**Workshop on Methane, Dairies and Livestock, and Renewable Natural Gas in California**

**Comments from Silvia Secchi**

My name is Silvia Secchi and I am a professor in the Department of Geographical and Sustainability Sciences at the University of Iowa. I have a Ph.D. in economics from Iowa State University and have been studying the environmental impacts of Midwestern agriculture for over a quarter of a century, you are welcome to look at my google scholar profile to see my published record[[1]](#footnote-1). Thank you for the opportunity to comment on the issues discussed in the Workshop on Methane, Dairies and Livestock, and Renewable Natural Gas in California.

I am extremely concerned about the spillage effects of this policy on Iowa’s environment, which is already one of the most polluted in the country. The effects on our highly degraded water quality could be devastating. According to a recent study “Iowa contributes between 11 and 52% of the long-term nitrate load to the Mississippi-Atchafalaya Basin, 20 to 63% to the Upper Mississippi River Basin, and 20 to 89% to the Missouri River Basin, with averages of 29, 45 and 55% respectively[[2]](#footnote-2)”. Iowa accounts for approximately 29% of the total nitrogen load causing the hypoxic zone (Dead Zone) in the Gulf of Mexico. Not only is Iowa’s water polluted with nitrates, it is also contaminated with pesticides[[3]](#footnote-3) and antibiotic resistance genes[[4]](#footnote-4). Hog, poultry, and dairy confinement operations substantially contribute to the nitrate load through surface and subsurface water runoff from fertilizer for corn and soybean feed production and from manure land application areas.

It is my professional opinion that CARB’s failure to include full lifecycle emissions/system boundary/well-to-wheel analysis with proper consideration of changes in market prices and in state-level regulatory settings is causing CARB to ignore indirect effects on other environmental outcomes such as Iowa’s water quality and also spillage and hence net GHG emission impacts of the use of biodigesters.

We already know that in Iowa there are at least 7 dairies planning to expand while adding the digesters[[5]](#footnote-5), so the net effect of the policy on GHG emissions needs to be rigorously assessed. This is going to be complicated by the fact that in 2021 Iowa passed a law, HF 522[[6]](#footnote-6), which allows large animal confinement operations to exceed confinement capacity if they install an anaerobic digester to treat all manure. This calls in question the additionality of the emission reductions for those large dairies and other operations that expand utilizing this exception.

The economic incentive to monetize manure-methane emissions caused by CARB’s policy will likely lead to further expansion in the hog and dairy sector in our state because of the combination of an added income stream and laxer oversight.

The expansion of the dairy and hog industries is a real concern in Iowa. Five of the dairies planning to expand are in NW Iowa[[7]](#footnote-7), where the livestock density is already the highest in the state. In 2019 the Iowa legislature passed a law (SF 534[[8]](#footnote-8)) which repealed the statutory requirement for rulemaking for all waste control technology (WCT) facilities, including biodigesters. So there is no specific oversight of these facilities regarding the spreading of the digestate

The lack of oversight writ large – by design/law and because of the lack of monitoring capacity - is a major issue CARB should consider. We already have evidence that 1) these systems are problematic and require more, not less monitoring than baseline production systems, and 2) we do not, in Iowa, have the capacity to handle them. Just last month a system spilled manure before being permitted and allowed to operate[[9]](#footnote-9). The manure ended up in drainage tiles and into a creek[[10]](#footnote-10). Last year a diver died in a digester he was trying to repair[[11]](#footnote-11).

I urge CARB to consider that Iowa is already, as the late Bill Stowe said, the sacrifice state (to the current approach to agriculture that ignores environmental costs). We should not create further incentives to continue down this path and promote unsustainable and ineffective technological fixes that do nothing to limit the current nitrogen loading crisis and indeed incentivizes further nitrogen loadings. Above all, this is an inequitable approach, as Iowans will bear the additional environmental burden of the biodigesters while Californians perceive themselves as virtuous while ignoring net impacts on our climate and water quality in Iowa and the Gulf of Mexico.

1. <https://scholar.google.com/citations?user=rXte6MIAAAAJ&hl=en&oi=ao> [↑](#footnote-ref-1)
2. Jones, Christopher S., Jacob K. Nielsen, Keith E. Schilling, and Larry J. Weber. "Iowa stream nitrate and the Gulf of Mexico." *PloS one* 13, no. 4 (2018): e0195930, <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0195930> [↑](#footnote-ref-2)
3. Klarich Wong, Kathryn L., Danielle T. Webb, Matthew R. Nagorzanski, Dana W. Kolpin, Michelle L. Hladik, David M. Cwiertny, and Gregory H. LeFevre. "Chlorinated byproducts of neonicotinoids and their metabolites: an unrecognized human exposure potential?." Environmental science & technology letters 6, no. 2 (2019): 98-105. <https://pubs.acs.org/doi/abs/10.1021/acs.estlett.8b00706> [↑](#footnote-ref-3)
4. Neher, Timothy P., Lanying Ma, Thomas B. Moorman, Adina C. Howe, and Michelle L. Soupir. "Catchment-scale export of antibiotic resistance genes and bacteria from an agricultural watershed in central Iowa." *PloS one* 15, no. 1 (2020): e0227136. <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0227136> [↑](#footnote-ref-4)
5. <https://www.thegazette.com/agriculture/nine-iowa-dairies-get-digester-permits-since-new-law-seven-plan-expansion/> [↑](#footnote-ref-5)
6. <https://www.legis.iowa.gov/docs/publications/SOL/1224327.pdf#HF522> [↑](#footnote-ref-6)
7. <https://www.nwestiowa.com/news/waste-not-manure-to-gas-farms-expand/article_7e4afebe-d822-11eb-b3a7-27b56a9f340b.html> [↑](#footnote-ref-7)
8. <https://www.legis.iowa.gov/docs/publications/LGE/88/SF534.pdf> [↑](#footnote-ref-8)
9. <https://www.iowapublicradio.org/ipr-news/2022-03-03/iowa-manure-recycler-operated-without-states-permission-when-it-leaked-waste-into-creeks> [↑](#footnote-ref-9)
10. <https://iowacapitaldispatch.com/2022/02/11/manure-leaks-into-creek-from-new-green-facility/> [↑](#footnote-ref-10)
11. <https://www.thegazette.com/news/no-osha-probe-of-man-who-died-during-dive-into-on-farm-digester/> [↑](#footnote-ref-11)