



News Release

CalBio and Bloom Energy Next Generation Technology Now Creating Renewable Electricity from Dairy Manure, Powering BMW Electric Vehicles

KERMAN, CALIF., November 8, 2021 — Bar 20 Dairy Farm, California Bioenergy (CalBio), Bloom Energy and BMW North America, today announced the launch of a next generation, climate-smart dairy solution. CalBio's dairy digester is capturing methane from dairy manure to fuel Bloom Energy Servers generating renewable electricity without combustion. The 100 percent carbon-neutral electricity is then transmitted via the grid to power BMW electric vehicles (EVs).

The new technology provides critical methane reductions to help the state meet its short and long-term climate goals. Additionally, the project will provide significant local air quality benefits while furthering the state's ambitious clean transportation goals. The methane emission reductions at the farm, when combined with the renewable energy generation, result in substantial emission reductions, the carbon emission equivalent to providing clean power to over 17,000 EVs per year. [Bar 20 Dairy](#)—owned and operated by the Shehadey family since 1957—is proud to work with partners to bring another innovative, planet-smart farming project to fruition.

"When I was young, my grandfather told me that we make milk for people's children," says Steve Shehadey. "That has always stuck with us on the farm. We can't offer anything but our best for children and the families who buy our milk. Today, that also means doing what we can to help clean the San Joaquin Valley air and to be part of a climate solution."

What makes the digester at Bar 20 Dairy farm unique is that it feeds into fuel cells for electricity production. The on-site Bloom Energy Servers, comprised of solid oxide fuel cells, create renewable electricity in a highly efficient manner. By capturing methane from dairy waste that would otherwise be released into the atmosphere, the project provides a source of clean, renewable energy. The use of fuel cells to produce electricity reduces carbon emissions and eliminates the majority of air pollution that is harmful to local communities.

"Reducing dairy methane emissions is approximately 80 times more effective at cooling the planet in our lifetimes than reducing a similar amount carbon dioxide." said N. Ross Buckenham, CEO of CalBio. "Although we need to do both, dairy methane reduction is one of the fastest and cheapest ways to limit the effects global warming. This ultra-clean, methane-capturing, on-dairy power generation system scales from small to large dairies and produces renewable power, 24 hours a day, 7 days a week, while also supporting grid resiliency, improving local air quality and reducing greenhouse gas emissions."

The innovative project was made possible through state incentive programs and private investors. The project received funding from the Dairy Digester Research and Development Program (DDRDP), administered by the California Department of Food and Agriculture, and the Self Generation Incentive Program (SGIP), administered by the California Public Utilities Commission. Access to revenue generated by California's Low Carbon Fuel Standard (LCFS) credits helps make the needed private capital investments possible. The project employs two new full time employee equivalents to operate and

manage the system. Partnering companies are currently exploring implementation of this same technology at other San Joaquin Valley dairies.

“At BMW, we continue to pursue new ways to bring sustainability to all aspects of our vehicles—including the electricity powering our EVs,” said Adam Langton, energy services manager, connected eMobility, BMW of North America. “Our partnership with CalBio represents an innovative way to help drive renewable energy investment, which not only powers our vehicles with clean energy, but also reduces methane emissions at dairy farms and brings a new revenue source to agricultural communities.”

“Finite resources don’t mean finite energy, rather, it means doing smarter things with the resources we have,” said Sharelynn Moore, executive vice president and chief marketing officer, Bloom Energy. “Bar 20 Dairy Farms has long understood that the actions they take today will have benefits for years to come for both their industry and for their communities. Methane is a potent greenhouse gas with a short lifespan in our atmosphere. This means that capturing *and* utilizing waste methane as a renewable fuel is a powerful way to positively and quickly impact climate change. Bloom Energy is proud to play a part in their journey and demonstrate that fuel cells are a strong part of the low-carbon solution.”

