



Air Resources Board



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TO: Carla Sanchez
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FROM: Cynthia Marvin, Chief
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DATE: April 13, 2016

SUBJECT: GREENHOUSE GAS REDUCTION FUND: CALIFORNIA DEPARTMENT
OF FOOD AND AGRICULTURE REVISED EXPENDITURE RECORD
FOR FISCAL YEAR 2015-16 – STATE WATER EFFICIENCY AND
ENHANCEMENT PROGRAM

Thank you for submitting the final revised expenditure record (attached) on behalf of the California Department of Food And Agriculture (CDFA) on April 7, 2016 to satisfy the requirements of Senate Bill 1018 (Budget and Fiscal Review Committee, Chapter 39, Statutes of 2012) for expenditures from the Greenhouse Gas Reduction Fund (Fund). We appreciate the iterative consultation process with CDFA staff on the development of this record to support expenditures from the Fund for the State Water Efficiency and Enhancement Program, including the joint program with Department of Water Resources.

This memorandum documents that Air Resources Board (ARB) staff concurred on April 13, 2016 that the attached record is consistent with the statutory requirements of Government Code Section 16428.9 and with ARB's expectations, as documented in the *Funding Guidelines for Agencies that Administer California Climate Investments*.

The CDFA Revised Expenditure Record for the State Water Efficiency and Enhancement Program, Fiscal Year 2015-16, along with this memorandum, will be published on the ARB Cap-and-Trade Auction Proceeds website at: www.arb.ca.gov/auctionproceeds.

If you have any questions concerning this memorandum, please contact me at (916) 324-0062 or via email at Cynthia.Marvin@arb.ca.gov.

Attachment

cc: See next page.

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website: <http://www.arb.ca.gov>.

California Environmental Protection Agency

CDFA Expenditure Record for State Water Efficiency and Enhancement Program

Greenhouse Gas Reduction Fund: Expenditure Record

Fiscal Year: 2015-16

California Department of Food and Agriculture
State Water Efficiency and Enhancement Program

Revised to Reflect Joint Program with DWR

Authorizing legislation: Item 8570-001-3228 of the Budget Act of 2015 (Chapter 321, Statutes of 2015) appropriates \$40 million dollars from the Greenhouse Gas Reduction Fund (GGRF) to the California Department of Food and Agriculture (CDFA) for agricultural water efficiency projects that reduce greenhouse gas (GHG) emissions.

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

<input type="checkbox"/> Agency that will administer funding	<ul style="list-style-type: none">California Department of Food and Agriculture
<input type="checkbox"/> Amount of proposed expenditure and appropriation reference	<ul style="list-style-type: none">Per Section 33 of Item 8-8570-001-3228 (Chapter 321, Statutes of 2015) CDFA was appropriated \$40,000,000 to continue the State Water Efficiency and Enhancement Program (SWEEP) and incentivize agricultural operations to implement efficient irrigation systems that reduce GHGs and save water. This expenditure will allocate \$37,000,000 to CDFA's current SWEEP Program and \$3,000,000 for SWEEP projects as part of a joint program with Department of Water Resources (DWR).
<input type="checkbox"/> Estimated amount of expenditures for State agency administrative costs	<ul style="list-style-type: none">CDFA anticipates spending between 5 and 10% of the total allocated funds on administrative, technical review, verification and post-project implementation GHG quantification costs.
<input type="checkbox"/> If applicable, identify laws or regulations that govern how GGRF funds will be used	<ul style="list-style-type: none">Senate Bill (SB) 103 established the program in 2014 and was reauthorized under Assembly Bill (AB) 91 in 2015.AB 1532 (Pérez, Chapter 807, Statutes of 2012), SB 535 (de León, Chapter 830, Statutes of 2012), SB 1018 (Budget and Fiscal Review Committee, Chapter 39, Statutes of 2012), and SB 862 (Committee on Budget and Fiscal Review, Chapter 36, Statutes of 2014) provide the general framework for how the auction proceeds will be administered to further the purposes of AB 32.

