



February 9, 2018

TO: Sarah Pittiglio
Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: Fiscal Years 2018-2021 Triennial Strategic Research Plan

Dear Ms. Pittiglio:

I am writing as Executive Director of the Energy Institute at Haas. The Energy Institute at Haas, based at the University of California, Berkeley, is made up of researchers with deep expertise in conducting policy- and business-relevant research on energy and environmental topics. Our faculty prioritize putting research into action through our interaction with the state of California and other research partners.

I'm excited that the Air Resources Board (ARB) is developing a triennial research plan to outline ARB's broad research initiatives. I agree that a multiyear plan can be an effective approach to coordinate with other research programs and funding. It will also help research groups like ours put forward responsive research proposals.

I would like to offer several comments to ARB as you continue to develop the details of the plan:

Include Social Science Questions within Research Initiatives

ARB's presentation at the January 26, 2018 public workshop shows how the research program will continue to be focused on funding research to inform policy (slide 6). The program will focus on identified air quality and climate goals (slide 5). I agree a close linkage between research and policy goals is key.

In support of these goals, the presentation describes that the plan will "[g]uide research funding to produce timely and credible *science* [emphasis added]..." I recommend that ARB consider "science" broadly, to include social sciences.

Achieving ARB's air quality and climate goals will involve policies that are intended to change practices and behaviors of people and businesses. Even the simplest regulations can have complex effects as regulated entities respond to the regulations and change their behavior. The reactions of regulated entities could support a regulation's goals, or undermine them. A simple example would be a regulation that requires new equipment to be cleaner than old equipment. If the new, cleaner equipment is more expensive, this could create an incentive for owners of older, more polluting equipment to keep it running longer than they would have otherwise. This could reduce the improvements that result from the regulation. Social science research can help identify these scenarios and be a basis for recommending alternative approaches or mitigation measures.

Social science research can also play an important role in identifying policy approaches in emerging areas. For example, as the number of air monitors increases, including non-regulatory grade monitors,

our understanding of the variability of pollution over time and space is improving. Economic and other social science research can shed light on new policy approaches that take advantage of the new data. These new approaches could take into account the increased pollution burdens that have been experienced in disadvantaged communities.

I recommend that ARB explicitly include social sciences within the scope of each research category: Health & Environmental Justice, Air Quality, Climate, and the Cross-Cutting topics.

Consider Funding Broader Research Initiatives over a Triennial Period to Strengthen Partnerships and Outreach

One of the objectives of ARB's plan is to "[i]mprove coordination and identify co-funding and leveraging opportunities with other research funding organizations" (January 26, 2018 Presentation, Slide 8). The presentation describes coordination activities that ARB is pursuing in February and March (Slide 9).

To achieve coordination on an ongoing basis, beyond the preparation period for this plan, ARB should consider funding larger, multi-project initiatives, and task the groups it funds with ongoing coordination responsibilities. This research center approach is a proven model to create centers of research excellence and establish strong partnerships with community and industry stakeholders and funders.

In partnership with ARB, research centers can also effectively disseminate research results to policymakers, stakeholders and the public through working papers, digital media, social media and blogs.

Thank you for considering these comments.

Respectfully Submitted,



Andrew Campbell
Executive Director
Energy Institute at Haas
University of California, Berkeley

acampbell@berkeley.edu
(415) 515-4655