California Department of Food and Agriculture
2016 State Water Efficiency and Enhancement Program Round 1
Projects Selected for an Award of Funds

Revised August 08, 2017

Agricultural Organization	Project Description	Funds Requested	Matching Funds	County
Ajit Singh Badhesha	Upgrade from flood irrigation to a drip system. The existing well and pump will be used, but all drip system components will be new. The irrigation scheduling will be based on upon a combination of soil moisture sensors and evapotranspiration (ET) data from California Irrigation Management Information System (CIMIS).	$47,572	$0	Fresno
Alyce LLC	Upgrade soil moisture monitoring system so I can more efficiently irrigate our walnut orchard, thereby using only the needed amounts of water to irrigate our walnut orchard.	$8,750	$583	Yolo
American Farms LLC	This project will install a 45.99 kilowatt (kW) DC solar photovoltaic (PV) system to power the existing 50 horse power (HP) electric vertical shaft turbine pump and a 50 HP electric booster pump station. This will reduce the amount of greenhouse gas (GHG) emissions created by the energy it requires for pumping.	$200,000	$12,500	Monterey
Andre Alves	This project will consist of the conversion of the current high pressure micro sprinkler irrigation system to a more efficient, low pressure trickle irrigation system that will save water and energy demand on this almond farm.	$13,228	$1,930	Fresno
Andy Muxlow Farms	We will be installing real time remote field monitoring sensors, flow meters, and a solar system, which will help irrigate more efficiently and reduce greenhouse gas (GHG) emissions. The sensors installed will be reading soil moisture from 6" to 40". The sensors will also read fertilizer applications, and soil temperature at various depths. Soil moisture sensors will be used to determine the appropriate interval between irrigation, depth of wetting, and depth of extraction by roots and adequacy of wetting. These remote field-monitoring units will include weather sensors to help irrigate based on Evapotranspiration (ET) and prevent unnecessary irrigation events. Soil temperature sensors will help me fertilize appropriately at the best temperatures. Flow meters will also aid to improve water use efficiency by allowing us to quantify the water used per irrigation events. The new solar system will allow us to reduce GHG emissions. This project will help us to improve water use efficiency while reducing GHG emissions.	$200,000	$151,619	Tulare
Antelope Valley Water Storage	Antelope Valley Water Storage (AVWS) is interested in incorporating the following components to irrigiate its 440 acre farming operation at its water bank in Rosamond, California: 1) A Variable Frequency Drive (VFD) at its well at Gaskell and 150th Street West; 2) Install a 50,000 square foot flexible membrane liner for an irrigation holding pond; and 3) Incorporate 5,280 feet of yelomine piping to replace existing leaking pipes to save irrigation water. A contractor would be retained to install the VFD and pond liner. The VFD will enable pumping at variable speeds to reduce overall pumping rates, reducing energy usage and greenhouse gas (GHG) emissions. Once installed, the flexible membrane liner will enable enough water to be stored for a day's worth of alfalfa, barley and carrot field watering. This will allow pumping to fill the holding pond during non-peak energy use hours --- eliminating on-peak pumping, thus reducing energy costs.	$165,000	$98,000	Kern
Aptos Berry Farms	Being installed is a 45.99 kW DC solar Photovoltaic (PV) system to power a 125 horsepower (HP) electric turbine, which will reduce greenhouse gas (GHG). Also being installed are weather/soil moisture sensors and a flow meter.	$198,000	$12,500	Monterey
B & T Farms	This project we are installing Hortau Irrigation Management System with 19 stations that will measure soil tension and enable us to measure plant stress in real time. In addition, we will be installing a weather station to allow correct Evapotranspiration (ET) information for our farming operation. This will ensure we are watering to plant needs. This project will save B & T Farms 15% water, and we will also reduce our greenhouse gas (GHG) emissions by 15%.	$147,402	$6,572	Santa Clara

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B&D Myers	Installing 3 soil moisture stations and a pump monitoring station equipped with a well transducer. Applicant also plans on adding a certified organic acid injection system.	$34,401	$5,356	Colusa
Balam	Project includes the installation of soil moisture tensiometers, 4 flow meters, a weather station and a variable frequency drive (VFD) controller.	$162,166	$45,000	Merced
Becky Muxlow Farms	We will be installing real time remote field monitoring sensors, flow meters, and a solar system, which will help irrigate more efficiently and reduce greenhouse gas (GHG) emissions. The sensors installed will be reading soil moisture from 6" to 40". The sensors will also read fertilizer applications, and soil temperature at various depths. Soil moisture sensors will be used to determine the appropriate interval between irrigation, depth of wetting, and depth of extraction by roots and adequacy of wetting. These remote field-monitoring units will include weather sensors to help irrigate based on Evapotranspiration (ET) and prevent unnecessary irrigation events. Soil temperature sensors will help me fertilize appropriately at the best temperatures. Flow meters will also aid to improve water use efficiency by allowing us to quantify the water used per irrigation events. The new solar system will allow us to reduce GHG emissions. This project will help us to improve water use efficiency while reducing GHG emissions.	$200,000	$219,149	Tulare
Bentley Vang Asian Farm	This project will decrease water use by converting from surface to drip irrigation while also repairing a leaking pipe. Greenhouse gas (GHG) emissions will be lowered by installing a variable frequency pump (VFD), which will improve pump efficiency.	$58,025	$2,525	Fresno
Boneso Vineyards, LLC	This project will include Tule evapotranspiration (ET) field sensors for irrigation scheduling and management to reduce the total water applied. The installation of a capable solar system will lead to a significant reduction in greenhouse gas (GHG) emissions through pumping with renewable energy. Flow meters will also be installed within the scope of the project.	$199,278	$1,350	San Luis Obispo
Bruce Myers	The 212 acre block of almonds will install five soil moisture stations, two pump stations, a full evapotranspiration (ET) weather station and a well transducer. Installed also will be a certified organic acid injection system, which will help improve the water quality, infiltration and will allow for a more efficient system.	$93,889	$12,716	Colusa
Bruscia Ranch	The purpose of this project is to retrofit an existing 50 HP electric submersible pump which has an overall pumping efficiency (OPE) of 21% into a 50 HP electric vertical shaft turbine pump that has an OPE of 65% with variable frequency drive (VFD) control. In addition, an 18.9 kW solar PV system will be installed to reduce the amount of greenhouse gas (GHG) emissions created by this pump. Weather/soil moisture sensors and volumetric management with the existing flow meter will also be implemented 19.273 acres of berries served by this pump to increase water savings. This farm is located on the Pajaro Valley Basin (basin #3-02) which is critically over-drafted.	$200,000	$12,500	Santa Cruz

