



CALIFORNIA DEPARTMENT OF
FOOD & AGRICULTURE

Karen Ross, Secretary

TO: Greenhouse Gas Reduction Fund Program

FROM: Karen Ross
Secretary
California Department of Food and Agriculture (CDFA)

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Office of Environmental Farming and Innovation (OEFI)

DATE: 10/1/2020

SUBJECT: GREENHOUSE GAS REDUCTION FUND: CDFA

EXPENDITURE RECORD [FOR FISCAL YEAR 2019-20]: Dairy
Digester Research and Development Program (DDRDP)

This Attestation Memorandum documents that CDFA completed the attached Expenditure Record on October 1, 2020, for DDRDP. The Expenditure Record is consistent with the statutory requirements of Government Code Section 16428.9 to support expenditures from the Greenhouse Gas Reduction Fund.

This Attestation Memorandum and Expenditure Record will be submitted to CARB for public posting on the CARB website at: www.arb.ca.gov/caclimateinvestments. Questions on this Attestation Memorandum or Expenditure Record may be directed to Amrith Gunasekara, Manager, OEFI at Amrith.Gunasekara@cdfa.ca.gov or (916) 654-0433.

Attachment: Expenditure Record for the DDRDP

cc: Geetika Joshi, Ph.D.
Supervising Senior Environmental Scientist, DDRDP

Karen Ross
Secretary, CDFA



Greenhouse Gas Reduction Fund: Expenditure Record

2019-20

California Department of Food and Agriculture (CDFA)
Dairy Digester Research and Development Program (DDRDP)

Authorizing legislation: Item 8570-101-3228 of Assembly Bill (AB) 74 (Budget Act of 2019), as amended by June 27, 2019 (Chapter 23, Section 2) appropriates to CDFA \$34 million for dairy digester research and development and alternative manure management. Pursuant to Control Section 15.14 of the Budget Act of 2019, Department of Finance has determined that CDFA may expend no more than \$29,058,299 from this appropriation.

Element (1) A description of each expenditure proposed to be made by the administering agency pursuant to the appropriation.

Agency that will administer funding

- California Department of Food and Agriculture

Amount of proposed expenditure and appropriation reference

- AB 74, (Ting, Budget Act of 2019, Chapter 23, Section 2), Item 8570-101-3228, appropriates \$34,000,000 to the Department of Food and Agriculture (CDFA) for dairy digester research and development, and alternative manure management.
- CDFA will utilize its existing Dairy Digester Research and Development Program (DDRDP) to provide financial incentives for implementation of digester systems on dairy operations which will capture methane, a greenhouse gas (GHG) many times more potent than carbon dioxide and use the gas to generate renewable energy or fuels.
- CDFA will also utilize its existing Alternative Manure Management Program (AMMP) to incentivize non-digester related manure management practices on dairy and livestock operations that reduce methane emissions under a separate expenditure record.

Estimated amount of expenditures for administering agency administrative costs

- AB 74, (Ting, Budget Act of 2019, Chapter 23, Section 2), Item 8570-101-3228 not more than 5 percent of the amount appropriated in this item may be used for the administrative costs.

If applicable, identify laws or regulations that govern how funds will be used

- AB 74, (Ting, Budget Act of 2019, Chapter 23, Section 2), Item 8570-101-3228 appropriated CDFA \$34,000,000 for dairy digester research and development, and alternative manure management.
- AB 1532 (Pérez, Chapter 807, Statutes of 2012), Senate Bill (SB) 535 (de León, Chapter 830, Statutes of 2012), SB 1018 (Budget and Fiscal Review Committee, Chapter 39, Statutes of 2012), SB 862 (Committee on Budget and Fiscal Review, Chapter 36, Statutes of 2014), and SB 859 (Committee on Budget and Fiscal Review, Chapter 368, Statutes of 2016) provide the general framework for how the auction proceeds will be administered to further the purposes of AB 32 (Núñez, Chapter 488, Statutes of 2006).

Continuation of existing Expenditure Record

- This is an update to an existing Expenditure Record from 2018-19. Update includes change in total amount of funds available for award in 2019-20.
 - This appropriation will support continuing the DDRDP and will fund the same types of projects that have been previously funded under the existing Expenditure Record.
 - AMMP will be covered under a separate Expenditure Record.
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Project type(s)

- Digesters

Describe the projects and/or measures that will be eligible for funding

- The DDRDP provides financial incentives to commercial dairy operations to implement projects that design and construct new digester systems to reduce methane emissions. Retrofitting of defunct digester systems is also allowed under limited circumstances.
- DDRDP may provide financial incentives to demonstration projects that will allow for testing and demonstration of new technologies and manure management practices that are not covered under the DDRDP incentives solicitation.

