




**2018 State Water Efficiency
and Enhancement Program
(SWEEP)**

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SWEEP Program Overview

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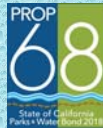
WHAT IS SWEEP?

- (SWEEP) State Water Enhancement and Efficiency Program
- Separate from Healthy Soils Program (HSP)
- Can apply for both SWEEP and HSP
- A competitive grant application process administered by the California Department of Food and Agriculture (CDFA)
- Provides reimbursement for improvements to irrigation system(s)
- **Goal is to Reduce Greenhouse Gas *and* Reduce water use**
 - CDFA estimates that over 75,368 metric tons of CO₂e will be reduced annually, removing 16,139 cars from the road for one year
 - Will help save over 101,050 acre-ft of water annually, enough to fill 50,000 Olympic-sized swimming pools.

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FUNDING AND DURATION

- SWEEP funding is authorized by Budget Act of 2018
- Funded through Proposition 68
- SWEEP 2018 Round 1 funding is up to **\$9.5 million**
- Maximum grant award not to exceed \$100,000
- Project Duration: 18 months
 - September 1, 2019 - March 1, 2021



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ELIGIBILITY

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

- The irrigation project must be on a California agricultural operation.
- Project must save water *and* reduce GHG.
- Ag operation cannot submit more than one application per unique Tax ID number.
- An agricultural operation entity cannot receive a total cumulative SWEEP award amount of more than \$600,000.
- Applications cannot build upon any previously funded SWEEP projects directly affecting the same APNs.



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EXCLUSIONS

- Academic University research institutions and state governmental organizations are *not* eligible for funding.
- SWEEP funding cannot be combined with NRCS EQIP to fund the same components.
- SWEEP grant funds cannot be used to:
 - Expand existing agricultural operations (i.e., additional new acreage cannot be converted to farmland)
 - Install new groundwater wells or increase well depth
 - Test new technology or perform research
 - Pay for engineering costs
 - Lease weather, soil and irrigation water-based sensors for irrigation scheduling
 - Purchase tools and equipment with a useful life of less than 2 years



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PRIORITY FUNDING

BENEFITS TO SEVERELY DISADVANTAGED COMMUNITIES

- Requires that CDFA award 20% of the appropriated \$20 million to benefit SDACs
 - Defined as a community whose annual household income is below 60% of the statewide average.
 - As identified using the Community Fact Finder developed by the Department of Parks and Recreation available at <http://www.opn3.gov/hforan.org/communities>.

SOCIALLY DISADVANTAGED FARMERS AND RANCHERS

- Farmers and Ranchers that identify as belonging to a socially disadvantaged group will receive priority for funding
 - African Americans
 - Native Americans
 - Alaskan Natives
 - Hispanics
 - Asian Americans
 - Native Hawaiians and Pacific Islanders

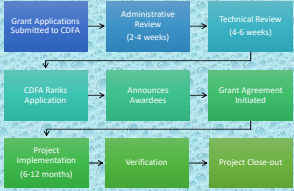


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SOLICITATION TIMELINE

Release Request for Grant Applications (RGA)	December 28, 2018
CDFA grant application workshops and webinar	January 2018
Grant applications due (10-week application period)	March 8th 2019
Review Process	March-June 2019
Announce and award funding	June 2019

SOLICITATION PROCESS



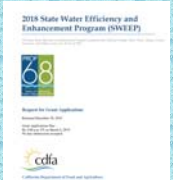
<https://www.cdfa.ca.gov/oefl/swEEP/>

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SCORING CRITERIA

- Technical reviewers will do an in-depth evaluation using a 50-pt scale
- Applicants need a minimum score of 30 to receive funding priority
- Guidance on scoring criteria in Appendix D, Requests for Grant Applications (RGA)

Criteria	Maximum Points
Merit and Feasibility	12
Water Savings & Calculations	12
GHG Reductions & Calculations	12
Budget	8
Additional Considerations	6
Total	50



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PROJECT TYPES


WATER SAVINGS

Weather, soil or plant based sensors for Irrigation Scheduling

- NRCS Conservation Practice Standard 449

Conversion to Micro-irrigation or Drip Systems

- Should follow NRCS Conservation Practice Standard 441



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PROJECT TYPES

GHG EMISSION REDUCTION

Fuel Conversion

- Replace diesel pump with electric
- Renewable energy, including solar installations, that power irrigation systems

Improved Energy Efficiency:

- Examples include retrofitting or replacing pumps.
- NRCS Conservation Practice Standard 372 or 533 may apply.

