Fatal Flaws in the Low Carbon Fuel Standard and the Scoping Plan Environmental Injustice in the Proliferation of Factory Farm Gas

LEADERSHIP COUNSEL FOR JUSTICE & ACCOUNTABILITY

Summary of Flaws in the LCFS With Regard to Dairy Biogas

1. Inflated Carbon Intensity Due to Inaccurately Low Carbon Intensity Scores and Resulting Market Distortions

2. Illusory Credits / Lack of Additionality (Double County of Alleged Reductions)

3. Increased emissions from fuels due to LCFS trading scheme and resulting Disparate Impacts on Communities of Color

4. Disparate Pollution Impacts on Lower Income Communities and Communities of Color in both the San Joaquin Valley and areas impacted by mobile source pollution

Inflated CI Values Due to Narrow “System Boundary”

Brent Newell, 2006

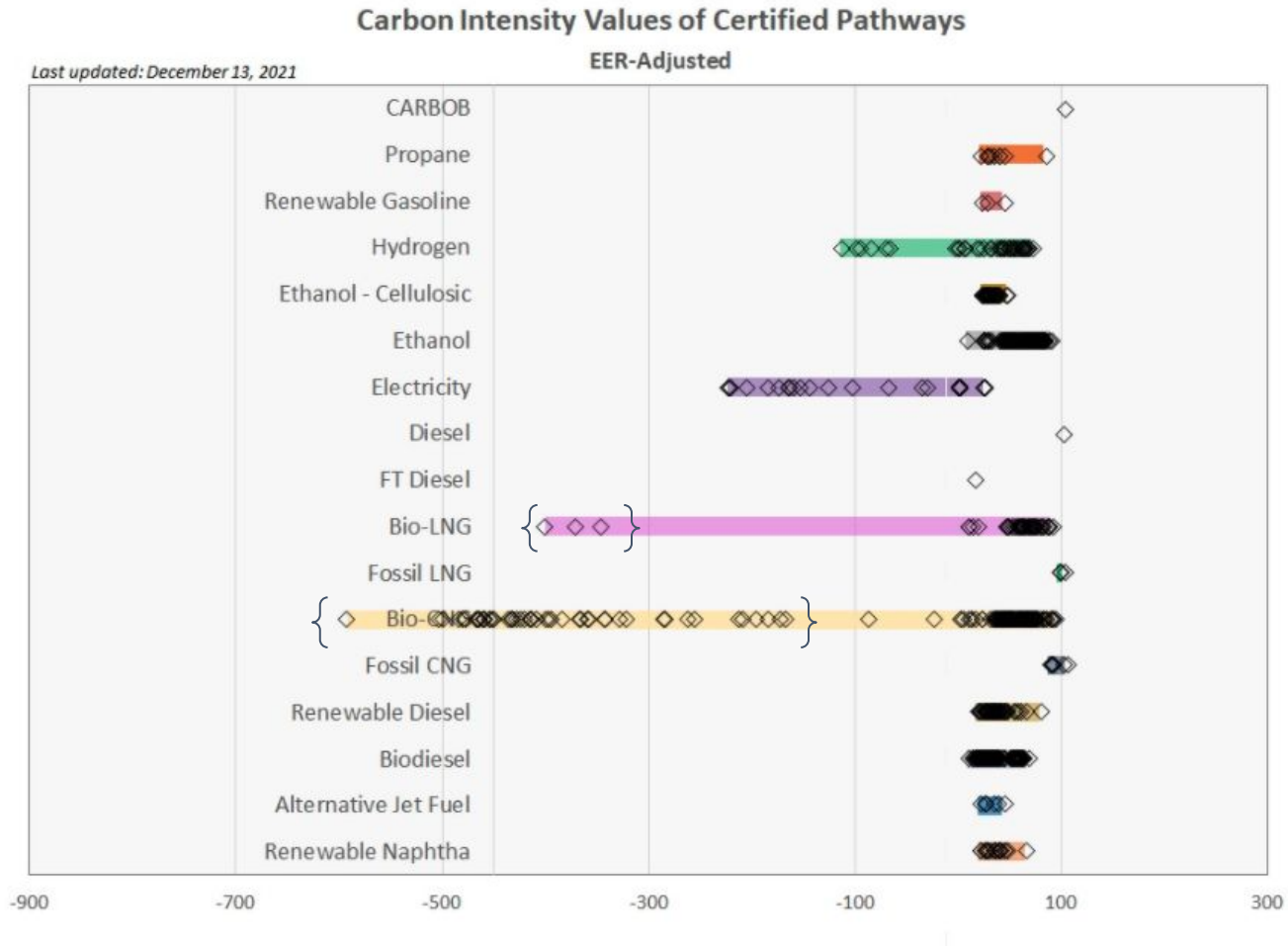
- Narrow system boundary only considers methane emissions from manure in storage - as if manure lagoons were the beginning of the story of GHG emissions from dairies
- Significant upstream and downstream emissions are excluded from the “well to wheel” system boundary approach used in other LCFS fuel sources
- Intentional decisions (both policies and practices) created (and continue to create) massive CAFOs and manure lagoons; they are not a necessary or accidental waste byproduct of animal agriculture

