

## **Dairy Cares Comments on the Draft 2022 Scoping Plan Update**

**June 24, 2022**

Dairy Cares<sup>1</sup> appreciates the opportunity to provide the following comments on the California Air Resources Board’s (“CARB” or “the ARB”) Draft 2022 Scoping Plan Update. Dairy Cares represents the California dairy sector, including dairy producer organizations, leading cooperatives, and major dairy processors. Dairy Cares appreciates the ARB’s robust economic and environmental analysis of multiple carbon reduction scenarios. We also appreciate the opportunity to participate in numerous public workshops and submit comments at each stage of this process. The ARB staff should be commended for their tireless efforts to synthesize the complex interactions of economic factors and emissions sources, while at the same time considering the views of many different stakeholders.

Dairy Cares generally supports the adoption of Scenario 3 dairy methane reduction strategies in this Draft Scoping Plan Update because it recognizes the continued advancement of existing dairy methane reduction efforts which continue to facilitate the significant reductions necessary to achieve Senate Bill (“SB”) 1383’s mandate. Compared to the other scenarios, Alternative 3 best accounts for technically feasible and cost-effective dairy methane emission reduction opportunities. We are deeply concerned by the potential costs of Alternatives 1 and 2 on California’s economy, and the dairy sector in particular. Dairy Cares does not support the adoption of Alternatives 1 or 2. We offer the following recommendations as the ARB finalizes this important policy document:

1. Update the findings in the Scoping Plan regarding existing emission reduction measures, regulatory programs and ongoing efficiency improvements in dairy operations;
2. The Scoping Plan should not presume that there will be fundamental changes in demand for dairy products or changes in market forces that would lead to pasture-based operations;
3. The Scoping Plan should distinguish dairy-sector emissions from other livestock emissions, such as beef cattle; and

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<sup>1</sup> For more information about Dairy Cares, please visit [www.dairycares.com](http://www.dairycares.com).

4. The Scoping Plan should include recommendations for enteric emission reduction strategies and specifically contemplate the development of a voluntary offset protocol under the Cap-and-Trade program.

## DISCUSSION

### **1. The Scoping Plan should recognize emission reductions from ongoing regulations and efficiency improvements, and support the continued use of proven emission reduction technologies and markets.**

California law requires the ARB to evaluate the “maximum feasible and cost-effective” emission reduction measures.<sup>2</sup> In the dairy sector, the maximum feasible and cost-effective emission reductions are the ongoing improvements to efficiency. Efficiency improvements in milk production and processing have played a significant role in reducing dairy methane emissions per gallon of milk produced in California over the last half century. According to UC Davis research published in the *Journal of Dairy Science*, the carbon footprint of each gallon of milk produced decreased by 45% from 1964 to 2014.<sup>3</sup> These reductions have occurred in large part from the ability to produce more milk with fewer cows. Milk production efficiency is continuing to make progress due to enhanced cow comfort and health, better feed and nutrition practices, and advances in animal breeding. These benefits will continue, and efficiency can be expected to provide about 1% benefit annually. These important gains in efficiency will allow production to remain relatively constant over the remainder of this decade, even as dairy herd attrition is expected to continue in California. California’s dairy herd reached a peak of approximately 1.85 million milk cows in 2007, and since that time has decreased to an estimated 1.7 million milk cows in 2021, or just more than half of 1% reduction annually over this period. Dairy herds are expected to continue to decline in California by at least the same annual rate and, more likely, cow numbers could decline even faster due a variety of factors.

Increases in labor costs, skyrocketing energy and fuel costs, and high feed costs are all taking a toll on California’s family dairy farms. Regulatory requirements have always been stringent in California, and additional water quality protections will undoubtedly lead to the loss of dairies and reductions in herd populations in the next several years, particularly at smaller farms. Finally, the lingering effects of the ongoing drought and anticipated impacts associated with the Sustainable Groundwater Monitoring Act will also limit dairy farm acreage and lead to the loss of even more dairies due to the extreme shortage of water. All totaled, these factors could lead to a much more likely scenario where California’s dairy herd size will likely be reduced a full 1% or more annually as production remains relatively flat. Dairy Cares therefore recommends the ARB update the discussion in the Scoping Plan to account for potentially accelerated attrition in herd sizes and recognize the role of efficiency improvements in reducing emissions of dairy production.

