Dairy Farmers Innovating for a Cooler Climate, Cleaner Air, and Overall Sustainability

Continuous innovation is allowing California's dairy farmers to make a big difference for the planet. Climate scientists and leaders across the globe, including Governor Newsom, have recognized that tackling methane emissions is key to quickly reducing climate warming. Dairy farmers' actions here in California are achieving significant success—reducing more than 2.3 million metric tons of greenhouse gases (CO_2e) and counting. The state's dairy farmers are on track to achieve climate neutrality by as soon as 2027, and this success has even broader positive implications for people and the planet.

Above, left to right: California dairy farmer Simon Vander Woude, Shannon Young of Dairy Council of California, Jennifer Bingham of Dairy Cares, and Denise Mullinax of the California Dairy Research Foundation at the California exhibit at the International Dairy Federation's 2023 World Dairy Summit.

California's world-leading dairy methane reduction programs have achieved tremendous results and continue to be over-subscribed. More than 300 methane reduction projects have been installed on California dairy farms. The California Department of Food and Agriculture (CDFA)'s Dairy Digester Research and Development Program (DDRDP) has been matched by private funds (about two to one) and is the state's most cost-effective climate program, costing only $9 per ton of CO_2e reduced. Projects supported by the Alternative Manure Management Program (AMMP) are also reducing methane and helping improve the utilization of manure as a non-fossil, organic fertilizer resource.

Click to learn more about California's dairy digesters.

Applications for 2023 are currently being reviewed, and funding announcements are expected before the end of the year. Additionally, the new Dairy Plus program (funded by USDA and CDFA) received 28 applications for advanced manure management projects to be coupled with new or existing AMMP or DDRDP projects. Dairy Plus projects will soon be taking manure management to a new level, to further improve protection of groundwater.

The environmental benefits of California's dairy methane reduction efforts have already expanded beyond the protection of our climate. Dairy farmers see the benefits first-hand where they live and work—especially improvements to air quality. Recently published research from the University of

California—funded by the California Air Resources Board—affirms that the use of digesters to convert dairy manure to biogas is a positive pathway to meet climate goals, while also reducing criteria pollutant emissions that impact air quality.

California Bioenergy, a leading developer of dairy digesters in California, reports that its 50+ active digester projects avoid an estimated 333 tons of particulate matter emissions annually. This means digester projects have been delivering immediate improvements to local air quality and odor reductions. Air quality benefits also extend beyond the farms themselves, through the use of dairy biogas as clean transportation fuel.

A driver fuels a heavy-duty truck with dairy-derived renewable natural gas in the San Joaquin Valley.

From renewable natural gas (RNG)-powered buses to heavy-duty trucks, to electric cars, and beyond, dairy cows are helping fuel California's clean-energy future. Today, California dairy farms are generating enough RNG to fuel more than 3,000 transit buses. At the same time, they are also generating enough renewable electricity to power more than 12,000 electric vehicles. That's a total of more than 15,000 vehicles powered daily by cow power. The clean air benefits are tremendous, especially by replacing the use of diesel in heavy-duty trucks or buses. Near-zero emission vehicles running on RNG reduce NOx emissions by at least 90% and diesel particulate matter by 100%.

While California's dairy farm families are demonstrating what they can do for the planet, partnerships throughout the entire global dairy sector are also tapping into the potential for innovation to significantly reduce climate emissions, advance nutrition security, and enhance livelihoods, especially in countries where cattle are a critical source of income. In California—the nation's leading dairy state—dairy is the most valuable agricultural commodity and a key source of employment, especially in the San Joaquin Valley. Globally, an estimated 240 million people are employed by the dairy sector and 600 million people live on dairy farms.

Photos shared during a presentation at the IDF World Dairy Summit show a female dairy farmer in India using a gas stove, fueled by her dairy's digester. Previously, she would gather wood daily for her wood-burning stove, so this innovation has saved time and improved air quality for her family. Photos courtesy of Dairy Sustainability Framework.

California dairy farmers and industry leaders recently showcased their planet-smart efforts by participating in the International Dairy Federation's World Dairy Summit, held in October in Chicago. The 2023 IDF World Dairy Summit welcomed attendees from more than 50 countries, discussing opportunities for dairy to be a climate solution and to help advance nutrition security for people across the globe. Speakers provided impactful examples of the benefits dairy can provide to local families, communities, and economies.

California dairy farmers are doing their part to cool the climate, clean the air, and nourish and enrich lives.

Dairy Cares is a statewide coalition supporting economic and environmental sustainability and responsible animal care. Our members include Bar 20 Dairy Farms, 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, Hilmar Cheese Company, Joseph Gallo Farms, Land O'Lakes, Inc, Milk Producers Council, Ruan Transport Corp., Valley Milk, LLC, Yosemite Farm Credit, Zenith Insurance Company, and others. For information, visit DairyCares.com. To subscribe to the newsletter, contact news@dairycares.com.

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