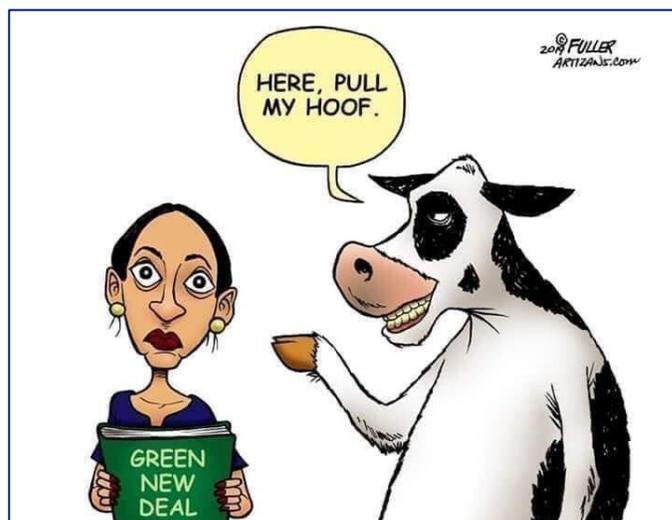


**Dairy Cares Newsletter, February 2019**

## Cow Pies in the Sky: The Reality on Cows and Climate Goals

It's time to address the “cow” in the room. By that, we mean any potentially cow-centric misconceptions or ideas about fighting climate change. California has made great progress as a long-time leader in the effort to reduce greenhouse gas (GHG) emissions, and its dairy farms are doing their part, producing highly nutritious and affordable foods while continually reducing their carbon “hoofprint.” Our dairy farmers know that further improving environmental performance is not just about what’s “technologically feasible,” but also what’s economically sustainable. In a tremendous undertaking, California dairy farmers are currently partnering with the state to further shrink dairy’s carbon footprint to unprecedented levels and support the transition to clean energy and transportation. We hope these efforts can serve as a model of what’s possible—to help distinguish the highly-ambitious-but-achievable climate goals from any pie-in-the-sky ones.



In discussing cows and realistic climate strategies, let's start with [reviewing dairy's contribution](#). In California—the nation's leading dairy state—the entire livestock sector (including cattle, swine, poultry, and sheep) produces about 5 percent the total GHG emissions. The California dairy sector's relatively low carbon footprint, compared to other regions around the world, has been achieved through decades of improved efficiencies—producing more milk with fewer cows. California dairies continue to reduce GHGs by reducing reliance on fossil fuels through [solar energy generation](#), [conversion of farm equipment to electricity](#) and adoption of [energy-efficient measures and equipment](#). And now, the state's dairy farmers are actively pursuing the reduction of methane—a short-lived climate pollutant.

In California, [approximately half of dairy methane emissions](#) are enteric (coming directly from cows), while the other half come from how manure is handled and stored. Several emerging feed additives show potential to reduce enteric emissions; however, none are yet commercially available. California is the only region in the world with a goal to reduce dairy manure methane emissions by 40 percent by 2030. Three main strategies are being used: 1) capturing methane via [digesters](#) and turning it into renewable energy, 2) avoiding methane via [alternative manure management](#) technologies and strategies, and 3) supporting ongoing research into new and better ways to reduce manure methane. The state and its farmers are making great progress, but achieving the 40 percent goal will require continued incentive funding and ongoing coordination in all three areas—not to mention the cutting-edge research needed to accurately measure emissions (and verify reductions) at an unprecedented level. By using digesters, California dairies are not only shrinking their carbon footprint, they are also helping the state transition to clean energy.

[Of the state's 48 climate programs](#), the Dairy Digester Research and Development Program is the most effective investment to date in terms of total GHG reduction. It's also the third most cost-effective, providing one ton of GHG reduction for every \$8 invested by the state. By comparison, [heavy-duty transportation sector investments](#) are providing just one ton of GHG reduction for every \$600 invested by the state.

The state is investing in projects that will create carbon-negative renewable natural gas (RNG). According to the California Air Resources Control Board (CARB), dairy biomethane is by far the least carbon-intensive transportation fuel currently available in California with a [negative carbon intensity score of -255](#), making it nearly ten times more effective at reducing carbon than even electric vehicles. Aside from GHG reduction, when used in heavy-duty trucks, the renewable fuel will play a significant role in helping improve air quality.

With continued funding, the state is on pace to have as many as 120 dairy digesters operating by 2022. This effort will require significant investments in infrastructure needed to collect biomethane from the dairy digesters and to clean, condition, and inject it into natural gas pipelines. Meanwhile, CARB is working to create stable market incentives for the sale of the RNG. Additionally, with the implementation of Senate Bill 1440 (Hues, 2018), utilities may soon be procuring biomethane under long-term contracts from dairies and other projects. These developments will be essential in ensuring the long-term economic sustainability of the state's barn-to-biogas projects.

“Replacing diesel fuel with dairy RNG has the potential to significantly reduce transportation emissions in the San Joaquin Valley and other regions of the state.”

Samir Sheikh  
Executive Director  
San Joaquin Valley Air Pollution Control District

While there is still much work ahead, California has achieved significant milestones. Dairy farmers have a long history of working with state officials and researchers. A key factor in success so far is that incentive programs offer practical approaches for farmers to improve manure management in ways that work best for their operation. Continued incentives will be critical for family farmers who are dedicated to the environment, but are also struggling with rising labor, energy, and regulatory costs. In the past ten years alone, more than 500 California dairy farm families (28 percent) have either closed their operations or left the state. That's why voluntarily achieving the 40 percent goal—and avoiding the need for future costly regulation—is critical to sustaining the state's remaining family farms, which are among the most environmentally friendly in the world.

It's a challenging task, but California is developing a world-leading model for climate-smart dairy farming. The state is demonstrating how well dairy can fit into a low-carbon future as an affordable and nutritious food for a growing population and as a valuable source of renewable energy. However, accomplishing the 40 percent goal by 2030 will require ongoing incentive funding and continued cooperation. So, when we hear of cow flatulence and pie-in-the-sky climate goals, we hope the joint effort of California and its dairy farmers will serve as a helpful example.

Watch [“Climate-Smart Dairy”](#) to learn more about California's world-leading efforts.

*Dairy Cares is a statewide coalition supporting economic and environmental sustainability and responsible animal care. Our members include Bar 20 Dairy Farms, California Cattlemen's Association, California Dairies Inc., California Dairy Campaign, California Dairy Research Foundation, California Farm Bureau Federation, Dairy Farmers of America-Western Area, Dairy Institute of California, F & R Ag Services, GHD, Inc., Hilmar Cheese Co., Joseph Gallo Farms, Land O'Lakes, Merck Animal Health, Milk Producers Council, Ruan Transport Corp., Yosemite Farm Credit, Zenith Insurance Company, and others. For information, visit [DairyCares.com](#) or call 916-441-3318. To subscribe to the e-newsletter, contact [news@dairycares.com](mailto:news@dairycares.com).*