not only in California, but around the world where the needs and impacts are greatest. CCS on power plants is a prime example of a scalable solution to provide low carbon, base load electricity not just for California, but for the estimated 1 billion people world-wide who currently have no access to electricity. These projects further serve to facilitate CCS for bioenergy and direct air capture, which may not be economically feasible on their own.

Costs vs Benefits and economic viability are not addressed or properly evaluated

Energy costs in California are already prohibitively high and disproportionately impact residents with lower and middle incomes, particularly in disadvantaged communities. California’s past

energy policy choices have yielded consumer energy costs that are roughly 50% above the national average. By not including an economic evaluation in the study, the recommendations are incomplete and run the risk of further exacerbating energy poverty for California's most vulnerable populations, which runs counter to the values of the state.

A proper economic optimization *cannot* be achieved without considering existing infrastructure and local resources, in which California has significant advantages over other regions. The technology selections in the study mirror recommendations published by European plans. Using Europe as a policy guide is questionable given its past performance and Europe's limited natural resources and its disparate and disjointed energy infrastructure.

Placing restrictions on technology alternatives to advance the state's carbon neutrality goal introduces biases and costs that will impede California's opportunity to lead the world in energy technology. Limiting technologies to those singled out by E3 risks creating an unstable energy future that won't meet Californians' needs or achieve our shared economic and environmental objectives for long-term sustainability. CRC strongly advocates that CARB acknowledge the clear limitations of the E3 study and augment the analysis to consider economics, other proven carbon-neutral technologies, and cross border impacts prior to applying E3's study in future policymaking.

Sincerely,



Urban Paul

Vice President, HSE and Sustainability