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Buchignani & Yeung, LLC	Through the use of technology based agricultural tools, on-going education and recognized good farming practices the Buchignani & Yeung, LLC partners will further demonstrate their commitment to manage the use of water, chemicals, energy and limit greenhouse gases (GHG). Install real time remote field monitoring, Flow Meters and water quality treatment equipment to help irrigate more efficiently while saving greenhouse gases. Soil moisture sensors will be used to determine the appropriate interval between irrigation, depth of wetting, depth of extraction by roots and adequacy of wetting. These soil moisture sensors will allow more precise irrigation. These remote field monitoring units will include weather sensors to help irrigate based on (Evapotranspiration) ET and prevent unnecessary irrigation events. Gypsum and acid machines will allow the water to be amended (with gypsum) and reduce the amount of standing water and evaporation.	$50,494	$4,304	Yolo
Capital Agricultural Property Services, Inc	The scope of the proposed project is to install soil moisture and evapotranspiration monitoring hardware along with telemetry. The improved irrigation schedule supported by soil moisture sensors and evapotranspiration (ET) measurements are expected to reduce water usage by 15%.	$200,000	$12,500	San Luis Obispo
Castle Farms	Castle Farms proposes improving the irrigation system by changing from not having an irrigation water management plan to irrigation scheduling using soil moisture monitoring, a weather station with evapotranspiration (ET), and in-line irrigation pressure sensors. Soil moisture, ET, and in-line pressure data will be reported in real-time to Observant software, accessible via computer, tablet or phone, along with customizable alerts to the grower. This will help determine when and how to irrigate, monitor irrigation pressure for quick identification of leaks, clogged lines, and overall distribution uniformity (DU).	$21,504	$20,936	Merced
Central Coast Olive Company	Our operation consists of 4 acres of 400 Mission olive trees. The drip irrigation system was installed in 2013, at the time of planting. The proposed project consists of the following project types: 1. Water Conservation: We are proposing a soil moisture sensor system for irrigation scheduling. We propose installing soil moisture sensors with electronic data output that will advise us when irrigation is not required. 2. Greenhouse Gas (GHG) Emission Reduction: We are proposing a fuel conversion project and an improved energy efficiency project. Our operation creates GHG emissions from the pumping of well water for irrigation, currently using electrical power from PG&E. In order to reduce emissions, we propose converting from the use of fossil fuel based electricity to a solar powered system. In addition, we propose installing a more efficient pumping system for the well that will significantly reduce the amount of pumping required.	$22,538	$1,568	San Luis Obispo
Chamisal Vineyards	This project combines upgrading existing winery waste water collection and treatment with storm water capture to offset approximately 3 acre feet of groundwater use for irrigation. With winery growth, this may increase to an offset of 5 acre feet. The electrical requirements of this project will be 100% offset by a solar installation resulting in reduced greenhouse gas (GHG). Combined with this will be 9.5 acres of upgraded irrigation and installation of flowmeters for further irrigation efficiency realizing savings of an additional acre foot.	$199,258	$299,000	San Luis Obispo

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Chandler Farms LP	Project will convert 30 acres from furrow irrigation to micro sprinkler and install a solar plant for irrigation power.	$50,321	$50,318	Fresno
CJ Shannon & Sons	For this project we would like to upgrade our current pump to a new and more efficient pump. We would also like to install a new sand media filter station and pipeline to connect to our existing drip system. Also, we would like to add soil moisture monitoring equipment along with a pump controller and weather station.	$85,509	$0	Tulare
Creston Ridge Vineyards	This project will address the irrigation management of 115 acres of wine grapes in the Paso Robles wine grape growing region. Hortau field and flowmeter monitoring stations will be implemented as a part of this project. We will utilizes Hortau's state of the art soil moisture tension sensors to monitor and record data from the field and from pulse output flow meters. This data will be transmitted via cellular network to Hortau servers and then be made available via any web enabled devise. A weather station will be installed on-farm to establish an evapotranspiration (ET) which enable us to better know how much water should be applied.	$90,056	$63,960	San Luis Obispo
Crossland Family Revocable Trust	John Crossland Vineyard grows wine grapes on 207 acres near Paso Robles, CA. This vineyard overlies the Paso Robles Groundwater Basin. This project proposes to install soil moisture sensors and well monitoring tools to an existing monitoring system. With improved irrigation scheduling informed by soil moisture sensors and evapotranspiration measurements from CIMIS and local weather stations, growers are expected to reduce water usage by 15%. This project is projected to impact 90 acres and have water savings of 6.5 acre-inches per acre and reduce on-farm GHG emissions by 0.04555 Tonnes CO2e per acre.	$48,504	$12,500	San Luis Obispo
Dale Hampton	The 130 acre vineyard will install five irrigation field management stations, a weather station to establish a micro-climate specific Evapotranspiration (ET), and also a 100 horsepower (HP) variable frequency drive pump at the main well.	$71,013	$40,800	Monterey
Daniel Jackson Farms	We will be installing real time remote field monitoring sensors, flow meters, and a solar system, which will help irrigate more efficiently and reduce greenhouse gas (GHG) emissions. The sensors installed will be reading soil moisture from 6" to 40". The sensors will also read fertilizer applications, and soil temperature at various depths. Soil moisture sensors will be used to determine the appropriate interval between irrigation, depth of wetting, and depth of extraction by roots and adequacy of wetting. These remote field-monitoring units will include weather sensors to help irrigate based on evapotranspiration (ET) and prevent unnecessary irrigation events. Soil temperature sensors will help me fertilize appropriately at the best temperatures. Flow meters will also aid to improve water use efficiency by allowing us to quantify the water used per irrigation events. The new solar system will allow us to reduce GHG emissions. This project will help us to improve water use efficiency while reducing GHG emissions.	$200,000	$224,724	Tulare
Daniel Myers	There will be multiple soil moisture stations installed that will include an Enviro-Pro soil moisture sensor, PA-1 pressure sensor, and an Adcon radio unit. The evapotranspiration (ET) weather station will have a temperature/humidity sensor, a wind speed/direction sensor, rain gauge, pyranometer, and Adcon radio unit. The water sources will all have pump monitoring stations which include a McCrometer Flow meter, 2 pressure sensors (before and after filter), and an Adcon radio unit.	$200,000	$341,142	Yolo