Intended recipients

- Incentives: Dairy operations, dairy digester developers, and partnerships between these and other entities.
- Demonstration: California-based university researchers and academic experts, non-profit organizations, and private companies specializing in dairy manure management technologies in collaboration with California dairy farms.

Program structure and process for selecting projects for funding

- The DDRDP will fund competitive grants to dairy operations to capture and reduce methane emissions and produce renewable energy. Review criteria include: estimated GHG emissions reductions, evaluation of project technology, financial soundness and budget, community outreach, criteria pollutants and shovel-readiness. Consideration of environmental co-benefits and benefits to disadvantaged communities.
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Element (2) A description of how a proposed expenditure will further the regulatory purposes of Division 25.5 (commencing with Section 38500) of the Health and Safety Code, including, but not limited to, the limit established under Part 3 (commencing with Section 38550) and other applicable requirements of law.

How the expenditure is consistent with the Investment Plan and the Scoping Plan

- AB 1532 (Chapter 807, Statutes of 2012) requires that monies from the Fund be appropriated in a manner that is consistent with the three-year Investment Plan. The “Cap-and-Trade Auction Proceeds Third Investment Plan: Fiscal Years 2019-20 through 2021-22” recommends support for projects for short-lived climate pollutants (SLCPs), waste diversion, reduction and re-use, and sustainable agricultural practices. Therefore, the expenditures covered by this record are consistent with the Investment Plan and align with the priorities expressed in the Plan.
- California’s 2017 Climate Change Scoping Plan identified a variety of manure management strategies as key to achieve climate and food production goals across diverse agricultural systems. These projects will continue reducing GHG emissions and achieve the goals and purposes of AB 32 and SB 1383, to reduce methane to 40 percent below 2013 levels by 2030 from California’s dairy and livestock sector.

Element (3) A description of how a proposed expenditure will contribute to achieving and maintaining greenhouse gas emission reductions pursuant to Division 25.5 (commencing with Section 38500) of the Health and Safety Code.

Describe how expenditures will facilitate the achievement of GHG emission reductions in the State

- A large percentage of GHG emissions at dairy and livestock operations are the result of animal manure stored under anaerobic (oxygen lacking) conditions, which produces methane. Methane produced from anaerobic manure storage, such as flush water lagoons, contributes approximately 25 percent of all methane emissions in California. The proposed program funded through DDRDP will reduce methane emissions from dairies through installation of anaerobic digester systems, which capture the methane gas and use it to generate renewable energy or fuels. GHG emission reductions from the installation of a dairy digester through DDRDP and its demonstration will be calculated with reference to the baseline scenario where methane gas would be released uncontrolled to the atmosphere. Emission reductions will be realized throughout the digester's life span, typically 10 to 30 years.

Explain when GHG emission reductions and/or co-benefits are expected to occur and how they will be maintained

- GHG emission reductions from DDRDP are estimated to commence in 2022-23.
- Expenditures will directly incentivize the design and construction of dairy digester systems in California which have been shown to effectively reduce methane emissions while at the same time producing renewable energy. This project life for the purposes of quantifying GHG emission reductions is 10 years. GHG reductions are expected to continue for the life of the digester, typically 10 to 30 years. Co-benefits from the demonstration projects include evaluation of commercial potential and evaluation of new technologies.

Element (4) A description of how the administering agency considered the applicability and feasibility of other non-greenhouse gas reduction objectives of Division 25.5 (commencing with Section 38500) of the Health and Safety Code.

Expected co-benefits, particularly environmental, economic, public health and safety, and climate resiliency

- Dairy digesters will yield economic, environmental and public health co-benefits. The DDRDP requires all projects to have double-lined manure lagoons, which is the highest regulatory standard in the state to reduce and eliminate nitrate leaching from the lagoons to groundwater systems. Covering open lagoons or transferring manure to an enclosed digester tank will also result in the reduction of odors and of volatile organic compound (VOC), ammonia, and hydrogen sulfide (H₂S) emissions from uncovered dairy manure lagoons. It will likewise achieve reductions in the discharge of pathogens. Dairy digesters also have the potential to improve nutrient management for crop production through application of the digestate, which has a more stable form of nitrogen compared to solid manure or lagoon water as a nutrient source for crops. Additional economic co-benefits may include producing animal bedding and other marketable products for commercial and home and garden use (e.g., soil amendments).¹ The construction, development and management of dairy digesters in California promote and create technical and non-technical jobs.
- The DDRDP requires all applicants, regardless of location in California, to meet the strict air quality standards established by the San Joaquin Valley Air Pollution Control District for NO_x, the highest standards in the country.

