March 24, 2016

California Air Resources Board
Attn: Mary D. Nichols, Chair
1001 "I" Street
Sacramento, CA 95814

RE: Comments on Aliso Canyon Methane Leak Climate Impacts Mitigation Program

Thank you for accepting these comments on the Aliso Canyon Methane Leak Climate Impacts Mitigation Program.

On October 23, 2015, workers at the Aliso Canyon Storage Facility operated by Southern California Gas Company (SoCalGas) discovered the well casing leak that became the worst natural gas disaster in U.S. history. The blowout lasted nearly four months, displacing more than 15,000 Porter Ranch area residents from their homes, sickening countless adults, children and pets, and emitting nearly 100,000 tons of heat-trapping methane into the atmosphere.

SoCalGas must be penalized for these impacts and the California Air Resources Board (CARB) must design such penalties to reduce directly the reliance of Los Angeles on fossil fuels and to increase access by Los Angeles residents – particularly those in lower income and vulnerable communities – to low-cost, non-fossil fuel, renewable energy sources. Therefore, we strongly recommend that CARB revise the Draft Aliso Canyon Methane Leak Climate Impacts Mitigation Program to effectively meet these objectives.

SoCalGas has a proven history of placing the community and environment at risk by failing to repair compromised equipment at Aliso Canyon.

The terrible impacts of the Aliso Canyon gas blowout are made worse by the fact that SoCalGas and the California Public Utilities Commission were well aware of the risks that led to the disaster and failed to take steps to protect the surrounding community and the environment. According to SoCalGas, the average age of a well at Aliso Canyon Storage Facility is 52 years; eight wells at the facility have been subjected to "internal and external corrosion" for over 81 years.[i] SoCalGas operates 114 storage wells at Aliso Canyon, and over half of them are over 58 years old.[ii]

SoCalGas admitted in 2014 testimony before the California Public Utilities Commission (CPUC) that "a negative well integrity trend seems to have developed since 2008,"

indicating that well casings were reaching a breaking point due to their age and high-intensity use. The company explained that it discovered a 400 pounds per square inch leak at Aliso Canyon in 2008, and stated the leak was "indicative of production casing leaks from either internal or external corrosion where high pressure gas can migrate to the surface in a matter of hours."[iii] Integrity failures in two more wells at Aliso Canyon were discovered in 2013, but the gas was reportedly not reaching the surface through the leaking wells, but was migrating through the soil.[iv] Given these severe conditions, Porter Ranch and the surrounding areas of Los Angeles have been, and continue to be, at ongoing risk of exposure to leaks from the Aliso Canyon Storage Facility.

Numerous SoCalGas storage wells are known to have external corrosion problems or other signs of physical damage.[v] At Aliso Canyon, natural gas storage wells show signs of external casing corrosion at relatively shallow depths in the well casing and at deeper depths where oil is extracted using fluid stimulation.[vi] SoCalGas cited the "unknown number of at-risk wells and their integrity status" as two factors that complicate budgeting and accounting related to rates set by the CPUC.[vii] The increasing number of safety and integrity conditions is attributed primarily to the frequency of use, exposure to the environment, and length of time wells have been in service.[viii] The clear implication is that costs to address the system-wide integrity issues could quickly balloon.

Natural gas storage wells can be damaged down-hole and have what SoCalGas terms "poor deliverability rates," meaning that there is resistance to natural gas injection. SoCalGas has been clearing this resistance using gravel packing other well stimulation methods, potentially including high-pressure injections of fluids, including acids.[ix]

During the gas disaster, the South Coast Air Quality Management District inspected 16 wells at the Aliso Canyon Storage Facility with a forward looking infrared (FLIR) camera, and found that 15 wells had leaking valves, fittings and/or flanges.[x] These leaks were minor compared to the leak at SS-25, but nevertheless show the inherent leak risks associated with natural gas infrastructure at the Aliso Canyon Storage Facility and elsewhere.

The use of offsets and other market-based approaches does not result in net environmental and social benefits.

