

CDFA'S SWEEP

2021 State Water Efficiency and Enhancement Program



University of California
Agriculture and Natural Resources



About the Program

- A competitive grant application administered by the California Department of Food and Agriculture (CDFA)
- Purpose is to provide financial incentives for California agricultural operations **to invest in irrigation systems that save water and reduce greenhouse gas (GHG) emissions.**
- **First come, first served grant**



THE OFFICE OF

environmental farming & innovation

Funding and Duration

- SWEEP funding is authorized by Budget Act of 2021
- \$40 million available
- Project Grant Amounts: Not to exceed **\$200,000**
- Project Duration: **24 months**

Timeline: To be announced; anticipated start date is August 1st, 2022

Estimated Solicitation Timeline

Application submission period	October 2021 - December 2021
Review and award	October 2021 – January 2021
Projects begin implementation	Summer 2022

<https://www.cdfa.ca.gov/oefi/sweep/>

Eligibility

California farmers, ranchers and Federal and California Recognized Native American Indian Tribes are eligible to apply.

- Located on a California agricultural operation
- For the purposes of this program, an **agricultural operation** is defined as row, vineyard, field and tree crops, commercial nurseries, nursery stock production, and greenhouse operations producing food crops or flowers as defined in the Food and Agricultural Code section 77911.
- An agricultural operation cannot submit more than one application per unique tax identification number per round.
- An agricultural operation entity cannot receive a total cumulative SWEEP award amount of more than \$600,000.



Eligibility Continued

- Applications cannot build upon any previously funded SWEEP projects directly affecting the same Assessor's Parcel Numbers (APNs).
- An applicant must be at least 18 years old.
- Project must save water and reduce GHG.
- SWEEP funds may be combined with other grant funds as match for a project, but cannot cover the same activities or costs funded by the other funding source



Exclusions

- Expand existing agricultural operations
- Install new groundwater wells or increase well depth
- Test new technology or perform research
- Medical and recreational cannabis crops are excluded from eligibility
- Academic university research institutions and state governmental organizations are not eligible



Priority Funding

At least 25% of the funds available for SWEEP projects will be reserved for the following applicants and/or projects

1. **Benefits to Priority Populations** include disadvantaged communities, low-income communities and low-income households and can be identified using the mapping tool provided at: <https://webmaps.arb.ca.gov/PriorityPopulations/>
2. **Socially Disadvantaged Farmers** as defined by the Farmer Equity Act of 2017 (need a minimum score of 30)

Project Types

- Improved irrigation water management
- Soil, weather, plant sensors
- Micro-irrigation
- Pump replacement or retrofit
- Fuel conversion – Including renewable energy installations
- Variable frequency drives
- Other projects that combine water savings and GHG reductions



Project Requirements

- Must include flow meters or demonstrate actual water will be measured with existing flow meters
- Must show a water and energy savings