Inflated CI Values Due to Narrow “System Boundary”

Brent Newell, 2008

- Some of the Excluded Upstream Emissions
  - Methane from enteric (cow burps) excluded from “well to wheel” system boundary approach to determine the carbon intensity. Enteric emissions account for ~50% of emissions per cow and ~20% of methane emissions in CA
  - GHGs from feed production excluded from “well to wheel” system boundary approach.
- Some of the Excluded Downstream Emissions
  - Nitrous oxide digestate composting and land application excluded from “well to wheel” system boundary approach. Including such emissions would largely cancel out methane reductions from factory farm gas.

CI Values by Comparison



Inflated CI Values → Market Distortions

Rian deVos, 2016

A growing body of research is showing that revenues from the LCFS rival revenues from milk and incentivizing the creation of methane

- What's Worth More a Cow's Milk or its Poop? (Smith)
  - Based on LCFS credit values from the last quarter of 2020, an average cow could score a third of its value from LCFS credits
- Hoard's Dairyman ("the industry's leading publication")
  - Since 2019, dairy cow numbers rose to the current multi-decade high. A new factor is expected to alter how dairies respond to market signals. Profit generated by manure and energy is a new dynamic for dairy farms
  - Revenues from environmental credits could likely exceed the profit from milk. At that point, **milk has become the by-product of manure production.**

