

Richard Corey, Executive Officer  
California Air Resources Board (CARB)  
1001 "I" Street  
Sacramento, CA 95814

March 24, 2016

Dear Mr. Corey,

Congratulations on this very well-conceived plan to mitigate the climate change impact from the Aliso Canyon leak. **We strongly support the proposal, especially the use of the 20-year Global Warming Potential (GWP) value for methane assigned by the Intergovernmental Panel on Climate Change's latest Assessment Report (AR5).**<sup>1</sup> We are not aware of policy in other jurisdictions having used the most current science from the IPCC process, though it seems like an obvious choice.. As usual, CARB is advancing the frontier of best practice for climate policy.

There is one design feature that we would urge CARB to modify. In outlining requirements for mitigation projects, the proposal indicates a need for the project developers to identify, "a qualified and independent verification authority that will certify any emission reductions associated with the project," p. 18. This means that under CARB's compliance offset protocol, project developers will be able to choose their own verification service. This could be problematic. The incentive for third-party verifiers to please the project developer in order to make it more likely that the verifier will be selected again in the future is too great. Ester Duflo, Michael Greenstone, and colleagues from MIT have proven that this is a serious concern through their cutting edge empirical work.<sup>2</sup>

**We urge that verification companies be assigned to projects randomly from an approved list.**<sup>3</sup> In order to provide project developers some certainty on the cost of verification, CARB and the verification companies would have to identify an acceptable price range. This would ensure that cost differentials are not excessive. Then, to participate in this market, verification companies would be required to charge fees within that range. Project developers could also be given the

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<sup>1</sup> IPCC 5<sup>th</sup> Assessment Report. See: <https://www.ipcc.ch/report/ar5/>

<sup>2</sup> Esther Duflo, Michael Greenstone, Rohini Pande and Nicholas Ryan. 2013. "Truth-telling by Third-party Auditors and the Response of Polluting Firms: Experimental Evidence from India." *The Quarterly Journal of Economics* (2013) 128 (4): 1499-1545.

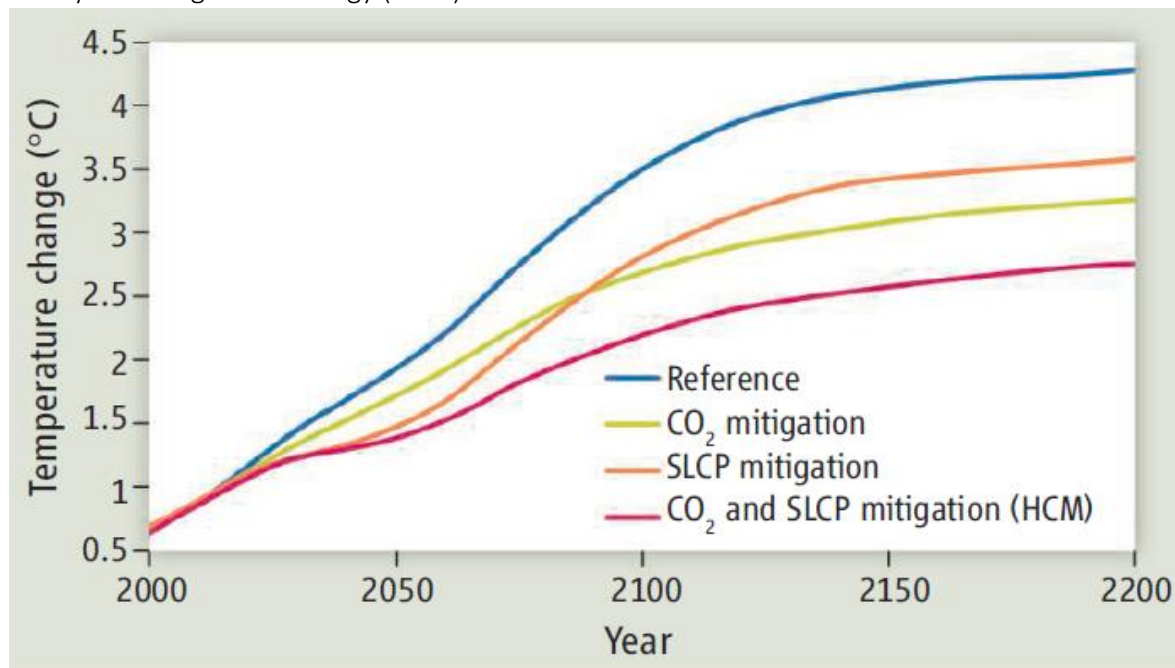
<sup>3</sup> Incidentally, we would argue for the adoption of this assignment approach for compliance offset project development under the state's cap-and-trade program too. There is already a list of approved verification companies under the offset program. They should be assigned to projects instead of chosen by project developers.

opportunity to pass on a limited number of assigned companies if they do not like their initial assignment.

**We agree strongly with the use of the 20-year GWP value for methane** from the AR5 for greenhouse equivalency calculations. Carbon dioxide, the largest constituent gas of the greenhouse gases, has a heat-trapping effect that persists for hundreds of years. Methane and other “Short Lived Climate Forcers” (SLCF) cycle through the atmosphere more quickly.

Many past efforts, including all national inventories and CARB’s statewide inventory, have used 100-year GWPs to gather together greenhouse gas effects in a single metric – carbon dioxide equivalent.<sup>4</sup> The persistent focus on 100-year GWPs is in part a legacy of the earliest years of climate change policy. At that time, climate change seemed like a long-term problem. Today, impacts are accumulating rapidly and the science has become indisputable.

It is undoubtedly true that we should take a long-term perspective, but it is also critical for CARB to consider the short-term benefits to action. Shoemaker et al. (2013)<sup>5</sup> offer the graph below showing why the best strategy combines both carbon dioxide (CO<sub>2</sub>) and SLCF control, which they call the hybrid mitigation strategy (HCM).



The graphic above shows clearly that this hybrid mitigation strategy delivers superior results in every year and across every decade. Focusing only on the 100-year GWP would serve to discount the

<sup>4</sup> For example, the most recent US inventory follows the Intergovernmental Panel on Climate Change (IPCC) 2006 Guidelines for National Greenhouse Gas Inventories. This is the most recent guidance on this from the IPCC.

<sup>5</sup> Shoemaker et al. 2013 “What Role for Short-Lived Climate Pollutants in Mitigation Policy?” *Science* Vol. 342:1323-1324 (December 13)

short-term benefits. One challenge for regulators will be to push forward on SLCF regulation while not letting up on efforts to manage CO<sub>2</sub>.

**In conclusion**, your mitigation fund proposal strikes a careful balance across multiple key dimensions. It prioritizes methane emission reductions, but recognizes there are limits to what can be done in-state and thus allows for the possibility of some mitigation through action on other greenhouse gases. The proposal appropriately looks to prioritize action closest to the most affected local communities, but also allows for investments in projects at the state-level. It is specific yet flexible.

This document sets a very strong framework, but the efficiency and effectiveness of the mitigation program to follow will be determined by further design details and the successfulness of its implementation. We will strive to be of assistance.

Thank you for this great work on behalf of the people of California and all those who stand to benefit from efforts to curb climate change.

Sincerely,



Chris Busch, Ph.D.

Research Director