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David Jackson Farms	We will be installing real time remote field monitoring sensors, flow meters, and a solar system, which will help irrigate more efficiently and reduce greenhouse gas (GHG) emissions. The sensors installed will be reading soil moisture from 6" to 40". The sensors will also read fertilizer applications, and soil temperature at various depths. Soil moisture sensors will be used to determine the appropriate interval between irrigation, depth of wetting, and depth of extraction by roots and adequacy of wetting. These remote field-monitoring units will include weather sensors to help irrigate based on evapotranspiration (ET) and prevent unnecessary irrigation events. Soil temperature sensors will help me fertilize appropriately at the best temperatures. Flow meters will also aid to improve water use efficiency by allowing us to quantify the water used per irrigation events. The new solar system will allow us to reduce GHG emissions. This project will help us to improve water use efficiency while reducing GHG emissions.	$200,000	$181,628	Tulare
David Soeth	This project includes a 140-acre property that we would like to include irrigation management practices on. We are seeking to add Soil Moisture stations from Irrigate.net out in the fields to monitor our irrigation efficiency by being able to view the data online that is relayed through a telemetry network. We also want to monitor our pumps efficiency by adding a flow meter to the discharge at every one, and pressure sensors before and after the filter on one mainline. This would be connected to a telemetry network as well. We believe that with access to this information, along with California Irrigation management Information System (CIMIS) evapotranspiration (ET) data, we could reduce our water use and decrease our greenhouse gas (GHG) emissions by irrigating more effectively.	$42,436	$9,588	Glenn
Davis Diversified Farms,LP	This project will convert 43 acres of flood irrigated land to a new double line drip system. Included in the project installation is a variable frequency drive (VFD) powered by a 60 horsepower (HP) pump.	$200,000	$60,689	Madera
Demeter Agricultural Properties II LLC	This project will implement an advanced irrigation system using flow meters, soil tensiometers and data software.	$188,477	$81,989	Tulare
Derek Moffitt Farming	The project scope covers the 125 acre Almond and 30 acre Olive production operation in Orland, Ca. The combined 155 planted acreage ranch proposes installation of the following measures to increase efficiency and maximize water and greenhouse gas (GHG) savings: A)New 65 Acre Almond Micro irrigation system with 95% D.U. B)Rain Bird ClimateMinder four site Data logging web based access and reporting for Soil, Climate evapotransspiration (ET), Applied Water, Scheduling, Pressure and Flow meter monitoring system on all 155 acres. C)New High Efficiency Well Pump with Variable Speed Control. D)Rain Bird ClimateMinder web access automation control system and valving to allow micro and soil type management. E)30KW Solar Array.	$127,352	$127,279	Glenn
Diamond West Farming Inc.	8 Diamond West Farming ranches will have pulse output flow meters installed with Hortau's smart flow meter monitoring stations. 15 field monitoring stations will be divided through out the 8 ranches depending on acreage, soil type and irrigation system design. We are requesting to supplement the system with 6 Hortau weather stations to produce a micro-climate specific evapotranspiration (ET). These farm upgrades are intended to increase the efficiency of the irrigation thus reducing water use. This reduction in water use will thus reduce the energy to pump water to the vines ultimately reducing greenhouse gas (GHG) emissions.	$198,421	$112,947	San Luis Obispo
Dorothy Vanous	This 20.3 acre property wil have installed on it; soil management stations along with a telemetry network and flow meters which will also he attached to a telemetry network.	$14,826	$3,087	Butte

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Double Nut Orchard	This project includes 2 pieces of property that encompasses 144.6 acres of walnuts that will include irrigation management practices. The project seeks to add Soil Moisture stations from Irrigate.net out in the fields to monitor irrigation efficiency	$179,824	$6,605	Glenn
DOUG & JULIE FREITAS FARM	The Project will Include the Following: 1. Installation of a drip system on 75 acres previously flood irrigated. 2. Installation of electric motors with Variable Frequency Drives (VFD) on two separate drip filter stations serving a total of 129 acres replacing diesel powered pumps. 3. Retrofit 4 shallow wells on the Jones Ranch presently performing at a 4. plant operating efficiency of less than 23-34% (pumps 2,3,4,5). 4. Installation of flow meter on the new drip filter station in order to read flow to the project sites. 5. Installation of a telemetry water monitoring system to read soil moisture. 6 Composting added to each site to increase the soil water holding capacity. 7. Two new electric services will have to be installed to operate the two new pumps with VFD 8. Two new fertilizer injection pumps one for each project. 9. Two new acid injection pumps for the one for each project.	$166,302	$32,235	Kings
Douglas Bentz		$14,826		Glenn
DP Farms	Installation of 201 acres of subsurface row crop drip irrigation with an electric booster pump to replace the existing flood irrigation system with a diesel booster pump. The conversion will also include the installation of the following: 1) Pure Sense remote accessible in field soil moisture sensors & in field weather station to help schedule irrigation events 2) Variable frequency drive (VFD) electrical panel to ensure the system operates at the correct pressure and only uses the required electricity 3) Netafim NMC Pro irrigation controller (automation) that will monitor and record the amount of water and fertilizer applied to the field and automatically change field valves based on the current irrigation program 4) Seametrics magnetic flow meter to help monitor the irrigation system flow rate in gallons per minute and the total water applied to the field in acre feet 5) Multiple pressure gauges to verify the system is operating as designed.	$200,000	$202,525	Fresno
Etchegaray Farms, LLC	This project will install remote field monitoring and water quality treatment equipment to allow for more efficient irrigation practices. Also added will be weather sensors and gypsum machines.	$159,205	$0	Kern