The proposed Aliso Canyon Methane Leak Climate Impacts Mitigation Program suggests that one way for SoCalGas to mitigate its releases of methane is by using "offsets" created by funding projects such as dairy digesters on some of the state's agricultural operations. CARB suggests that this offset mitigation approach exists outside of California's current GHG trading/offset program because of the impact it may have on that program's trading/offset projections and allocations. Regardless of whether the proposed offsets occur within or without the state trading/offset program, any kind of offset, including the purchase of credits, is a legitimate threat to achieving real, additional or permanent emissions reductions.

Offsets allow polluters to avoid the urgent need to stop polluting by allowing them instead to pay to continue harmful activities with impunity, while claiming that emissions have been reduced elsewhere. Moreover, the agenda behind offsets, as is clear here, too often places priority on cost containment, market efficiency and ease of polluter compliance, but disregards the true priority, which is to reduce GHG emissions.

The issue of permanence presents the most egregious problem from offsets. The dictionary defines permanence as "the state or quality of lasting or remaining unchanged indefinitely." However, CARBS's understanding of permanence is quite distorted: "Permanent means, in the context of offset credits, either that GHG reductions and GHG removal enhancements are not reversible, or when GHG reductions and GHG removal enhancements may be reversible, that mechanisms are in place to replace any reversed GHG emission reductions and GHG removal enhancements to ensure that all credited reductions endure for at least 100 years."

This definition of "permanence" sends the contradictory message that offset protocols require permanence, but then allows for situations where permanence can be violated so long as there are backup mechanisms in place. For example, the Forest Buffer Account exists for use should a forest used for offsets burn down or be destroyed by another natural disaster, reversing the offsets generated. However, what's left unsaid is that using a buffer account like this allows the total amount of emissions released to increase — the reversed offsets release emissions, requiring more offsets to replace those reversed, ultimately increasing the aggregate number of credits used and subsequently increasing the overall amount of emissions allowed. It's not as simple as a one-for-one exchange.

Additionally, offsets conflict with the requirement for permanence when the life of the reductions is only for 100 years, instead of achieving true permanence. Crediting periods also contradict the concept of permanence when they only go for 25 or 30 years at a time. This is, again, not permanent. It is also unclear what happens after the crediting periods end, or after the 100 years of "permanence" end. The companies that issue the offset credits might not exist in 25, 30 or 100 years, and these impermanent crediting periods bring all of the offsets issued into question. The entire structure of these offsets presents a significant risk of large-scale reversal in the future, undoing whatever emissions reductions might happen and creating no real progress on the very critical issue of GHG reductions.

Another problem arises in the methodology for measuring the amounts of carbon dioxide (CO_2) stored in forests, as well as the methods for calculating emissions reductions from the proposed rice cultivation offsets. Although both methodologies are problematic, they share a significant issue in that they use models and estimates to arrive at the amount of CO_2 stored in a forest or the amount of methane emissions prevented from different rice cultivation practices. From these estimates, offsets are then sold for exact amounts of avoided emissions. A modeled estimate does not equal an exact amount of emissions. It doesn't add up.

Issues of additionality also render California's offset program invalid. State regulations hold that, "A registry offset credit must represent a GHG emission reduction or GHG removal enhancement that is real, **additional**, quantifiable, permanent, verifiable, and enforceable [Health and Safety Code §38562(d)(1) and (2)]. Yet time and again, CARB approves offsets that do not meet this additional requirement. For example, Burbaker Farm in Pennsylvania built a manure digester in 2011, using taxpayer funding, to provide electricity for the farming operation. The owner of the farm is on record as saying he originally built the digester not for credits, but electricity. Yet, in 2015 CARB retroactively certified the Brubaker digester as a GHG offset generator, and California industries can now take advantage of this facility to continue their own emissions even though the digester was already in place, and operating. Likewise, CARB recently approved the 704-acre Pungo River Forest Conservation Project in North Carolina as a source of GHG offsets even though this stand of forest was put into permanent conservation easement in 2003. Seeking already existing GHG reduction projects across the country to generate offsets in the state of California means that there are no additional GHG reductions taking place through the state's offset program.