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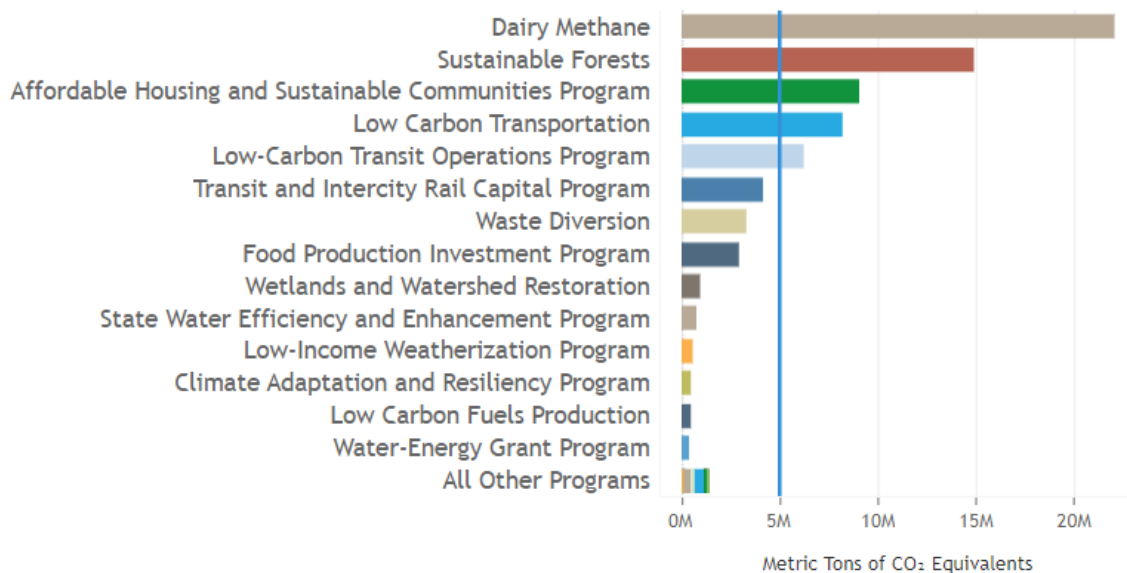
<sup>2</sup> California Health and Safety Code, Section 38561(b).

<sup>3</sup> Naranjo, A., Johnson, A., Rossow, H., & Kebreab, E. (2020). Greenhouse gas, water, and land footprint per unit of production of the California dairy industry over 50 years. *Journal of Dairy Science*. 103, 3760-3, available at [https://www.journalofdairyscience.org/article/S0022-0302\(20\)30074-6/fulltext](https://www.journalofdairyscience.org/article/S0022-0302(20)30074-6/fulltext).

In addition, the Scoping Plan should include additional discussion of Senate Bill (“SB”) 1383. In order to meet the short-lived climate pollutant (“SLCP”) reduction targets adopted in SB 1383, it is critically important that California continue to support and accelerate the utilization of existing, proven technologies and markets to send signals for further emission reductions. One model of the success of these approaches can be illustrated by the inclusion of dairy digesters in the Low Carbon Fuel Standard (“LCFS”) program. As digesters continue to represent the central element in any successful dairy methane reduction strategy,<sup>4</sup> dairies have relied on the LCFS program and access to voluntary markets in making considerable investment decisions to develop digester projects. Participating in these markets must continue to be a core strategy in reducing SLCPs because it is the only way to control livestock methane emissions without creating domestic and international leakage. The value and cost-effectiveness of investments in digesters was recently depicted in CARB’s publication on California Climate Investments<sup>5</sup>:

### Estimated Greenhouse Gas (GHG) Emissions Reductions

Projects are expected to provide the estimated GHG emissions reductions over time periods ranging up to 100 years. GHG emissions reductions and funding amounts are displayed by default for all investments.



