

July 18, 2016

To Mary Nichols, Ryan McCarthy, and Craig Segal, California Air Resources Board (CARB):

We submit these supplemental comments concerning the CARB SLCP Reduction Strategy Draft Environmental Assessment.

In our May 26, 2016 comments, we addressed the matter of “leakage” in the context of enteric emissions from livestock in California. (To refresh, emissions leakage occurs when an environmental regulation induces a shift in industrial or agricultural production [and associated emissions] to less stringently regulated areas.) We revisit this matter in the context of the Dairy Care comments that were submitted to CARB the same day, as well as other material that was published after the draft EA comment deadline of May 26, 2016 passed.

A: Ramboll Analysis: GHG Intensity of Milk Production

The Dairy Care comment of May 26, 2016 includes a 5 page analysis developed by Ramboll Environ (pp. 36-41 of pdf), accompanied by a 6 page “Attachment A Greenhouse Gas Analysis” (pp.41-46 of pdf). On page 2 of this analysis is a comparison of California and U.S. GHG Intensity/1000 lb milk presented in **Table 1a**. The **Table 1a** “GHG Intensity metric accounts for emissions from enteric fermentation from milking cows divided by milk production.”

The year 2013 **Table 1a** difference between CA and US values is only 2.48% (0.004/0.161, as the CA value is 0.161, compared to the U.S. value is 0.165). In terms of the enteric emission-only-related GHG intensity/1000 lb milk, CA is slightly more efficient than US concerning the GHG intensity of milk. **This difference between CA and the U.S. is marginal.** Based upon this data, any hypothesized relocation of CA dairy operations to other U.S. states cannot be expected to significantly increase the *enteric-emission-only-related* Greenhouse Gas (GHG) intensity of milk with regard to either the overall milk consumption in California or the overall milk production and consumption within the United States.

The dairy industry and groups such as the Environmental Defense Fund (EDF) have asserted and/or implied that any dairy-related GHG “leakage” that might occur due to compulsory GHG-related internalization of the social and environmental costs of milk

production will significantly increase the overall GHG intensity of milk production in the U.S. With regard to enteric emissions, these claims are not credible, *according to data that has been formally submitted to the CARB by the dairy industry itself*. Concerning enteric-emission-only-related GHG intensity, milk produced in other states is roughly comparable to milk produced in California.

B. Presumption of Leakage

1: We dispute again the presumption of leakage that is repeatedly asserted by the dairy industry and its allies such as EDF. Compulsory internalization of the social and environmental costs of milk production (with specific focus on enteric-emission-related costs) in California may not actually generate leakage, or such leakage that may occur may prove to be marginal in scale. Dairy Care's presumption of leakage is potentially contradicted by a number of factors.

1. First, the capture of enteric emission-related biogas could result in significant resale of biogas to utilities or other users of natural gas. This could constitute a significant revenue stream for ranchers/farmers/dairy owners. Alternatively, ranchers/farmers/dairy owners may use biogas (through combustion) to drive their own energy-dependent mechanical devices on the ranch/farm/dairy. Enteric emission-related biogas capture and combustion may reduce rancher/farmer/dairy owner need to purchase fuels from utilities or other Third Party fuel suppliers, thereby reducing energy purchase costs. Such biogas substitution might significantly, substantially, or completely compensate for any additional costs that would accrue concerning the purchase or development of enteric-related biogas capture and combustion technology and labor required to process captured biogas.

2. Second, a recent study of selected industries in CA that have been subject to AB-32-related cap and trade regulation has documented and suggested minimal overall economic and GHG-related leakage impacts due to such regulation. (See <http://legal-planet.org/2016/05/30/the-economic-impact-of-ab-32-on-california/>.) Dan Farber (the Sho Sato Professor of Law at the UC Berkeley School of Law and Co-Director of the Center for Law, Energy & the Environment) wrote this observation about this May 2016 Resources for the Future study: “[O]verall, the economic impact seems small. That’s also important because it means that carbon leakage from production shifting is also probably small.”

3. Third, any future dairy-related GHG-related leakage (which has been vigorously

predicted by the dairy industry if dairy costs rise in the future as a result of increased compulsory internalization of GHG-related emission costs) would likely be mitigated by the increasing price-competitiveness of non-dairy, plant-based milks, such as almond, soy, rice, hemp, flax seed, coconut, and cashew-based milks.