The offset approach is not the only problem. Cap-and-trade is a regulatory framework that seeks to eliminate the most important tenets of the Clean Air Act, which is that companies do not have an inherent right to pollute. Under cap-and-trade policies, polluters are given a right to threaten public health and the environment, as long as they pay for it. These schemes essentially create loopholes that allow polluters to continue dumping and discharging rather than holding them accountable for pollution.

Trading creates a mechanism where profits determine who is able to pollute and can actually lead to an overall increase in pollution. This is because credits that polluters would purchase are difficult and often impossible to verify. In fact, a recent study of a European Union cap and trade program found that 80% of credits were unverifiable. This means that polluters were able to buy credits to pollute more from other polluters that may or may not have actually reduced emissions.

Even if the impossible task of verifying pollution credits were possible, trading creates regional pollution hot spots, as larger and well-financed polluters will often opt to purchase credits rather than run pollution-control equipment. This happened with the Los Angeles air pollution trading programs under the Rule 1610 and RECLAIM programs in which communicates of color near the City's refinery district suffered from increased air pollution when these facilities purchased emissions credits instead of installing reduction technologies.

While proponents of cap-and-trade and offsets tout the regulatory flexibility benefits of these policies, in reality these policies allow polluting industries to put profit above the interests of public health and the environment. We need to strengthen protections under the Clean Air Act that have worked for decades to help hold polluters accountable, rather than rolling back some of the most important public health laws.

The threats posed by climate change to our public health, environmental health, communities and livelihoods are permanent and real, and so must our efforts to stop these threats be permanent and real — offsets cannot accomplish this. The fact that they require loopholes, distortions and exceptions to even "work" shows that offsets are not a solution, but merely a scam.

Digesters are not a solution to environmental problems, including climate change.

Waste disposal is a problem for all factory farms, with impacts on wildlife and human health, the health of the waterways surrounding them and even on microbial development and potential antibiotic resistance.[xi] In addition to containing methane, a potent greenhouse gas, the air surrounding factory farms typically includes ammonia, hydrogen sulfide and particulate matter.[xii] These can lead to a variety of illnesses, including lung disease, chemical burns to the respiratory tract and even death.[xiii] Anaerobic digestion is focused mostly on methane production, though it claims to help with some of the other effects as well.

At the most simple level, anaerobic digestion happens by adding microorganisms to animal waste.[xiv] The microorganisms digest the waste, producing "biogas," mostly a mixture of methane and carbon dioxide.[xv] The methane, the main component of natural gas, can then be burned to generate electricity or heat.[xvi]

By covering and heating manure lagoons — and installing expensive machinery — factory farms claim to be able to capture and burn methane gas, thereby eliminating greenhouse gas emissions and producing energy. The environmental benefits of manure digesters, however, have proven elusive — and seem to offer little remedy to the far-ranging environmental impacts of the factory farms that feed these machines.

But, like manure pits without any methane capture system, digesters may accidentally spill or leak liquid manure and also present environmental and climate risks from explosions associated with methane production. A 1.25-million gallon manure digester in Wisconsin, constructed with more than $3 million in public funds, spilled 380,000 gallons of manure into nearby waterways in 2013, then another 22,000 gallons in 2014. The digester then experienced a major methane explosion.[xvii] Faced with the reality of such dangerous accidents at digesters,[xviiixix] some rural communities have opposed the construction of digesters.[xx]

Manure digesters don't capture all of the methane they produce, and some amount of methane these machines generate escape as emissions. This "fugitive methane," as scientists call it, can greatly offset—or even negate—whatever greenhouse gas reductions digesters offer.[xxixxii] And when digesters burn methane, they release greenhouse gases like carbon dioxide and nitrogen oxide, which also causes smog and public health issues like asthma.[xxiii]

Even factory farms that safely manage manure during methane capture still have to manage the huge volume of waste that remains following the digestion process.[xxiv]