The LCFS and other investments in digester technology have clearly helped to establish California’s status as a world leader on SLCP reduction strategies. Given these conditions, the

<sup>4</sup> The Dairy Digester Research and Development Program (“DDRDP”), implemented by the California Department of Food and Agriculture (“CDFA”), is well documented as the State’s leading climate investment, providing one ton of CO<sub>2</sub>e reduction for each nine dollars invested by the state. Equally important, the DDRDP accounts for nearly 29% of all reductions from all California Climate Investments despite receiving just over 2% of all funding under the Climate Investment Program. See California Climate Investments 2021 Annual Report, available [here](#).

<sup>5</sup> California Climate Investments Cap and Trade Dollars at Work, available [here](#).

final 2022 Scoping Plan Update must directly acknowledge the availability of markets such as the LCFS for captured methane.

**2. The Scoping Plan should not presume there will be fundamental changes in demands for food products or a shift in production practices.**

We do not believe that accelerating demand for non-dairy alternatives as contemplated in the Scoping Plan is a feasible strategy. National and global consumer demand for food products, particularly demand outside of the state of California, is not controllable by state policy. National demand for dairy products continues to increase and this trend is expected to continue. Similarly, recommendations for pasture-based operations included in the Draft 2022 Scoping Plan Update are impractical.<sup>6</sup> Dairies in California have and continue to face consolidation and high risks of domestic leakage. Pasture-based operations cannot supplant production capacity of existing dairy operations. California must focus its climate change strategies on realistic scenarios that are environmentally and economically sustainable and account for national trade pressures. Seventy years ago, California had nearly 20,000 small, mostly pasture-based dairy operations. Today, California has approximately 1,200 dairy operators and they are declining each year. The idea that we will return to pasture operations in the next 7 years is unrealistic and would lead to greater water, land, and resource consumption that is not available.

**3. Accounting of dairy emissions must be distinguished from other emissions sources in the livestock sector.**

Dairy methane reductions are often conflated with livestock emissions. While some of the strategies to address them overlap (e.g., enteric strategies), it is important to distinguish dairy emissions from those in other areas of the livestock sector. There are commercially available technologies to manage methane emissions from dairy manure, such as digesters and alternative manure management practices, both of which are already in wide-scale use in California. Innovation, particularly the development of advanced manure management practices that can both reduce methane and improve water quality, should be piloted and adopted as appropriate. These practices represent a crucial and needed technological advancement, especially as digesters achieve their full build-out on suitable dairies.

Methane strategies related to manure management are not generally available in the beef cattle sector. Strategies for enteric emission reductions, which are the primary source of emissions in the beef cattle sector, are not yet commercially available. Dairies should not be responsible for reduction of emissions that are attributable to other sectors. It is important for proper emissions accounting and refinement of emission reduction strategies to distinguish the dairy sector from other livestock sectors moving forward.

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<sup>6</sup> Draft 2022 Scoping Plan Update, at p. 187, available here: <https://ww2.arb.ca.gov/sites/default/files/2022-05/2022-draft-sp.pdf>.

**4. The Scoping Plan Update should provide specific recommendations for enteric emission reduction strategies.**

The need for enteric emission reduction strategies and solutions is also critical to achieving livestock sector methane reduction targets. The State’s SB 1383 goals cannot and will not be achieved without enteric solutions in addition to digesters. The importance of enteric reductions has been acknowledged by the United Nations, CARB, and other organizations. The role of enteric reduction strategies was also recognized by SB 1383, which requires that enteric solutions be commercially available, cost-effective, safe for animals, and accepted by consumers. As recent CARB studies and reports have documented, a number of promising feed additives are in development and should be available in time to meet the State’s 2030 targets. Dairy Cares supports additional research into enteric strategies and solutions, and we are confident that these solutions can be implemented quickly in livestock herds once they are tested and approved for commercial use. Dairy Cares strongly supports the development of an enteric methane reduction compliance offset protocol to incentivize reductions and send a market signal for the development of safe, commercially available feed additives in the years to come. A protocol should be specifically contemplated in the 2022 Scoping Plan Update to help ensure wide-scale adoption of these products through an incentive-based program.