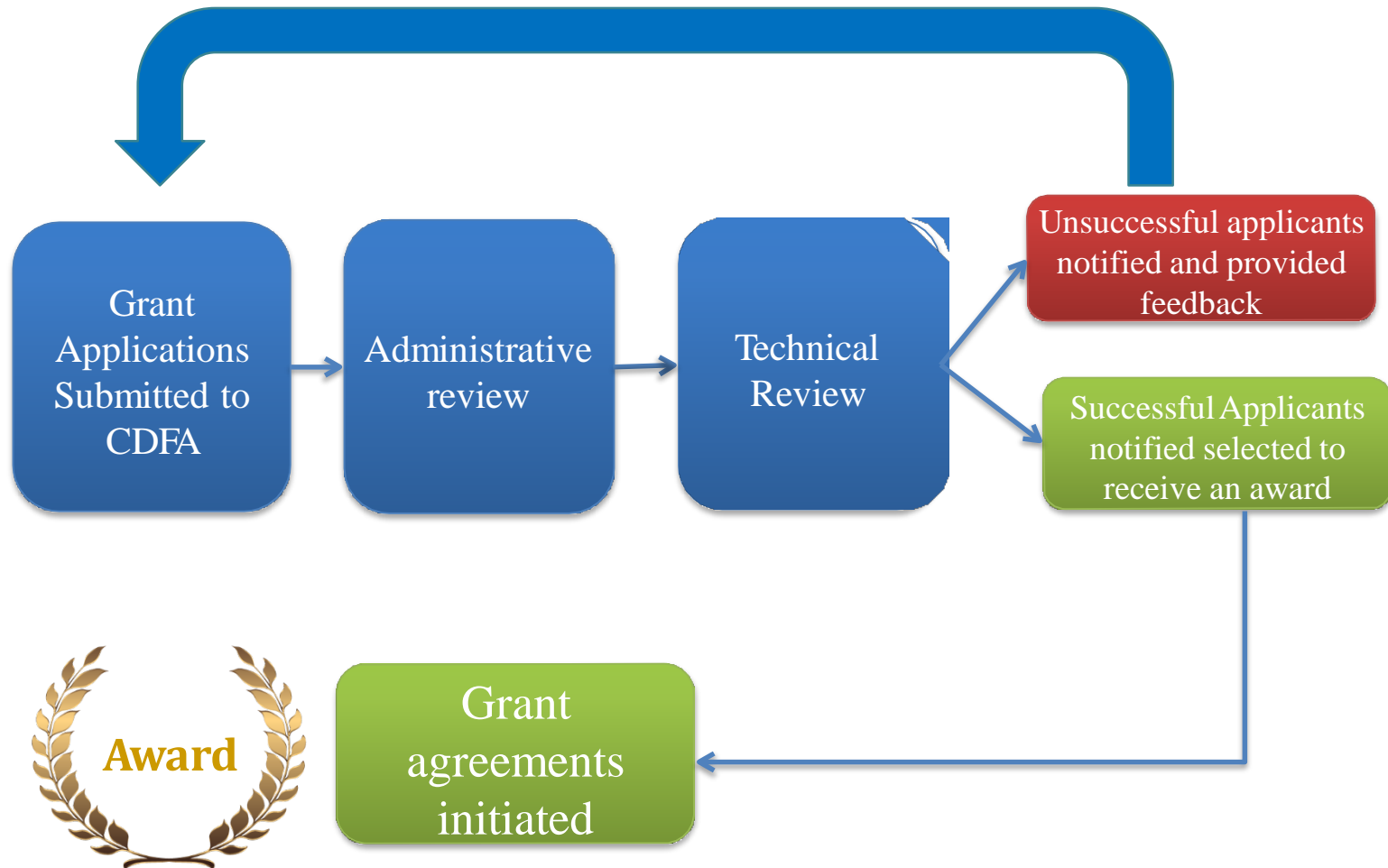
Allowable Costs

- All components of irrigation systems
- Installation of solar panels to power irrigation systems
- Sensor hardware and telemetry
- Software associated with sensors and weather stations
- Flow meters
- Permits
- Labor but cannot exceed 25% of total grant request

Unallowable Costs

- Projects design costs (e.g., engineering costs)
- Costs associated with technical assistance or project management (including drive time and fuel)
- Post-project service changes and maintenance costs
- Any labor provided by the applicant or the applicant's employees (such costs could be categorized as "in-kind")
- Supplies and equipment costs not related to irrigation or water distribution systems
- Costs associated with drilling of new or expanding groundwater wells
- Lease weather, soil and irrigation water based sensors for irrigation scheduling
- Pump efficiency tests

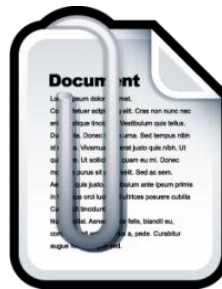
Solicitation Process



Application Attachments

Below are a list of attachments that need to be submitted alongside your online application:

- Project design
- Budget worksheet
- SWEEP Irrigation Water Savings Assessment Tool
- GHG Calculator Tool
- GHG baseline use documentation (e.g., 12 consecutive months of utility bills)
- Pump efficiency tests (for any pumps that will be used in the project)