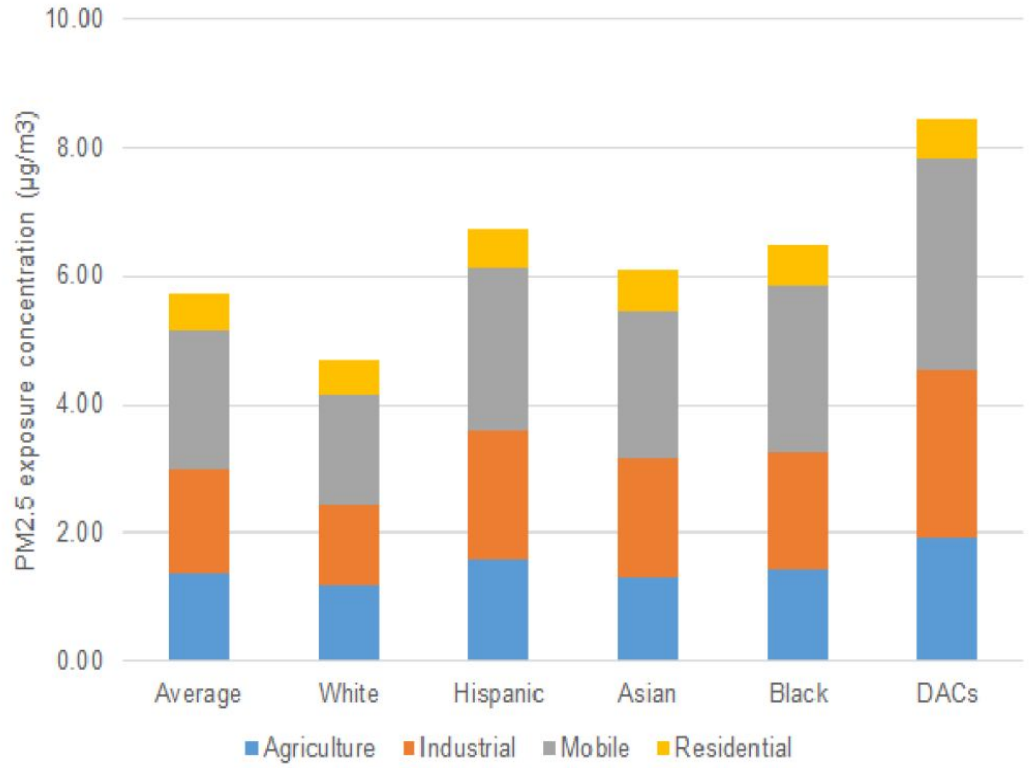
Illusory Credits

Report of Funded Projects (2015 – 2020)

- "Additionality" is critical for market-based mechanism integrity
- Lack of Additionality in LCFS Treatment of Factory Farm Gas
  - The LCFS Regulation allows for credits from reductions that otherwise would have occurred notwithstanding the LCFS
- Aliso Canyon settlement agreement requires methane mitigation at several dairy facilities.
  - Our petition documents 8 dairy factory farm gas projects selling credits from dairies into the LCFS market that also mitigated the Aliso Canyon leak with the same methane reductions.
- CARB and CDFA produce annual reports claiming 100% of the methane reductions as a result of DDRDP investments in dairies - and CARB has granted several pathway certifications to DDRDP recipients.

Disparate Impacts Due to the Factory Farm Gas Trading Scheme PM 2.5 as an Example

Figure 2 – Top Sources of PM2.5 and their Contribution to PM2.5 Exposures by Race and in Disadvantaged Communities



Mobile sources accounted for 45% of exposure disparity for the Black population, and 37 percent of exposure disparity for people in disadvantaged communities." CARB 2020 Mobile Source Strategy

Disparate Impacts

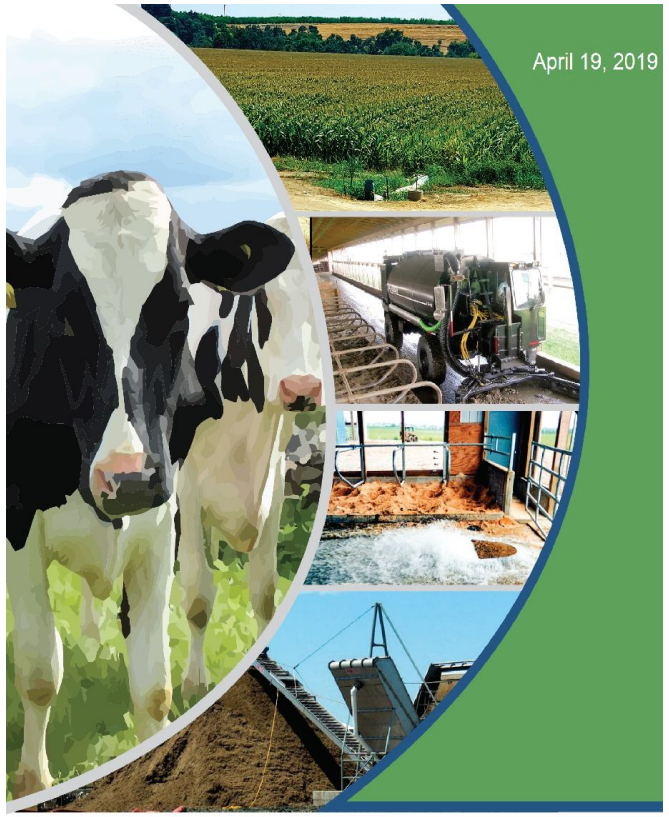
Conventional Fuel Producers Purchase Credits and Continue to Pollute

Conventional transportation fuel producers – “deficit holders” – can buy these credits to emit more greenhouse gases and co-pollutants. **In 2021, over 10 percent of credits were from factory farm gas.**

- African American, Latino, and Asian Californians are exposed to more PM2.5 pollution from cars, trucks, and buses than white Californians. These groups are exposed to PM2.5 pollution 43, 39, and 21 percent higher, respectively, than white Californians.
- Similarly, the lowest-income households in the state live where PM2.5 pollution is 10 percent higher than the state average, while those with the highest incomes live where PM2.5 pollution is 13 percent below the state average.”