The Shehadey family of Bar 20 Dairy considers this project to be one of several ongoing investments in planet-smart dairy farm practices. The dairy also continues to adopt new strategies to ensure the best possible animal health and comfort. Farm employees use activity necklaces to closely monitor cow wellness, and to prevent any health issues. In 2020, the dairy began implementing an electric feed mixing system that significantly reduced the use of diesel for daily activities, in an effort to improve air quality. Barns are lighted with 100 percent LED bulbs, and electricity needs are offset by a two-megawatt, on-site solar array. By supplying milk to the Producers Dairy Foods plant, just 20 miles away in Fresno, the farm provides fresh milk daily that helps nourish local communities.

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About California Bioenergy

CalBio is a leading developer of dairy digesters generating renewable electricity and vehicle fuel in California. Founded in 2006, CalBio has worked closely with the dairy industry and state agencies to develop programs to help the state achieve its methane reduction goals while delivering, a new revenue source to California dairies and clean air for the San Joaquin Valley. For more information, visit: www.calbioenergy.com. For questions related to California dairy digesters and dairy methane, please visit: www.dairycares.com.

About Bloom Energy

Bloom Energy’s mission is to make clean, reliable energy affordable for everyone in the world. Bloom’s product, the Bloom Energy Server, delivers highly reliable and resilient, always-on electric power that is clean, cost-effective, and ideal for microgrid applications. Bloom’s customers include many Fortune 100 companies and leaders in manufacturing, data centers, healthcare, retail, higher education, utilities, and other industries. For more information, visit www.bloomenergy.com.

About BMW Group In America

BMW of North America, LLC has been present in the United States since 1975. Rolls-Royce Motor Cars NA, LLC began distributing vehicles in 2003. The BMW Group in the United States has grown to include

marketing, sales, and financial service organizations for the BMW brand of motor vehicles, including motorcycles, the MINI brand, and Rolls-Royce Motor Cars; Designworks, a strategic design consultancy based in California; a technology office in Silicon Valley, and various other operations throughout the country. BMW Manufacturing Co., LLC in South Carolina is the BMW Group global center of competence for BMW X models and manufactures the X3, X4, X5, X6 and X7 Sports Activity Vehicles. The BMW Group sales organization is represented in the U.S. through networks of 348 BMW passenger car and BMW Sports Activity Vehicle centers, 144 BMW motorcycle retailers, 116 MINI passenger car dealers, and 38 Rolls-Royce Motor Car dealers. BMW (US) Holding Corp., the BMW Group's sales headquarters for North America, is located in Woodcliff Lake, New Jersey.

About Producers Dairy Foods

Producers Dairy, located in Fresno CA, has become one of the largest family owned and operated dairies in the Western United States. From humble beginnings, in 1932, Producers Dairy began in the midst of the Great Depression. Larry Shehadey purchased a majority interest in the company in 1949 and became general manager in 1951. Shehadey, with his expertise and background in merchandising and sales quickly worked to build the company and help differentiate it from the many competitors in the marketplace at the time. Mr. Shehadey developed a relationship with the highly popular TV Star, Hopalong Cassidy (William Boyd) in the mid 1950's and Producers Milk became known as Hoppy's Milk. He also began dairy farming in order to better control the quality of milk and to teach school children about where their food comes from. Producers and the Shehadey family have been major contributors in their communities, helping many non-profit organizations over the years such as Children's Hospital, Rescue Missions, Adult Hospitals, Schools, Universities and many other organizations that make a difference and nourish the lives of others. Producers Dairy has a rich history of making a difference and continues to make a difference as it lives out its purpose of nourishing lives one at a time.

Cautionary Note Regarding Forward-Looking Statements

This press release contains forward-looking statements within the meaning of the federal securities laws that involve risks and uncertainties. Words such as "anticipates," "could," "expects," "intends," "plans," "projects," "believes," "seeks," "estimates," "can," "may," "will," "would" and similar expressions identify such forward-looking statements. These statements include, but are not limited to, statements regarding the new technology and the benefits to local air quality. These statements should not be taken as guarantees of results and should not be considered an indication of future activity or future performance. Actual events or results may differ materially from those described in this press release due to a number of risks and uncertainties. The parties undertake no obligation to revise or publicly update any forward-looking statements unless if and as required by law.