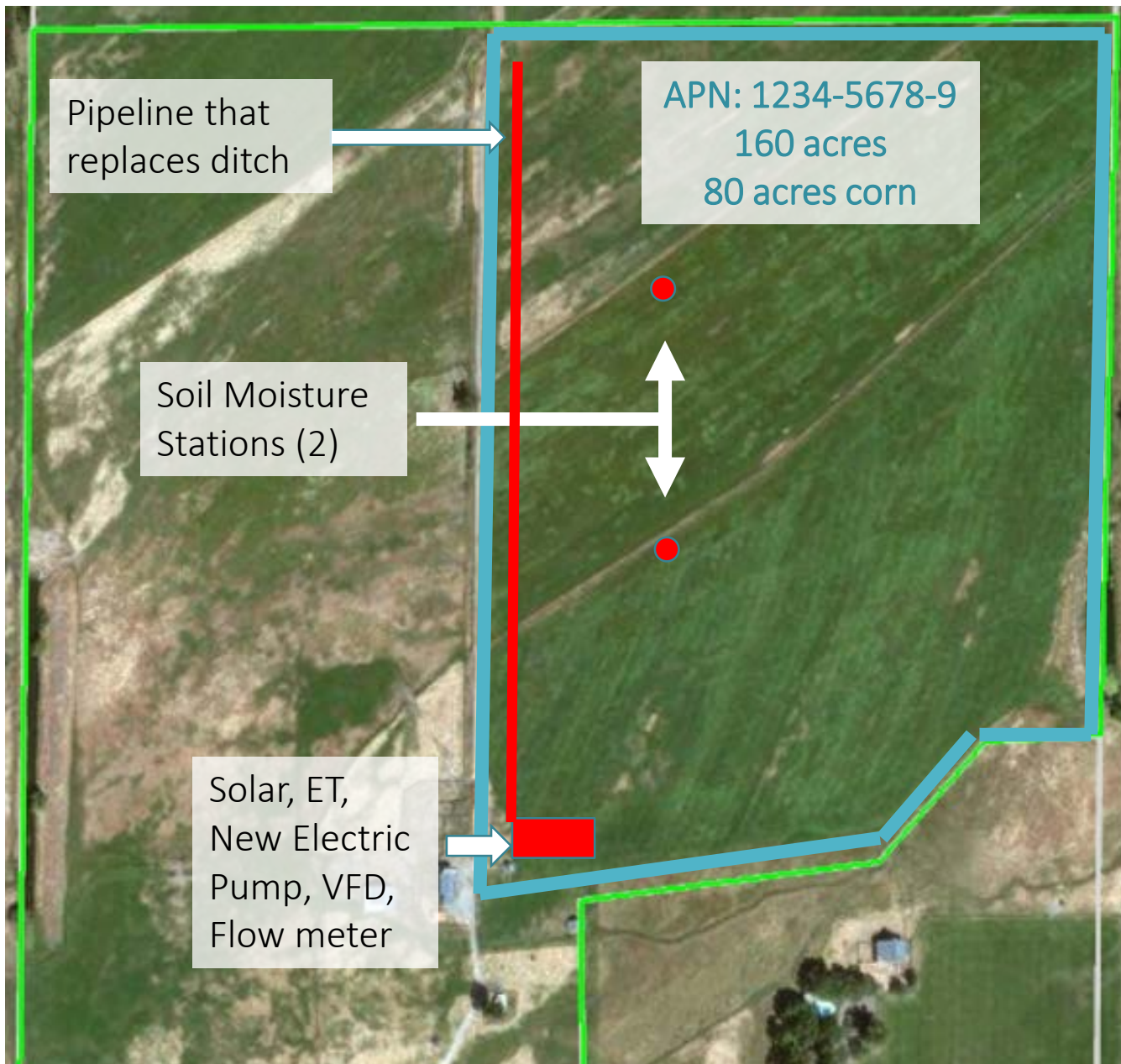


Project Design

Project designs must include the following, as applicable:

- Labeled Assessor's Parcel Numbers;
- Schematic of the locations of proposed or improved infrastructure and technology including irrigation piping, solar panels, and sensors
- List of crops
- Indicate location of existing flow meters and/or proposed location of flow meter





Example of project design

Budget Worksheet

- Supplies: anything that cost less than \$5,000 per unit
- Equipment: anything that cost more than \$5,000 per unit
- Labor: cannot exceed 25% of total requested grant amount
- Other: examples are permits and equipment rental

Use the USDA NRCS EQIP Payment schedules as a guide to the determine reasonable costs