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Farming M's Inc.	This project will reduce water usage by installing an evapotranspiration (ET) based smart irrigation controller system, moisture sensors, flow meters, and a weather station. In addition, the project with reduce greenhouse gas (GHG) by installing a variable frequency drive (VFD), solar panels to power the pump and the current diesel driven pump will be removed.	$181,190	$0	Tulare
Fred De Boer Farming	Installing high efficiency, low pressure micro sprinkler system on 113 acres of walnuts that are currently flood irrigated. A flow meter and moisture monitors will also be installed and data will be used to better manage irrigation scheduling.	$200,000	$36,299	Tulare
G&H Farms, LLC	The purpose of this project is to install a 45.99 kW DC solar PV system to power the existing 60 HP electric vertical shaft turbine pump and a 75 HP electric booster pump. This will reduce the amount of greenhouse gas (GHG) emissions created by the energy it requires for pumping. In addition, weather/soil moisture sensors and volumetric management with the existing flow meter will also be implemented to the 73.5 acres of vegetables served by this pump to increase water savings. This farm is located in the 180/200 Foot Aquifer Subbasin (basin # 3-04.01) which is critically over-drafted.	$200,000	$12,500	Monterey
Gary Alves	This project includes a 191 acre property that we would like to include irrigation management practices on. We are seeking to add pump monitoring stations from Irrigate.net to monitor our irrigation efficiency by being able to view the data online that is relayed through a telemetry network. By adding pump monitoring stations, in conjunction with our existing soil moisture stations, we can monitor the pumps efficiency by adding a flow meter to the discharge, and pressure sensors before and after the filter. We also aim to add a solar system to power these pumps, therefore reducing greenhouse gas (GHG). We believe that with access to this information, along with Evapotranspiration (ET) data from a proposed ETo station, we could reduce our water use and decrease our GHG emissions by irrigating more effectively.	$200,000	$190,202	Glenn
Golden Valley Farms	This project includes a 176.5-acre property that we would like to include irrigation management practices on. We are seeking to add Soil Moisture stations from Irrigate.net out in the fields to monitor our irrigation efficiency by being able to view the data online that is relayed through a telemetry network. We also want to monitor our pumps efficiency by adding a flow meter to the discharge, and pressure sensors before and after the filter. This would be connected to a telemetry network as well. We aim to add variable frequency drives (VFD) at every pump to improve pumping efficiency and we hope to install underground piping to connect two wells. We believe that with access to this information, along with Evapotranspiration (ET) data from our proposed station, we could reduce our water use and decrease our greenhouse gas (GHG) Emissions by irrigating more effectively.	$124,867	$14,206	Yuba

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Grapeman 320 Ranch LP	320 Ranch will implement an array of products and technologies aimed at providing farm management with the tools and data necessary to make more informed irrigation decisions. First, soil monitoring equipment will measure the water content of the soil from just below the surface to 60 inches deep. The real-time data will demonstrate how far water is penetrating the soil during irrigation cycles, allowing the grower insight that can lead to smarter, timelier, and more effective irrigation decisions. Weather monitoring equipment will deliver data that can be leveraged to accurately calculate evapotranspiration and crop water usage. This will help with irrigation scheduling and the construction of various models. The telemetry systems aggregate all of the data on the cloud for easy access from computers and mobile devices. Utilization of these technologies and equipment will save water and thereby reduce greenhouse gas (GHG) emissions by effectively giving the grower "eyes under the soil."	$52,765	$0	Kern
Grapeman 476 Ranch LP	476 Ranch will implement an array of products and technologies aimed at providing farm management with the tools and data necessary to make more informed irrigation decisions. First, soil monitoring equipment will measure the water content of the soil from just below the surface to 60 inches deep. The real-time data will demonstrate how far water is penetrating the soil during irrigation cycles, allowing the grower insight that can lead to smarter, timelier, and more effective irrigation decisions. Weather monitoring equipment will deliver data that can be leveraged to accurately calculate evapotranspiration (ET) and crop water usage. This will help with irrigation scheduling and the construction of various models. The telemetry systems aggregate all of the data on the cloud for easy access from computers and mobile devices. Utilization of these technologies and equipment will save water and thereby reduce greenhouse gas (GHG) emissions by effectively giving the grower "eyes under the soil."	$63,428	$0	Kern
Henrique Alves	Conversion of existing high-pressure micro sprinkler irrigation system to low-pressure trickle irrigation system in our 16.3 acre family almond orchard. New system will feature pressure compensating emitters that will allow for uniform water distribution throughout the field down to 10 PSI. New system will also result in smaller wetted surface and less evaporation loss. This means more water for the trees and less water for the weeds and atmosphere. Proposed system will also include a flow meter so that irrigation monitoring and scheduling can be optimized. The proposed project also includes soil moisture sensors and a data logger which, when used along side California Irrigation Management Information System (CIMIS) data, will also add to creating a more efficient irrigation schedule. New system will result in less tractor trips through field because of less weeds and less ATV trips through field for system maintenance. This will reduce greenhouse gas (GHG) emissions. This system will also reduce pumping which means big water saving.	$14,753	$1,821	Fresno
Iyer Farms	Project will include the installation of Hortau's irrigation management system. In addition 2 flow meters will be added along with 2 variable frequency drives (VFD's). Also being added is a weather station to help with EFT.	$193,238	$50,000	Merced