**5. Regulation of dairies is not a workable strategy and would be counterproductive to the realistic emission reduction path the State is already on.**

California’s dairy sector has laid out a realistic and comprehensive dairy methane reduction strategy which will achieve the State’s methane reduction goals. This strategy is fully consistent with Scenario 3, as follows:



**Efficiency:** Continuing to produce the same amount of milk with fewer cows reduces methane and other greenhouse gas production. New dairies are not being built in California and, as a result, the number of milk cows has been trending downward since peaks of roughly 1.85 million milk cows in 2007. This natural attrition is expected to continue and accelerate in the future. Increasing pressure on all farming, including dairy farming, from water scarcity, increasing regulation, rapidly rising labor costs, and skyrocketing energy costs is leading to fewer farms and fewer cows in California.

**Methane Avoidance:** Continued implementation of alternative manure management practices (“AMMP”) on existing dairies will continue to provide significant methane reductions. One hundred and fourteen projects have been funded by CDFA to date and additional funding (\$32-40 million) is available in the current fiscal year and the next fiscal year (\$48 million).

Moreover, additional funding is being sought for “advanced” manure management projects that can significantly reduce methane and provide substantial water quality improvements. Pilot projects are being advanced by the dairy sector in coordination with CDFA. These projects will provide substantial methane avoidance when implemented across numerous dairies.

**Methane Capture and Utilization:** Continued implementation of dairy digesters is a cornerstone of the strategy. CDFA has funded 117 dairy digesters to date and more than 100 dairy digesters are currently operational. Another 100+ digesters are in various stages of design, permitting, and development. Once they are fully implemented, these digesters alone will result in more than 4 million metric tons of CO<sub>2</sub>e reduction in manure methane, or roughly 40% of current dairy sector manure methane emissions, as required by SB 1383.

**Enteric Solutions:** Reducing enteric emissions (belching) created by ruminant livestock will be necessary to achieve the State’s goal of a 40% reduction in all dairy and other livestock methane emissions. Feed additives that reduce or inhibit methane production in ruminant animals are advancing globally. A leading additive, Bovaer, was recently approved for use in the European Union, Chile, and Brazil. Bovaer is under review by the Food and Drug Administration and is expected to be commercially available for use in the U.S. in a few years. Red seaweed (Brominata) produced by Blue Ocean Barns was recently approved by CDFA as a “digestive aid,” allowing it to be available for long-term trials on commercial dairies here in California later this year. Other feed additives are also in various stages of development and can be implemented quickly once approved. Development of a CARB-approved compliance offset protocol for enteric methane emission reductions will be critical to ensure wide-scale and rapid adoption by dairy producers prior to 2030.

**Research and innovation:** Ongoing research and innovation in both manure management and enteric reductions will be important. Additional funding should be made available to identify enteric reduction products and aid in their commercial testing. Consistent with SB 1383, efforts to show these products are safe for animals, cost effective, and acceptable to consumers will be important for wide-scale adoption to achieve the desired reductions.

California’s policymakers have designed an incentive-based dairy methane reduction strategy because they recognized a traditional regulatory approach would simply lead to emissions leakage as dairy production shifted to other regions of the US. The incentive-based approach is working and achieving the desired reductions as discussed above. Changing course at this time would not only eliminate much of the progress achieved, but would lead to massive emissions leakage as dairy production is accelerated in other regions of the US or globally where production is less efficient, resulting in higher global methane emissions and increased warming. Put simply, changing course at this time is counterproductive. Instead, the final 2022 Scoping Plan Update should recommend the strategies set forth in Alternative 3, which collectively represent a realistic approach to dairy methane reductions without causing significant leakage.

## CONCLUSION

Dairy Cares appreciates the opportunity to comment on the Draft 2022 Scoping Plan Update and looks forward to continuing to work with CARB on the achievement of both the SB 1383 methane reduction targets and the broader Assembly Bill 32 Scoping Plan goals.

Prioritizing the protection of disadvantaged communities, California's food-producing families, and state and local economies in the implementation of this work is of the utmost importance.

Respectfully Submitted,

                  /s/                    
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Dairy Cares