How the project will support other objectives of AB 32 and related statutes

- Improve and modernize California's energy infrastructure through investment in renewable energy production.
- Maximize additional environmental and economic co-benefits for California.
- Provide an opportunity for small businesses to participate in statewide efforts to reduce GHG emissions.

Percentage of total funding that will be expended for projects that are located in and benefit priority populations¹ per CARB guidance

- The 2018 Funding Guidelines do not include a minimum target defined for CDFA to locate projects within and provide benefits to AB 1550 populations, but some projects may meet the criteria for providing benefits.
- Applications submitted to DDRDP shall be screened to ensure that projects that result in potential adverse impacts shall not receive funding unless adequate mitigation measures are taken. Potential adverse impacts include a net increase in criteria pollutants, toxic air contaminants and hazardous air pollutants, groundwater and surface water impacts, truck traffic and odor. Additionally, any project that results in localized impacts in disadvantaged communities shall not be considered to provide a benefit to disadvantaged communities for the purposes of Section 39713 of the Health and Safety Code.

Explain strategies the administering agency will use to maximize benefits to disadvantaged communities

- CDFA will prioritize projects that meet multiple disadvantaged community benefit criteria and demonstrate that the project will meaningfully address an important community need. This will help maximize benefits and support administering agency efforts to meet or exceed statutory requirements for expenditures that benefit disadvantaged communities.
- To help maximize benefits to disadvantaged communities, CDFA will coordinate with local and regional entities to host workshops that allow the public to provide input on the types of projects that would be funded.

¹ Priority populations include residents of: (1) census tracts identified as disadvantaged by California Environmental Protection Agency per SB 535; (2) census tracts identified as low-income per AB 1550; or (3) a low-income household per AB 1550. See Section VII.B for more information on the definitions of priority populations.

Describe the benefits to priority populations per CARB guidance

- Consistent with the evaluation criteria in the Funding Guidelines, projects may benefit disadvantaged communities through direct water quality improvements or employment opportunities.
- In addition to measures outlined above: in making awards, CDFA shall prioritize projects based on the criteria pollutant emission reduction benefits achieved by the project.

Explain how the administering agency will avoid potential substantial burdens to disadvantaged communities and low-income communities or, if unknown, explain the process for identifying and avoiding potential substantial burdens

- Environmental benefits of proposed projects are evaluated by members of the DDRDP Technical Advisory Committee, including subject matter experts from State and Federal agencies. Projects providing multiple environmental benefits receive a higher score during review and are more competitive.

Element (5) A description of how the administering agency will document the result achieved from the expenditure to comply with Division 25.5 (commencing with Section 35800) of the Health and Safety Code.

How the administering agency will track / report progress to make sure projects are implemented per requirements in statute and CARB guidance

- CDFA will track project progress for DDRDP incentives and demonstration through quarterly reporting and invoicing, accompanied by supporting documentation, and a verification evaluation accompanied by photographs to ensure the project was completed and installed according to the approved grant agreement. A final project report is also required.

Describe the approach that will be used to document GHG emission reductions and/or other benefits before and after project completion

- CDFA will require incentive program applicants to calculate the net GHG emission reductions using CARB approved quantification methodology. For DDRDP, the methodology is based on the CARB Compliance Offset Protocol for Livestock Projects.
- Demonstration project applicants will also be required to calculate the net GHG emission reductions using either CARB approved quantification methodology or, if the CARB methodology does not accurately capture the proposed technology, applicants are required to submit a detailed methodology for evaluation by DDRDP technical reviewers and Technical Advisory Committee, which consist of subject matter experts from academia and State and federal agencies.
- CDFA will utilize the technical expertise of State and Federal experts and research scientists at several of the University of California and California State Universities to provide technical review of the GHG reduction estimates in the applications for DDRDP. CDFA will ensure the systems are operational with a verification component post-project completion. The technical review of GHG reduction values coupled with the verification component will ensure all projects achieve GHG reductions.

Type of information that will be collected to document results, consistent with CARB guidance

- To determine the job creation benefits, CDFA will compile data from funding recipients on jobs provided, both in the quality and quantity consistent with CARB guidance, including: number of job-years provided, average wages and benefits, the number of people who completed job training or received industry-recognized certifications, and residence location of job / training recipients.
- Once operational, CDFA will collect data on project location and GHG reduction estimates on 25 percent of projects, 5 years of post-project GHG reductions, and other data as specified in CARB's Funding Guidelines.

How the administering agency will report on program status

- CDFA will report to CARB consistent with CARB guidance. CDFA will provide regular updates on expenditures, project status, and benefits in reports prepared according to CARB's Funding Guidelines. At a minimum, the reports will include expenditure amounts, current estimates of GHG emission reductions, quantification of other applicable co benefits (e.g., jobs created). Reports will also include information on project outcomes for 25 percent of projects over 5 years.
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