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J.G. Boswell	Install remote field monitoring in the planted Pistachio Orchard. This will help irrigate the orchard at the maximum efficiency possible for the life of the orchard. The sensors installed will be reading soil moisture from 4 to 60 inches. Soil moisture sensors will be used to determine the appropriate interval between irrigation, depth of water movement, depth of extraction by roots and adequacy of moisture. These remote field monitoring units will include real time flow and pressure information to ensure the right amount of water is applied to each irrigation set insuring the growers are not under or over irrigating the orchard.	$183,921	$0	Kern
Jacklich Farms	This project will install a low pressure micro mister irrigation system, which will replace the current flood irrigation system. In addition the current diesel pump will be replaced with a more efficient electrical pump.	$89,202	$35,000	San Joaquin
Jason Bertagna	The grower is applying to install multiple water management practices on this 25 acres of almonds. This grant request will further reduce greenhouse gas emissions for this previously funded SWEEP Project. The first step to further reducing our greenhouse gas will be to install a solar system. On the 40 HP Electric pump we request funds to equip a 40HP Variable Frequency Drive. A large water management practice is our request to convert the current solid set sprinkler irrigation system to a low pressure buried drip. Our final request will be for a certified organic acid injection system. This project combined with the previously awarded management practices will allow for the most efficient way to monitor and apply irrigation.	$200,000	$14,953	Butte
Jeb Headrick Farming	The Exeter Ranch project is located on 190.16 acres near Exeter, Ca. The existing site is currently being farmed in wheat and corn with flood irrigation. The proposed project will convert the property to a pistachio orchard and change the irrigation type from flood irrigation to drip. A smart irrigation controller and soil moisture sensors will be installed on the project to maximize irrigation efficiency. A variable frequency drive (VFD) and solar system will be installed to dramatically improve the energy efficiency of the system will helping to offset any greenhouse gas (GHG) emissions through the production of green energy. The proposed project will be a model in sustainable agricultural practices for the agricultural community and surrounding region.	$200,000	$35,000	Tulare
Jeff Schmall	Project will add soil moisture monitoring, a weather station with evapotranspiration (ET), a water filter station, pressure monitoring and also a water filter station.	$32,227	$26,691	Madera
JEG Livingston Ranch LLC	JEG Livingston Ranch 370 acres of Almonds in Livingston, CA. is proposing to install an advanced irrigation management system which will enable the operation to save water and reduce greenhouse gas (GHG) while farming Almonds. We are proposing soil moisture tensiometers and a weather station both which allow for real time monitoring via mobile electronic devices or computers. With the advanced irrigation equipment. JEG Livngston Ranch will be able to manage the crop's water needs resulting in a 15% water savings and an energy savings reduction.	$62,745	$3,995	Merced
Jim Jackson Farms	Conversion of existing organic peach orchard from a standard electric motor powered flood irrigation system to a solar powered electric motor sub-surface drip irrigation system. The new system will use Variable Frequency Drive (VFD) technology to allow for irrigation management flexibility, and multiple-point moisture monitoring will allow for precision irrigation applications.	$133,232	$26,994	Fresno

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Jim Moglia	This project is for upgrading my current irrigation system to a more efficient system and to also install remote field monitoring systems to monitor soil moisture, weather, and to control the pump on the field. I also want to upgrade my pump to a more efficient and less energy using pump. I would also like to install a gypsum machine. Gypsum machine will allow for better wetting of the root zone for water absorption into the trees and vines. The use of a solution machine will also allow us to amend water quality (with gypsum) and reduce negative impacts on soil structure by increasing water infiltration efficiency and reducing the build-up of harmful salts. The solution machines can also be used to time fertilizer applications which increases the plants ability to utilize nutrients and water applied.	$167,305	$1,695	Fresno
Joeseph Cinquini	Project will add Soil Moisture stations from Irrigate.net out in the fields to monitor the irrigation efficiency by being able to view the data online that is relayed through a telemetry network. Pressure sensors and flow meters are also being added in the project scope.	$140,316	$5,016	Butte
Johl Enterprises	We would like to install and implement the use of soil moisture and climate monitoring equipment at the Lincoln road property. The use of soil moisture sensors in this field will reduce erosion caused by overwatering. Knowing the percentage of water in the soil profile is important to nutrient management because excess water will leach the nutrients into the deeper depths of the soil and eventually, into the water table. Preventing this helps to protect the water quality. Air quality will be improved by using less energy, therefore reducing greenhouse gases (GHG). Timing and application of pesticides will be scheduled more effectively, eliminating spray drift. This helps manage pest population, pesticide resistance, human health, and increases environmental quality; fostering a stronger desire for ecological stewardship.	$15,326	$7,663	Sutter
Julian Pierucci & Son Farms	Installing real time remote soil moisture, Evapotranspiration weather, and flow meter monitoring equipment to help irrigate more efficiently. The sensors installed will read soil moisture every 4" down to 48". The sensors will also provide 4 soil temperature readings at 12" intervals. Each station will also have a pressure sensor attached directly to the drip line to monitor proper system pressure and calculate irrigation run time. The sensors will be used to determine the depth of irrigation and the most efficient run time to achieve proper depth of irrigation. Weather sensors will be installed and the data will be used to calculate a local daily evapotranspiration (ET) value. Crop water use observed on the soil moisture sensors will be balanced by calculated ET values and prevent unnecessary irrigation events. Existing flow meters will have telemetry units added to automatically measure reduction in water use and save greenhouse gas (GHG) emissions through reduced pumping/irrigation use.	$12,940	$12,940	Kern
KG Farms	The 93 acres of grapes impacted in this project are currently irrigated using a floor irrigation system, which will be converted over to a microspray irrigaiton system. Solar technology will also be installed which will help to offsite greenhouse gas (GHG) emissions.	$200,000	$623,474	Tulare
Kimmelshue Orchards	This project will add Soil Moisture stations from Irrigate.net out in the fields to monitor irrigation efficiency by being able to view the data online that is relayed through a telemetry network. Pump efficiency will be heightened by adding a flow meter to the discharge, and pressure sensors before and after the filter. This will be connected to a telemetry network as well.	$30,255	$7,205	Butte