CDFA Expenditure Record for State Water Efficiency and Enhancement Program

<input type="checkbox"/> Continuation of existing Expenditure Record	<ul style="list-style-type: none"> ▪ This fiscal year’s appropriation will support a continuing program that will fund the same types of projects that have been previously funded under an existing Expenditure Record
<input type="checkbox"/> Project category	<ul style="list-style-type: none"> ▪ Energy Efficiency and Clean Energy ▪ Agricultural Energy and Operational Efficiency
<input type="checkbox"/> Type of projects that will be eligible for funding	<ul style="list-style-type: none"> ▪ The program provides financial incentives to agricultural operations to reduce greenhouse gas emissions by investing in water irrigation treatment and distribution systems that reduce energy use, augment supply by reducing on-farm water use and enhancing energy and water use efficiency in agricultural operations.
<input type="checkbox"/> Intended recipients	<ul style="list-style-type: none"> ▪ Agricultural Operations
<input type="checkbox"/> Process for selecting projects for funding	<ul style="list-style-type: none"> ▪ The SWEEP funds competitive grants to agricultural operations to improve the efficiency of their irrigation and water distributions systems to reduce GHG emissions and save water through several on-farm strategies. Incentives are ranked and distributed based on: <ul style="list-style-type: none"> ○ Reduction of GHG emissions from water pumping or treatment; ○ Immediacy of water supply increased and efficiency gained to address water shortages. ▪ Consideration of environmental co-benefits and benefits to disadvantaged communities.

(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.

<input type="checkbox"/> How the expenditure is reflected in the three-year Investment Plan and the Scoping Plan	<ul style="list-style-type: none"> ▪ AB 1532 requires that GGRF moneys be appropriated in a manner that is consistent with the three-year Investment Plan. The 2013 “Cap-and-Trade Auction Proceeds Investment Plan” recommends funding water system and water use efficiency. In addition, Appendix B of the Investment Plan specifically describes competitive grants or direct funding to reduce GHG emissions related to energy used to supply water. Therefore, the expenditures covered by this record are consistent with the Investment Plan and align with the priorities expressed in the Plan. ▪ The First Update to the Climate Change Scoping Plan, released in May 2014, identified key strategies and recommendations to continue reducing GHG emissions and achieve the goals and
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CDFA Expenditure Record for State Water Efficiency and Enhancement Program

purposes of AB 32. The recommended actions for the water sector include prioritizing investments in conservation and water-use efficiency activities.

(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 achieve GHG reductions or net GHG benefits

- GHG emissions stem from on-farm energy use including nonrenewable fuels and inefficiencies from irrigation water pumps, piping, or other infrastructure. The proposed expenditures will fund grants to agricultural operations to make irrigation systems more efficient and reduce energy use from pumps, leading to reductions in GHG emissions. The program will incentivize farmers to 1) install water efficient irrigation systems that reduce or optimize water and 2) reduce energy use for water pumping or utilize renewable sources of energy, thereby reducing GHG emissions. For example, making irrigation systems on farms more efficient will lead to less diesel fuel use and thereby will reduce carbon dioxide emissions. Farmers will be able to replace existing irrigation methods that utilize large amounts of water over a short period to time (e.g., flood or furrow irrigation) with irrigation systems that deliver small amounts of water more directly to the plant root zone for greater water use efficiency.
 - The program is designed to reduce GHG emissions by replacing diesel or nonrenewable fuel systems with more efficient systems that use wind, solar power, electricity, natural gas, or other lower emitting energy source or reduce on-farm pump demand. Other design elements aimed at reducing GHG emissions include using low pressure irrigation types and establishing effective irrigation scheduling with soil moisture sensors or probes and weather data. All projects must be able to demonstrate GHG reductions.
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CDFA Expenditure Record for State Water Efficiency and Enhancement Program

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| <input type="checkbox"/> Expected time frame when reductions will be achieved and how expenditure will maintain GHG reductions or net GHG benefits | <ul style="list-style-type: none">▪ GHG emissions and water use reductions will begin immediately after the system is installed and used in the following growing season (2016). The project life is 10 years and both GHG reductions and water savings are expected to continue for at least 10 years. |
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(4) A description of how the state agency considered the applicability and feasibility of other nongreenhouse gas reduction objectives of Division 25.5 (commencing with Section 38500) of the Health and Safety Code.