As this phenomenon interacts with the increasing willingness of consumers to consider consumption of these non-dairy milk alternatives [see <http://www.consumerreports.org/cro/2014/08/milk-substitutes-should-you-sip-or-skip/index.htm>, <http://www.foodnavigator.com/Market-Trends/Dairy-alternatives-on-the-up-Mintel>, <http://www.dairyreporter.com/Markets/Non-dairy-milk-market-vs.-dairy-milk-market-Mintel-market-research>] and the increased economic elasticity of the milk (which has been noted by the agricultural industry itself [see <http://www.agweb.com/article/why-dairy-demand-has-become-more-elastic-naa-catherine-merlo/>]), it becomes reasonable to posit that any cost rise associated with milk production due to increased internalization of GHG-related social and environmental pollution costs might, in fact, lead to *lower* overall GHG emissions/overall radiative forcing.

In short, consumers may respond to the increased internalization of dairy-related GHG environmental costs by increasingly switching to increasingly price-competitive, non-dairy alternatives that are associated with far less GHG/radiative forcing impact per unit of purchased product.

Moreover, we believe that this consumer response will likely expand in scale, in part because of actions and statements by highly visible media personalities (such as former California Governor Arnold Schwarzenegger, **Avatar/Titanic/Terminator 2** director James Cameron, and Moby) in which such influential people increasingly foreswear their own personal consumption of animal-based products in order to reduce their own personal climate footprint impact (and hence effectively discourage consumer consumption of meat and dairy products.) [See, for instance, <https://www.theguardian.com/film/2016/jun/23/arnold-schwarzenegger-james-cameron-eat-less-meat-china>.]

This phenomenon will also likely be enhanced by government actions throughout the planet that are intended to discourage meat and dairy production and consumption, such as the recent plan proposed by the Chinese government to reduce meat consumption in China by 50 percent. (See <https://www.theguardian.com/world/2016/jun/20/chinas-meat-consumption-climate-change>

In any case, we assert that this counter-presumption articulated above is just as reasonable as (if not more reasonable than) the dairy industry presumption that substantial carbon leakage will occur if the dairy and broader livestock industry is compelled to absorb the GHG-related costs of animal-based commodity production in the future.

C. Alternative CEQA Criterion

Dairy Cares presents an argument that the dairy industry in California currently operates on very narrow margins of profitability and economic viability, in spite of the fact that this industry currently externalizes its GHG pollution onto the broader society and environment. According to Dairy Cares, any compulsory internalization of GHG pollution might drive this industry into either economic extinction or toward out-of-state relocation. If this argument and its purported documentation are credible, this industry cannot survive unless California residents and the broader California environment continue to absorb its adverse impacts (including substantial GHG climate pollution impacts).

In light of this argument, we insist that CARB consider an alternative criterion during this CEQA environmental review: California residents, California state government, and the California environment should only absorb the adverse impacts of the dairy industry if it is clearly and indisputably beneficial to California society, the California environment, California native biodiversity, animal health and welfare, and the state's GHG reduction goals.

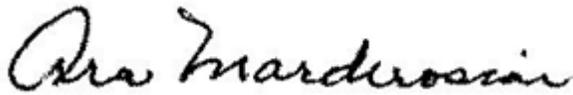
It is our view that the elimination of the deep and extensive subsidies (both direct and indirect) that sustain the dairy/livestock industry would result in a dramatically-reduced economic competitiveness of dairy-related products relative to plant-based substitute products that are healthier and, in our opinion, more humane.

Moreover, we assert that elimination of such dairy subsidies (both direct and indirect) is reasonable, as it is wasteful and unreasonable (and arguably, unconstitutional) for California to support dairy and livestock industries that extensively externalize their GHG pollution costs onto the broader society and global environment.

With regard to land, water, and fertilizer resources used to produce livestock feed, the dairy industry can only be considered immensely wasteful, relative to the resources required to generate plant-based protein (which requires a small fraction of the same resources to generate a comparable amount of protein.) With regard to the extensive

GHG pollution associated with the industry (enteric and manure-based methane emissions, fertilizer-associated nitrous oxide emissions, and carbon dioxide emissions associated with soil tillage, machinery operation, and transportation of livestock feed crop-related inputs and outputs), the dairy commodity production can only be considered unreasonable relative to plant-based protein commodity production, which produces very low levels of GHG emission per unit protein concerning the latter two GHGs (nitrous oxide and carbon dioxide) and virtually no emission concerning the former GHG (methane). For a more extensive treatment of this argument, see the attached comments submitted to the CA State Water Resource Control Board (SWRCB) by SFK, WURU, and others over the last 13 months.

Sincerely,



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