Agricultural Organization	Project Description	Funds Requested	Matching Funds	County
KTN Joint Ventures	374 acre project that will add soil moisture stations tied into a telemetry system. Pump efficiency will be monitored by adding a flow meter, which would also be tied into telemetry system.	$200,000	$36,359	Colusa
Leroy Del Don	Installation of 130 acres of subsurface row crop drip irrigation with a propane booster pump to replace the existing flood irrigation system with a diesel booster pump. The conversion will also include the installation of the following: 1) Pure Sense remote accessible in field soil moisture sensors & in field weather station to help schedule irrigation events 2) Netafim NMC Pro irrigation controller (automation) that will monitor and record the amount of water and fertilizer applied to the field and automatically change field valves based on the current irrigation program 3) Seametrics magnetic flow meter to help monitor the irrigation system flow rate in gallons per minute and the total water applied to the field in acre feet 4) Multiple pressure gauges to verify the system is operating as desiged	$200,000	$160,858	Merced
Lohse Ranch	The project calls for the installation of soil moisture stations, inline pressure sensors, and flow meters throughout the orchard and pump station.	$11,254	$5,500	Glenn
Lone Palm Ranch LLC	The scope of this project calls for the installation and implementation of a new irrigation management system; this includes installing soil moisture sensors and data management software. In addition 4 flowmeters will be installed along with a weather station.	$70,301	$52,920	Tulare
Louis Riccomini & Sons	Installing real-time remote soil moisture and evapotranspiration (ET) weather monitoring equipment on 350ac of pistachio to support more efficient irrigation. The sensors installed will read soil moisture every 4" down to 48". The sensors will also provide 4 soil temperature readings at 12" intervals. Each station will also have a pressure sensor attached directly to the drip line to monitor proper system pressure and calculate irrigation run time. The sensors will be used to determine the depth of irrigation and the most efficient run time to achieve proper depth of irrigation. Weather sensors will also be installed and the data used to calculate a local daily ET value. Crop water use observed on the soil moisture sensors will be balanced by calculated ETo/ETC values and prevent unnecessary irrigation events. Existing flow meters will be used to measure reduction in water use and save GHG emissions through reduced pumping/irrigation use.	$8,343	$8,343	Kern
Lucas Custom Farming Inc.	Soil moisture stations and weather monitoring stations will be added to ensure water use is better regulated.	$35,050	$0	Stanislaus & San Joaquin
Maddox Farms	This project will convert 310 acres of flood irrigated almonds over to a drip irrigation system.	$200,000	$322,709	Fresno
Malcolm McCormack Inc.	The project includes the installation of soil tensiometers to help manage their irrigation. In addition, the two 2 remaining fields will be converted from flood and furrow irrigation to drip	$184,965	$48,000	Sacramento
Marie Bordin-Huitt	This 2 acre property wil have installed on it; soil management stations along with a telemetry network and flow meters which will also he attached to a telemetry network, and pressure sensors.	$166,833	$5,926	Butte
Mark Martinez Trust	Project will convert from flood to micro-jet irrigation, changing from not having an irrigation water management plan to irrigation scheduling using soil moisture monitoring, a weather station with evapotranspiration, and an in-line irrigation pressure sensor. Additionally, a solar photovoltaic (PV) array to offset the electric pumps, proactive chemical treatment of drip lines, and filter station with pressure sensing.	$60,724	$57,417	Merced

Agricultural Organization	Project Description	Funds Requested	Matching Funds	County
Matt W. Fatchen	This 54 acre property will add soil moisture stations that will be connected to a telemetry network. Added also will be a new flow meter and pressure sensors that will also be connected to the telemetry system.	$20,411	$4,293	Butte
May's Farm	A diversified specialty vegetable operation for farmers market production will decrease water use by converting from surface to drip irrigation and will decrease greenhouse gas emissions by increasing pump efficiency and installing a variable frequency drive (VFD).	$64,224	$2,525	Fresno
Meena Farms	This project will add an advanced irrigation management system with soil tensiometers linked to smart stations. Included within the project scope also will be 2 flow meters along with 2 variable frequency drives (VFD's).	$194,659	$48,000	Merced
Melba Myers	Project seeks to update irrigation management practices on 300 acres. Soil moisture stations from irrigate will be added along with measurements in irrigation being viewed online using a telemetry network. A new flow meter and pressure sensors would also be added to a telemetry network. All of this, along with on farm evapotranspiration (ET) data, would help reduce water use and lower greenhouse gas (GHG) emissions.	$105,144	$15,211	Colusa
Melissa Pruitt	Installation of 68 acres of subsurface row crop drip irrigation with an electric booster pump to replace the existing flood irrigation system with a diesel booster pump. The conversion will also include the installation of the following: 1) Pure Sense remote accessible in field soil moisture sensors & in field weather station to help schedule irrigation events 2) Variable frequency drive (VFD) electrical panel to ensure the system operates at the correct pressure and only uses the required electricity 3) Netafim NMC Pro irrigation controller (automation) that will monitor and record the amount of water and fertilizer applied to the field and automatically change field valves based on the current irrigation program 4) Seametrics magnetic flow meter to help monitor the irrigation system flow rate in gallons per minute and the total water applied to the field in acre feet 5) Multiple pressure gauges to verify the system is operating as desiged	$200,000	$48,539	Merced
Michael Banducci Pistachios	This project will upgrade the current flood irrigation system to a more closely monitored, micro-irrigation drip system. Also on the 110 acres of pistachios there will be sand filters installed.	$156,071	$0	Kern
Michael G Jackson	Installing a high efficiency, low pressure double line drip irrigation system on 227 acres of stone fruit that is currently flood irrigated. Pressure compensating drip tubing will be used to ensure that high distribution uniformity (DU) is attained. A flow meter and moisture monitors will be installed to effectively manage irrigation scheduling.	$200,000	$65,676	Tulare
Micheal Myers	Multiple weather stations will be added to 254 acres of almonds, grapes and walnuts. Also being added is an evapotranspiration (ET) system, a wind speed/direction sensor, rain gauge and a pyranometer.	$118,204	$17,027	Colusa
Mission Holdings	The purpose of this project is to install a 45.99 kW DC solar PV system to power the existing 50 HP electric vertical shaft turbine pump and 100 HP electric booster pump with variable frequency drive (VFD) control. These pumps serve blocks 201, 202, 204, 205, 207, 208, 210, and 211 (total of 156.817 acres) on the ranch map located in Appendix A.1. This will reduce the amount of greenhouse gas (GHG) emissions created by the energy it requires for pumping. In addition, weather/soil moisture sensors and volumetric management with the existing flow meter will also be implemented to the 156.817 acres of vegetables served by these pumps to increase water savings.	$200,000	$12,500	Monterey