Low Pressure Systems:


- Use of low pressure irrigation system systems to reduce pumping and energy use. Ex. Convert high pressure sprinkler system to low pressure micro-irrigation system.

Reduced Pumping:

- Ex. Improved irrigation scheduling may lead to reduced pump operation times.

Variable Frequency Drives

- Use of VFD to reduce energy use and match pump flow to load requirements.
- Should follow NRCS Conservation Practice Standard 533.



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SWEEP Application Overview

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SWEEP WEBSITE AND RESOURCES

- Budget (REQ CDFA FORMAT)
- GHG Calculator (REQ CDFA FORMAT)
- Irrigation water savings assessment tool (REQ CDFA FORMAT)
- Link to **ONLINE WIZEHIVE APPLICATION PORTAL**
- Videos
- Previously awarded project
- FAQ

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

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PROGRAM REQUIREMENTS

- **Must** include flow meters or **demonstrate actual water use** will be measured with existing flow meters or by the water supplier
- **Must** have a **project design/map**
- **Must use** the SWEEP Irrigation Water Savings Assessment Tool to estimate water savings
- **Must use** the Air Resources Board GHG Quantification Methodology and **GHG Calculator Tool**
- To complete this GHG Calculator tool, applicants **must attach a pump efficiency test** from existing irrigation pumps impacted by the proposed project **and** provide additional **supporting documentation including** the sites 12-month baseline energy records (2017)

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ONLINE APPLICATION COMPONENTS

- ✓ Applicant Information
- ✓ Previously Funded Project
- ✓ Project Overview
- ✓ Project Location Information
- ✓ Current Irrigation System & Practices
- ✓ Project Types
- ✓ Proposed Irrigation System & Practices
- ✓ Project Duration
- ✓ Water Calculations
- ✓ GHG Calculations
- ✓ Additional Considerations
- ✓ Additional Attachments
- ✓ Acknowledgement

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APPLICATION ATTACHMENTS

- ✓ Project Design Map
- ✓ Budget Worksheet
 - Solar system quote if proposing solar installation
 - **must** have kW capacity & itemize incentives/rebates
- ✓ SWEEP Irrigation Water Savings Assessment Tool
- ✓ ARB GHG Calculator Tool
- ✓ GHG Baseline Use Documentation (supporting documentation)
 - 12 months of utility bills, fuel receipts
- ✓ Pump Efficiency Test
- ✓ Quotes for solar projects (if applicable)
- ✓ Cost share (optional)
- ✓ All Other Supplemental (e.g. irrigation training cert) (optional)

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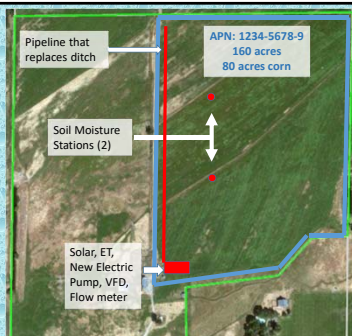
PROJECT DESIGN/MAP

Project designs must include the following, as applicable:

- Labeled Assessor's Parcel Numbers;
- Detailed schematic of the locations of proposed or improved infrastructure and technology including irrigation piping, reservoirs, pumps, and sensors;
- Pertinent agronomic information, such as the crop and water distribution uniformity value of the irrigation system;
- Holistic project overview using aerial imagery software (e.g., online or electronic mapping tools).