SWEEP Irrigation Water Savings Assessment Tool

- Download the tool to fill out
- Must use the link located on the “Instructions” tab to determine the soil type of where the project will be located
- Must use the link located on the “Instructions” tab to determine the baseline, township, and range of the project location
- Once you fill out the “Before” and “After” tab the “Water Savings Estimate” tab will automatically generate
- Use the last page called “Water Savings Estimate” to fill out online application questions

SWEEP Irrigation Water Savings Assessment Tool

Field or Ranch Name:

Predominant Soil

- Sand
- Loamy Sand
- Sandy Loam
- Fine Sandy Loam
- Loam
- Silt
- Clay Loam
- Clay

Crop

- Alfalfa
- Almonds
- Apple
- Artichokes
- Asparagus
- Avocado
- Barley (planting 11/30)
- Barley (planting 4/30)

Baseline, Township, Range

- Humboldt
- Mt. Diablo
- San Bernadino

21S	15E
22S	16E
23S	17E
24S	18E

Practice

- SURFACE IRRIGATION (Under optimal conditions (lined ditch, tailwater recovery, good DU))**
- SURFACE IRRIGATION (With an Unlined ditch)
- SURFACE IRRIGATION (With a leaky pipeline)
- SURFACE IRRIGATION (With a Low DU)
- SURFACE IRRIGATION (Without a tailwater recovery system)

Estimated "before" water use 105.0 Ac-in/Ac

Notes:
 The outputs of this tool are intended as estimates only for the purpose of understanding the potential for various irrigation practices and management techniques to save water.

Before and after practice water use estimated as crop ET adjusted by appropriate system efficiencies. Water provided by effective rainfall and water required for other beneficial uses are not considered because the effect on water savings is negligible.

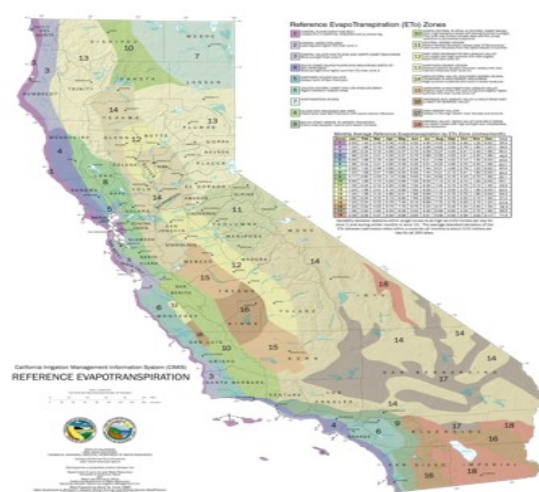
Data Sources:
 Crop ET from NRCS CA Consumptive Use database, representative planting and harvesting dates, UC crop coefficients and CIMIS normal ETo data.

"Predominant Soil" menu: If the actual infiltration rate of a soil at a practice site is significantly different than would be expected for its texture, then select a soil texture that best represents the actual infiltration rate.

For a more detailed explanation of how this tool works, see the "Background Info and Assumptions" tab.

Impacted Acres:

ET Zone 16



Instructions

Before

After

Water Savings Estimate

Background Info and Assumptions

+

GHG Calculator Tool & Support

Below is a list of documents you will need in order to complete the GHG calculator tool

- 12 months of baseline GHG emission value provided in an application must be supported by documentation (i.e., on-farm energy use records).
- A pump efficiency test and information on pump/motor specification must also be attached.



Information you will need from your pump test report:

- Overall pumping efficiency %
- Horsepower
- Pumping depth (ft)
- Discharge pressure (ft)





California Air Resources Board
Greenhouse Gas Emission Reduction Calculator for the
California Department of Food and Agriculture
State Water Energy Efficiency Program
Greenhouse Gas Reduction Fund
Fiscal Year 2016-17