Agricultural Organization	Project Description	Funds Requested	Matching Funds	County
Mission Ranch Vineyard LLC	On 240 acres of wine grapes implementation of a real-time advanced irrigation management system using soil moisture sensors, evapotranspiration (ET) and weather sensors, dendrometers, and flow and pressure indicators.	$94,220	$26,987	Monterey
Mountain Vista Farms	The AquaMon-Leaf monitors allows growers to irrigate based on the continuous monitoring of plant hydration. The LeafMon integrates a suite of environmental sensors and continously monitors leaf and air temperature, humidity, and photosythetically active radiation (PAR). These measurements are used to develop a Crop Water Stress Index (CWSI), which will determine when an irrigation should be applied. The AquaMon system includes five leaf monitoring systems, three soil sensors, and an irrigation line pressure switch. With this system, we can measure water in the entire soil to plant continuum and know how much water was used.	$13,355	$0	Tulare
Myers Seed	This project includes a 345-acre property that will include irrigation management practices on. Project will add Soil Moisture stations from Irrigate.net out in the fields to monitor irrigation efficiency by being able to view the data online that is relayed through a telemetry network. Pumps efficiency will be heightened by adding a flow meter to the discharge, and pressure sensors before and after the filter.	$65,243	$10,433	Colusa
Neal Springs Vineyard, Inc.	This project will include the conversion of a propane irrigation system into an electric system. The project will also include a solar project to run the converted electric irrigation system to decrease (greenhouse gas) GHG emissions through the conversion and the use of renewable energy. The project includes the installation of Tule ET plant sensors and irrigation management system to improve irrigation scheduling and reduce farm water use. Variable frequency drives (VFD) will be installed to improve energy efficiency and improve overall irrigation system uniformity. A filter will be installed for the irrigation water to prevent clogging and damage to the irrigation system. The filter will improve uniformity and allow less overall water use by improving system accuracy and efficiency.	$85,681	$2,025	San Luis Obispo
New Dawn Farms	The Flood to Drip conversion project is located in Five Points, Ca. The proposed project convert flood irrigation of Pima cotton and installing drip irrigation for a new pistachios trees. The project will include and variable frequency drive (VFD), smart irrigation controller, moisture sensors, and weather station. It will also help to improve greenhouse gas (GHG) emissions by converting a diesel buster pump to electric.	$199,959	$0	Kings
Nock Orchards Inc	This is a 97 acre property that we seek to add an Evapotranspiration (ET) and solar arrays too. The walnuts and almonds already have existing soil moisture and pump monitoring stations, but we believe adding solar and ET based irrigation scheduling from Irrigate.net, will greatly reduce our water use and greenhouse gas (GHG) emissions. We also intend to add organic acid injectors to the property to help manage our nutrients and also install 2 variable frequency drive (VFD) and a high efficiency motor to reduce our GHGs that much more.	$191,153	$3,020	Butte

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Agricultural Organization	Project Description	Funds Requested	Matching Funds	County
Nor Cal Farming	Increase their IWM level from 0 to level 3 on their 111 acre property. The first management practice we are requesting funds for is the installation of soil moisture and pump station monitoring equipment. The soil and pump monitoring data will be logged and displayed online in real-time via the Irrigate.Net Telemetry Software. The grower is requesting funding to convert the current flood irrigated field to split the acreage into 2 low pressure irrigation types. 55 acres of the field will be a double line-buried drip system. The other 56 acres will be a low-pressure micro-sprinkler system. To accompany the new irrigation systems we are requesting a 75HP electric pump with a Variable Frequency Drive be installed. The synergy of this monitoring equipment, pump efficiency upgrade, and the new irrigation systems will allow the grower to monitor and record their applied water and reduce the on-farm greenhouse gas emissions.	$200,000	$26,004	Butte
NorCal Nut Company	This project includes a 117 acre property that we would like to include irrigation management practices on. We are seeking to add Soil Moisture stations from Irrigate.net out in the fields to monitor our irrigation efficiency by being able to view the data online that is relayed through a telemetry network. We also want to monitor our pumps efficiency by adding a flow meter to the discharge, and pressure sensors before and after the filter. This would be connected to a telemetry network as well. We also intend to add an organic acid injector. By adding a certified organic acid injector, we can improve water infiltration, nutrient uptake, and maintain a clean, efficient irrigation system. We will also be able to reduce the migration of applied nutrients below the root zone. We believe that with access to this information, along with California Irrigation Management Information System (CIMIS) Evapotranspiration (ET) data, we could reduce our water use and decrease our greenhouse gas (GHG) emissions by irrigating more effectively.	$61,966	$6,444	Yolo
Octavio L. Cerda	An olive orchard will decrease water use by converting from surface to drip irrigation and will decrease greenhouse gas (GHG) emissions by increasing pump efficiency.	$36,039	$3,362	Tulare
Orosi Premium Citrus, LLC	Install a microsprinkler irrigation system on 78 gross acres of mature citrus to reduce both water and energy usage as compared to the inefficient furrow irrigation currently employed. Additionally, the irrigation wells will be retrofitted to improve pumping efficiency and thus further lower energy useage. Soil moisture instrumentation and water meters will be installed to optoimize water useage. Finally, the microsprinkler irrigation system will eliminate the need for furrow irrigation tractor work and diesel fuel, resulting in further greenhouse gas (GHG) emissiom reduction.	$112,598	$20,000	Tulare
Paso Ono LLC	Paso Ono Vineyard grows wine grapes on 37 acres near Paso Robles, CA. The vineyard manager currently uses flow meters and maintains data logs. With improved irrigation scheduling informed by soil moisture sensors and evapotranspiration (ET) measurements growers are expected to reduce water usage by 15%.The scope of the proposed project is to install a 20.805 kW DC solar electric (PV) system, soil moisture and ET and plant stress monitoring hardware and telemetry. With 15% savings from increased IWM, the solar component offsets rest of energy consumption for a net zero project. This project is projected to have water savings of 6.5 acre-inches per acre and reduce on farm greenhouse gas (GHG) emissions by 0.242757 Tonnes CO2e per acre.	$172,421	$12,500	San Luis Obispo

