

[This is the fifth post in a series expressing my view of why California's actions on climate change are so important and how they will change the world. The [introductory post](#) provides an overview and some general context.]

One of the most important actions we can take to combat climate change is to halt the emission of short-lived climate pollutants (SLCPs). Once again, California is leading world action.

The most prevalent climate pollutant, of course, is carbon dioxide (CO<sub>2</sub>). Other emissions, however, also trap heat, and many do so with much greater potency than CO<sub>2</sub>. The three primary SLCPs are methane (natural gas), black carbon, and hydrofluorocarbons, or HFCs (a primary refrigerant). Unlike CO<sub>2</sub>, which lasts in the environment for 100 years or more, SLCPs diminish over shorter time periods. So, if we end those emissions, we will actually see a reduction in greenhouse gases, providing a bit more time for action.

Under [SB 605](#), the Air Resources Board has developed an aggressive [SLCP plan](#) that has worldwide application, requiring by 2030 a 40% reduction of HFCs and methane, and a 50% reduction of black carbon.

In California, about 50% of methane emissions come from the agricultural sector - manure and agricultural waste—and the rest from landfills and oil and gas operation. Methane is a usable product, so methane capture has economic value. Dairy digesters, composting, direct capture technologies are all available now. We expect progress on methane capture to be rapid and consequential.

Black carbon results primarily from diesel emissions, coal, and open flame burning. California has already slashed black carbon emissions drastically, and does not use coal. Most of California's efforts around black carbon will be aimed at the freight sector. In the rest of the world, the problem is more entrenched, with coal as a primary source of electricity, open-flame burning for cooking and heating used by 1.5 billion people, and diesel fuel still prevalent for combustion. California technologies will be key to change.

For HFCs, the world's nations reached [agreement](#) in 2017 for phase out.

SLCPs have not received the attention that they deserve, but in California there is significant progress. Our challenge will be to scale the California effort and to extent it to the rest of the world.

Next blog: Working and Natural Lands

*Ken Alex is the Director of the Governor's Office of Planning and Research, and serves as Senior Policy Advisor to Governor Jerry Brown and the Chair of the Strategic Growth Council.*