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| <input type="checkbox"/> Expected co-benefits, particularly environmental, economic, public health and safety, and climate resiliency | <ul style="list-style-type: none">▪ The program has been designed, in addition to achieving greater water savings and efficiencies, to encourage energy efficiency for pumping water. For instance, one of the eligible project components is the reduction of GHGs by using renewable energy or electricity from the grid as an alternative to diesel fuel use. The result is that there will be less GHG emissions and other pollutants. Job growth is anticipated in the irrigation system supply sector since there would be a greater demand for the installation of efficient irrigation systems and pumps to save water and reduce GHGs on farms as a result of this program. |
| <input type="checkbox"/> How the project will support other AB 32 objectives | <ul style="list-style-type: none">▪ Maximizes additional environmental and economic co-benefits for California.▪ Complements the State's efforts to improve air quality.▪ Directs public and private investment toward the most disadvantaged communities in California. |
| <input type="checkbox"/> Percentage of total funding that will be expended for projects that are "located within" and "provide benefits to" disadvantaged | <ul style="list-style-type: none">▪ At least 25% of the total funding (\$10 million) will be directed to projects in disadvantaged communities. |
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CDFA Expenditure Record for State Water Efficiency and Enhancement Program

communities, per the criteria in Volume 2 of ARB's Funding Guidelines

- Describe the disadvantaged community benefits and explain strategies the agency will use to maximize benefits
 - Additional consideration for funding is provided if the project reduces energy use to agricultural water users located within disadvantaged communities. During the scoring process, an additional one point (total of 6) is provided if there are benefits to disadvantaged communities.
 - Several workshops to highlight the program and application process will be held in disadvantaged communities.
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(5) A description of how the state 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.

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- How the agency will track and report progress to make sure projects are implemented per GGRF requirements
 - CDFA will track project progress through monthly invoicing accompanied by supporting documentation and a verification evaluation accompanied by photographs to ensure project was completed and installed according to the approved project.
 - Progress of the projects is provided to CDFA in the form of a progress report provided in June of each year.
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- Approach that will be used to document net GHG reductions before and after project completion. Include citations for references that support methodology
 - CDFA will calculate the net GHG expected and achieved from project using an ARB approved quantification methodology. CDFA will utilize the technical expertise with leading irrigation and energy scientists at several of the University of California and California State Universities to provide technical review of the water savings and GHG reduction estimates in the applications. CDFA will ensure the systems are operational with a verification component post-project completion. The technical review of GHG and water saving values coupled with the verification component will ensure all projects have GHG reductions CDFA will also report program progress periodically to the State Board of Food and Agriculture.
 - CDFA will initiate a randomized auditing function for 5-10% of the total awardees to quantify the GHG reductions from energy usage in the growing season immediately following post-project implementation for three years.
 - The proposed grant program will encourage the use of United States Department of Agriculture, Natural Resources
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CDFA Expenditure Record for State Water Efficiency and Enhancement Program

Conservation Service (NRCS) conservation practice standards for water and energy efficiency on farms. These practices have been designed for quantifiable outcomes and are considered the highest standard in terms of conservation practices on farms. Several standards have been identified including NRCS Conservation practice 441 titled "Irrigation System, Micro-irrigation" and 449 titled "Irrigation Water Management." All water saving and GHG reduction calculations will be supported by appropriate documentation as part of the application process.

Type of information that will be collected to document project results, as described in ARB guidelines

- The agency will collect data on project location, baseline estimated and post-project implementation energy and water usage, type of upgrade that was installed, expected project life, and other data as specified in ARB's guidelines.

How the agency will report on program status

- Program status, including project location and expenditure amounts, benefits and GHG emission reductions, will be reported in accordance with ARB guidelines and also reported in the Department of Finance's annual report on Greenhouse Gas Reduction Fund expenditures, as required by Health and Safety Code Section 39720.
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