Executive Summary

FACTORY FARM DAIRIES, BIOGAS, AND THE DANGEROUS PATH CALIFORNIA IS ON

Industrial dairies in the San Joaquin Valley, packing thousands, and sometimes tens of thousands of cows into a single facility, are a major source of local air and water pollution, nuisance odor, groundwater overdraft, and greenhouse gas emissions. Over the last decade, California has created a regulatory landscape that pays this industry to continue these polluting practices while producing factory farm gas, otherwise known as dairy biogas. The good news is that California can, and must, choose another path – one that aligns with our climate and environmental health and equity objectives.

The growth of massive dairies in the San Joaquin Valley was a policy choice made despite knowing that the growth and concentration of industrial dairies would have irrevocable impacts to water quality, air quality, and the climate. While in the 1950s, almost 20,000 dairy farms milked 800,000 cows, now about 1,100 dairies milk between 1.7 and 1.8 million cows.

Industrial dairies pollute the air.

They produce Volatile Organic Compounds, ammonia, nitrogen oxides and dust which all contribute to extremely dangerous and unhealthy levels of ozone and PM2.5 in the San Joaquin Valley. Ozone can trigger chest pain, coughing, throat irritation, congestion, worsen bronchitis, emphysema, and asthma. Ozone also can reduce lung function. PM2.5 can cause eye, nose, throat and lung irritation, coughing, sneezing, runny nose and shortness of breath. Dairies also cause significant and pervasive odors.Industrial dairies degrade water quality. With the average dairy cow producing approximately 148 pounds of manure each day, a 2,000 cow industrial dairy produces approximately the same amount of fecal waste as a city of one million people.

Many of the factory farms in the San Joaquin Valley are 3 to 5 times that size. Nitrate from manure leaches into groundwater and pollutes drinking water supplies. Manure from lagoons, corrals, and, above all, applied to land leads to nitrate contamination. Nitrates in drinking water cause blue baby syndrome and have been linked to cancer. The cost to treat drinking water - if treatment is even available – can make water bills unaffordable for many households and can be cost prohibitive for private well owners. Industrial dairies use a tremendous amount of water in an extremely vulnerable region. The San Joaquin Valley is ground zero for critical groundwater overdraft and water scarcity.

Thousands of private and community water wells, upon which many Californians rely for drinking water, have already run dry. California's large dairies use an estimated 142 million gallons per day, or almost 52 billion gallons per year. San Joaquin Valley residents are disproportionately Latino/a/e compared to California as a whole. San Joaquin Valley counties are lower income and have more residents facing economic insecurity than the state as a whole. Therefore, policies that entrench and exacerbate air and water pollution in this region have a disparate impact on lower income and Latino/a/e communities.

Factory farm gas entrenches and intensifies the harms wrought by industrial dairies and doesn't even effectively address climate pollution from dairies.

Manure that is intentionally liquified and stored in lagoons combine with enteric emissions (gasses from intestinal processes) to account for over 6 percent of all greenhouse gas emissions in California. Dairies also contribute nitrous oxide emissions to the atmosphere. Despite these impacts, dairies are not subject to GHG reduction mandates. Dairy digesters capture gas from manure lagoons in dairies that choose to store manure in vast lagoons (a shift that occurred with the development of massive dairies). They do not do anything to address enteric emissions emissions or emissions from land applied manure. Digester gas can be combusted as electricity, used onsite as fuel, or converted into transportation or utility grade gas which is almost identical to conventional fossil gas. Digesters do not do anything to decrease air pollution or groundwater pollution.

California does not mandate emissions reductions from dairies but rather relies on subsidies and incentives to encourage diaries to reduce methane emissions. The favored mechanism for reducing methane emissions is by subsidizing and otherwise incentivizing the production of and conversion of methane to gas. The lack of regulatory approach and availability of subsidies are complementary as several incentives are available or more lucrative for the very fact that dairy methane is not regulated. Such is the case of the Low Carbon Fuel Standard which calculates factory farm gas as carbon negative in part due to the "avoided methane" associated with the conversion of methane off-gassing from lagoons into gas.

California's reliance on subsidies and incentives to manage livestock methane is costly for taxpayers and lucrative for the dairy and gas industries. Californians have poured close to $700 million in cash subsidies to produce and distribute factory farm gas. Add to that the cap-and-trade offset program that allows the factory farm gas industry to sell offsets to polluters and the extremely lucrative low carbon fuels standard credits. Studies show that dairies could capture up to 50% of their overall profits through LCFS credits, leading researchers to ask, what's worth more, a cow's milk or its poop? The dairy industry is very aware of the monumental investment California made to support the production of factory farm gas and anticipates a future where

"milk has become the by-product of manure production."

The profit incentives associated with producing factory farm gas entrenches, and intensifies harmful farming practices. The more manure produced, the more gas produced and with it the windfall profits. Common sense and data show that the largest dairies with the most concentrated wet manure, profit most. The more manure, the more cows, the more water degradation, water depletion, and air and climate pollution – all in the already disproportionately impacted communities of color in the San Joaquin Valley. As but one example, there are approximately ten dairy expansions underway in Merced County California, with some herds more than doubling. Additionally, the actual production of factory farm gas adds pollution, requires additional water resources, and fossil fuel producers, through their ability to purchase credits from this so-called carbon negative gas to offset their emissions, are able themselves to pollute even more.

We have an opportunity now to change the status quo and correct course.

Three complementary approaches to curtailing greenhouse gas emissions from industrial dairies while cutting off the incentives that subsidize the most harmful farming practices and extend our reliance on polluting fuels include:

- Correcting the deficiencies in the Low Carbon Fuel Standard to eliminate windfall profits and perverse incentives for the production of factory farm gas
- Excluding factory farm gas from definitions of clean, renewable, and zero-carbon energy
- Directly regulating greenhouse gas emissions from livestock operations

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