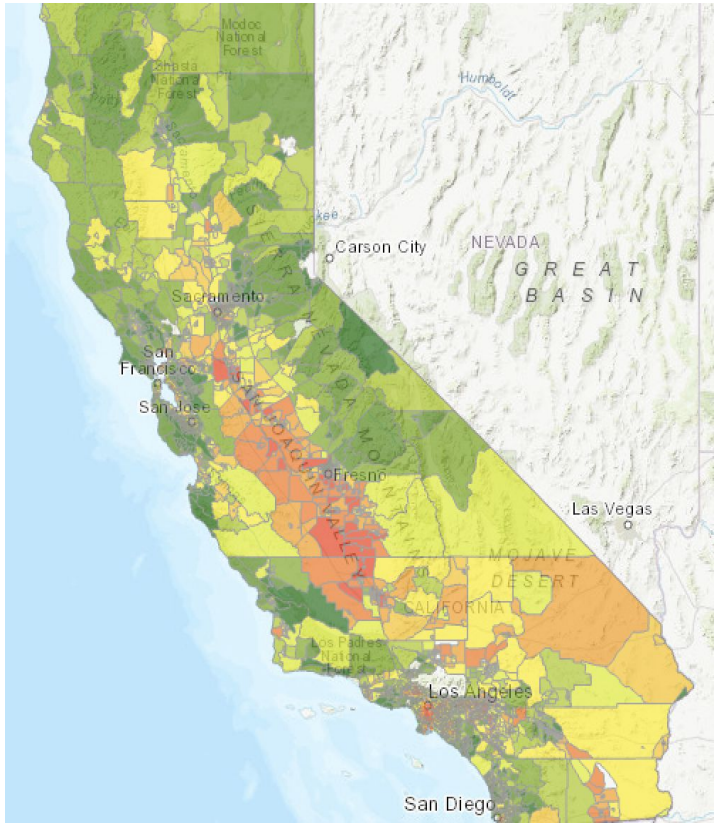
Disparate Impacts

Pollution at the Credit Source - Air & Water Pollution, Flies & Odor



Summary Representative Monitoring Report (Revised*)

- All 42 dairies in the dairy representative monitoring report demonstrated nitrate contamination in underlying ground water
  - Average of 48 mg/l average concentration in shallow wells compared to the legal MCL of 10 mg/l
  - The vast majority of nitrate contamination comes from land application of manure
- The San Joaquin Valley is severely polluted with ozone and PM2.5, with Air pollution from feed, fresh manure, and cow burps as leading sources
- Odor and flies make opening windows and spending time outdoors all but impossible in many communities near dairies



Dairy Digesters in the Scoping Plan

- CARB's proposal is to subsidize 380 more dairy digesters in order to meet 2030 methane reduction targets.
- CARB plans to conducts a rulemaking the LCFS in 2023, but have not committed to address issues related to dairy methane and digesters in that rulemaking.
- The Draft Scoping Plan does not model direct emissions reductions of livestock methane emissions, despite direction to do so in SB 1383 (2016).
- The Scoping Plan double counts reductions attributed to the LCFS and reductions attributed to alleged reductions per SB 1383

Recommendations for Scoping Plan

- The Scoping Plan must call for the initiation of LCFS rulemaking to exclude factory farm gas from the LCFS, correct inflated CI values, and eliminate non-additional credits.

- The Scoping Plan should include direct reductions of livestock methane and call for necessary amendments to SB 1383, including increasing required reductions greater than “up to 40 percent” and beyond 2030 to align with other sectors and long term goals.

- The Scoping Plan must ensure no double counting of alleged digester methane reductions.

Questions