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EXAMPLE OF PROJECT DESIGN

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GHG CALCULATOR TOOL & SUPPORT

Application must include:

- A completed copy of the GHG Calculator Tool
- An explanation of inputs used in the calculator
- GHG supporting documents (pump tests, pump specifications, energy records)
- Actual baseline GHG emission value provided in an application must be supported by documentation (i.e., on-farm energy use records).
- Must cover at least twelve months from the prior peak irrigation and growing season (2017).
- A pump efficiency test and information on pump/motor specification must also be attached.



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PUMP TEST EXAMPLE

NOTE: * denotes a value that was Assumed or Provided by Customer

	Measured Pump Condition	Assumed Condition After Retrofit	Notes
1. Overall pumping efficiency:	57 %	67 %	
2. Nameplate Horsepower:	100.0 hp	100.0 hp	
3. Motor Efficiency:	92 %	92 %	
4. Actual Motor Input Horsepower:	107.3 hp	108.1 hp	
5. Motor loaded at:	98 %	99 %	
6. Flow rate (gpm):	1,710 gpm	2,000 gpm	
7. Pumping Level (ft):	20 ft	21 ft	
8. Discharge Pressure (psi):	53 psi	53 psi	
9. Total Dynamic Head (feet):	142 ft	143 ft	Rounded TDH = line 7 + (2.31 x line 8)
10. Acre-feet Pumped/yr:	314.85 acft/yr*	314.85 acft/yr*	Same acft AFTER
11. Average Cost per kWh:	\$0.134 /kWh*	\$0.134 /kWh*	Same \$/kWh AFTER
			Estimated Savings from Retrofit
12. Estimated Total kWh per Year:	80,060 kWh/yr	68,970 kWh/yr	11,090 kWh/yr
13. Hours of Operation/yr:	1,000 hr/yr*	855 hr/yr	145 hr/yr
14. Kilowatt-hours per acre-foot:	254 kWh/acft	219 kWh/acft	35 kWh/acft

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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	Post-Project	
Field or Ranch Name:			
Pump Foot or electricity use (gallons, acft, 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)			
# Landings, lines, cell blocks			
Overall Pumping Life Index (%)			
System Pressure (psi)	Enter any override system pressure if known	Enter any override system pressure if known	
Pumping Depth (ft)			
Discharge pressure (psi)			
Are you installing a VFD?			#N/A
Are you installing a VFD?			#N/A
Irrigation System Enhancement (for systems utilizing pumps)			
Input Data	Pre-Project	Post-Project	
Water Savings (acft) (Water Savings Tool %)			
Fuel Conversions and Renewable Energy			
Input Data	Pre-Project	Post-Project	
Renewable energy capacity (kW)			
New fuel type			#N/A
Fuel Emissions Factor			#N/A
Fuel conversion			no change
Conversion factor			

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

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ADDITIONAL CONSIDERATIONS

- Previously unawarded applicant
- Provision of cost share
- Commitment to irrigation training
- Reduction of groundwater pumping in a critically over-drafted groundwater basin
- Implementation of soil management practices
- Storm water capture and reuse, use of recycled water



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HOW TO APPLY

Working on a new **ONLINE** application platform (was FAAST)

- [Wizehive Submission Portal](#)
- Applicants initially access Wizehive from the **SWEEP webpage**
- Create account to start application process
- Log in to access application, edit information, and submit



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AWARDEE REQUIREMENTS



If selected for an award, execution of the Grant Agreement is conditional upon applicants agreeing to the following program requirements:

- **Pre-Project consultation** conducted by a CDFA Environmental Scientist to confirm project information and discuss implementation plans. During the pre-project consultation the awardee will provide an assessor's map and/or aerial map of impacted acreage to verify the location and acreage of the project;
- **Post-project verification site visit** conducted by a CDFA Environmental Scientist, or in partnership with a local RCD, to evaluate the completed project;
- **Post-project quantification** 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.**

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QUESTIONS?

RCD SWEEP CONTACT

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CDFA Contact

General Questions **ONLY**
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