General Project Information		
Input Data	Pre-Project	
Field or Ranch Name		
Pump fuel or electricity use (gallons, scf, kWh)		
Fuel type		
Fuel Emissions Factor	#N/A	
Pump and Motor Enhancement and Replacement - This Section required for all applicants		
Input Data	Pre-Project	Post-Project
Motor Rated Horsepower (hP)		
Operational Hours (hr) (if Known) - If unknown, leave cell blank		
Overall Pumping Efficiency (%)		
System Pressure (ft)	User may override system pressure if known.	User may override system pressure if known.
Pumping depth (ft)		
Discharge pressure (ft)		
Friction losses (ft)		
Are you installing a VFD?		N/A
Irrigation System Enhancement (for systems utilizing pumps)		
Input Data	Pre-Project	Post-Project
Water Savings (SWEEP Water Savings Tool) (%)		N/A
Fuel Conversions and Renewable Energy		
Input Data		Post-Project
Renewable energy capacity (kW)		
New fuel type		
Fuel Emissions Factor		#N/A
Fuel conversion		No change
Conversion Factor		1

https://www.cdfa.ca.gov/oefi/sweep/docs/GHG_CalculatorTool.xlsx

Scoring Categories

Scoring Criteria	Maximum points
Merit and Feasibility	12
Estimated Water Savings	12
Estimated GHG Savings	12
Budget	8
Additional Considerations	6
Total	50

Additional Considerations

All considerations are each worth one additional point.

- Applicant has not received an award in past SWEEP funding cycles
- Applicant commits to completing an irrigation training course during the course of the grant agreement or has completed irrigation training within the last two years
- The proposed project will reduce groundwater pumping within a critically overdrafted groundwater basin.
- The applicant indicates that they will implement one or more of the four soil management practices.
- The applicant commits cost-share.
- The applicant will integrate recycled water or stormwater capture and reuse at the project site.

How To Apply

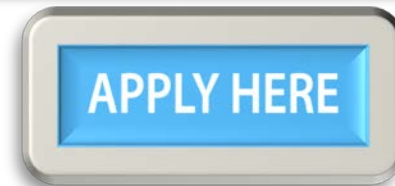
Applicants will access the application from the SWEEP webpage

- Create an account or log in access application and submit

<https://www.cdfa.ca.gov/oefi/sweep/>

Have on hand:

- Project design
- Budget
- Water Calculator
- GHG Calculator
- Pump test
- 12 months energy records



Awardee Requirements



- Pre-Project consultation conducted by a CDFA Environmental Scientist to confirm project information and discuss implementation plans.
- Post-project verification conducted by a CDFA Environmental Scientist or a third-party representative to evaluate project outcomes
- Expectation to use and maintain the installed system for a minimum of 10 years.
- Projects are subject to audit by the State annually and for three (3) years following the final payment of grant funds

Project Verification

- Submit quarterly invoices including receipts and geotagged photos
- When project is completed CDFA will conduct a final verification of all project components
- Verifications may be conducted in person or over the phone

- Reimbursement payment process
- Awardee must upfront the cost and will then be reimbursed upon verification
- 10% of total grant budget is withheld until final verification with CDFA is completed
- Recipients may be eligible for advance payments of up to 25 percent of the grant award

Payment Process

Tips for Strong Projects

- FAQ
- Review previously funded projects
- Reasonable costs for crop and location
- Simple explanation
- Reasonable water savings and GHG reductions (ton/ac)

Questions



Technical assistance available upon request

Budget

BUDGET CATEGORY	Irrigation System Improvements			Irrigation Water Management			Pump and Energy Improvements		
	\$0.00			\$0.00			\$0.00		
	<i>Include all supplies, equipment, labor and other costs in the appropriate rows related to Irrigation System Improvements. This project type can include costs such as the drip or microsprinkler system or central pivot irrigation, etc.</i>			<i>Include all supplies, equipment, labor and other costs in the appropriate columns related to Irrigation Water Management and Scheduling. This section can include costs such as flowmeter, soil moisture sensors, ET sensors, weather station, telemetry, etc. and one year of subscription fees if needed.</i>			<i>Include all supplies, equipment, labor and other costs in the appropriate rows related to Pump and Energy Improvements. This project type can include costs such as installing a new motor, retro-fitting pump / bowl, VFD, etc.</i>		
	Description	QTY	Subtotal	Description	QTY	Subtotal	Description	QTY	Subtotal
\$0.00 Total Supplies									
SUPPLIES: Itemize cost to purchase materials (<\$5,000/unit) necessary for project implementation with an acquisition cost of less than 2 year.									
	\$0.00 Total Equipment								
EQUIPMENT: Itemize cost to purchase equipment (≥\$5,000/unit) necessary for project implementation.									