Digesters don't make the manure evaporate or disappear; they merely extract methane gas from it. In fact, if digesters add water to manure during the digestion process, the total volume of liquid waste may actually increase.[xxv]

Additionally, trucking tons of digested manure to surrounding farms incurs significant environmental costs associated with fossil fuel use and presents risks associated with spills. For example, in April 2015 there were at least two reported trucking accidents in upstate New York in which thousands of gallons of manure were spilled.[xxvi]

Manure digesters are an extremely inefficient method of energy production and would not exist in the United States absent taxpayer subsidies. Start-up, maintenance and operating costs are often in the millions of dollars, and digesters often do not generate enough energy or revenue to be economically feasible.[xxvii] Therefore, manure digesters must not be included in the Aliso Canyon Methane Leak Climate Impacts Mitigation Program.

CARB should require SoCalGas to fund renewable energy projects in Los Angeles

CARB's plan should not call on SoCalGas to fund difficult to track and regulate agricultural methane 'offset' activities that may not reduce overall emissions and would certainly not benefit Los Angeles' impacted and vulnerable communities. In order to assure that all Angelenos have access to clean, renewable energy, CARB should require SoCalGas to fund the construction of community solar gardens that serve the low-income residents of the City of Los Angeles. Constructing these solar gardens would both provide economic relief to residents and result in a permanent reduction in the reliance on fossil fuels.

If combined with California's net metering program, residents who have shares in community solar gardens would see a reduction in their monthly electricity bills. In addition, increasing the amount of solar generation in the city would displace current fossil fuel generation.

The total generation of the community solar gardens constructed by SoCalGas as part of this mitigation plan should be sufficient to annually displace more than enough fossil fuel generation to account for an equivalent amount of greenhouse gas as was emitted during the four months of the Aliso Canyon Storage Facility disaster.

According to the U.S. Department of Energy, less than one-third of American rooftop space is suitable for solar installation.[xxviii] Further, half of all households cannot install a solar PV system because of issues ranging from ownership, to shading, to lack of adequate roof space.[xxix] Additionally, even though costs have dropped, installing a rooftop solar PV system still requires upfront financing that typically hinges on both higher levels of income and higher credit scores.[xxx] While 40 percent of all households in the United States have income less than $40,000 per year, those households "account for less than five percent of solar installations."[xxxi] In Los Angeles, less than 40 percent of residents live in owner-occupied housing. Median household income is below $50,000 and more than 20 percent of residents live below the poverty line.[xxxii]

Community solar enables households that cannot, for financial or other reasons, to install rooftop solar on their homes and get the benefits of distributed solar. Community solar programs allow households to buy a share of the solar electricity generated at a larger-scale solar garden built in their community.[xxxiii] The participants in the project receive a share of utility bill credits, tax incentives and production incentives.[xxxiv] The bill credits work in the same way that an individual household with net metering receives credits. For the amount of electricity sold into the grid by the project, participants receive a payment for the kilowatt hours represented by their share.[xxxv] The payment then reduces their utility bill.

Conclusion

Given the aging and deteriorating nature of its infrastructure and the inherent dangers of natural gas storage to neighboring communities, a true long-term mitigation plan for the Aliso Canyon Storage Facility would require its permanent decommission. Therefore, CARB's Aliso Canyon Methane Leak Climate Impacts Mitigation Program must be viewed more accurately as a penalty against SoCalGas for the harms to the local community and the environment caused by the four-month leak disaster. CARB's plan should focus exclusively on requiring SoCalGas to fund projects to permanently reduce methane emission in Los Angeles communities. We urge CARB to revise its draft plan to require SoCalGas to spend its mitigation funds solely on the construction of community solar farms sufficient to annually displace more than enough fossil fuel generation to account for an equivalent amount of greenhouse gas as was emitted during the four months of the Aliso Canyon Storage Facility disaster. Any other mitigation activities should be stricken from CARB's plan.

Sincerely,

Adam Scow
California Director, Food & Water Watch

Matt Pakucko
President, Save Porter Ranch

Gary Graham Hughes
California Advocacy Campaigner, Friends of the Earth

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