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Agricultural Organization	Project Description	Funds Requested	Matching Funds	County
Pepper Tree Ranch	Project calls for the installation of remote field monitoring equipment and water quality treatment equipment. Also being added are soil moisture sensors and gypsum machines.	$40,868	$500	Kings
Pomar Junction Vineyard & Winery	Pomar Junction Vineyard and Winery will incorporate Hortau's irrigation management system into 91.44 acres. These stations will monitor both field data weather and flow meter data. Modern day soil moisture tensiometers will monitor and record data from the field. All data will be reported to Hortau servers via cellular network. Once communicated to the Hortau server, it will be made available to the grower to aid in the irrigation decision process. Soil tension is a direct measurement of plant stress. By placing the sensors in the effective root-zone and taking into account weather data we will be proactive in the irrigation management.	$55,991	$48,960	San Luis Obispo
Premiere Agricultural Properties LLC	Project will install an advanced irrigation management system along with; soil moisture tensiometers, flowmeters and a weather station.	$81,614	$59,400	Kern
Raaviz Farms L.L.C	This 420 acre property will install and implement an advanced irrigation management system which will save water and reduce greenhouse gas (GHG) emissions. Installed in the project will be soil moisture tensiometers, flowmeters and a weather station.	$93,309	$59,400	Kern
Richard Atherton	On 26 acres of prunes will be added a soil moisture station connected to a telemetry station, along with flow meters and a 40 horse power (HP) variable frequency drive (VFD) added to the pump.	$64,259	$4,056	Yolo
Rich-Pak Farms, LLC.	This project will install a soil moisture sensor and a weather sensor, along with a flow meter that will be paired with telemetry on 400 acres of clementines.	$30,649	$0	Kern
Rick Jackson Farms	We will be installing real time remote field monitoring and water quality treatment equipment to help irrigate more efficiently. The sensors installed will be reading soil moisture from 6" to 40". The sensors will also read fertilizer applications, and soil temperature at various depths. Soil moisture sensors will be used to determine the appropriate interval between irrigation, depth of wetting, depth of extraction by roots and adequacy of wetting. These remote field-monitoring units will include weather sensors to help irrigate based on evatranspiration (ET) and prevent unnecessary irrigation events. Soil temperature sensors will help me fertilize appropriately at the best temperatures. Not only am I going to be able to increase my water and fertilizer efficiency, but also I will be able to reduce energy usage by not irrigating only when necessary. Also, a solar project will be installed, which will help to reduce greenhouse gas (GHG) emissions due to energy demand from our irrigation pumps.	$200,000	$185,294	Tulare
Riverwest Farming LP	This project will result in the installation of a Fanjet Micro Irrigation System.	$191,337	$0	Fresno
Robert Ott	Install a drip irrigation system according to Natural Resource Conservation Service (NRCS) Standard 441 on approximately 40 acres of almonds. This system will have a 92% distribution uniformity (DU) and is capable of meeting evapotranspiration (ET). Also to be installed will be a solution machine with gypsum silo and acid injection pump that will help with water infiltration reducing water use and pump run times. The project will also incorporate a soil moisture monitoring and weather data station in order to calculate crop demand based on ET data on site.	$166,824	$3,500	Stanislaus
Rocky H Ranch, Inc	Installation of 50 KW Solar PV system and weather and soil moisture monitoring will be implemented on 60 acres of avocados.	$199,999	$11,750	San Diego

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Agricultural Organization	Project Description	Funds Requested	Matching Funds	County
Ronald R. Samuelson	The project will focus on installing tools including drip irrigation systems, a Variable Frequency Drive (VFD), soil moisture sensors/water management system, and adding & interconnecting mainlines to supply water efficiently.	$200,000	$259,500	Fresno
Sani Citrus	This project will include the installation of a full evapotranspiration (ET) station and a well transducer for monitoring water levels.	$48,762	$9,860	Fresno
Santa Rita Farms LLC	Santa Rita Farms, 1265 acres of Almonds in Atwater, CA. is proposing to install and implement Hortau's Irrigation Management System which will enable the operation to save water and reduce greenhouse gas (GHG) emission while farming Almonds. Hortau's Irrigation Management System will allow for real time monitoring via mobile electronic devices or computers. With the advanced irrigation equipment. Santa Rita Farms will be able to manage the crop's water needs resulting in a 15% water savings and an energy savings reduction.	$133,720	$9,657	Merced
Saul Medina	This project scope calls for the addition of soil moisture stations connected to a telemetry network, along with pressure sensors that would also be connected to telemetry.	$45,843	$3,932	Glenn
Scheid Vineyards, Inc.	Installation of variable frequency drives (VFD's), soil moisture probes, weather stations, flow meters, pressure reduction valves, remote valve control and an irrigation controller.	$171,515	$141,031	Monterey
Seth and Michelle Rossow Farms	Rossow farms has sub-surface drip irrigation across all of its fields. We would like to implement a soil moisture monitoring system to better manage when to get irrigate and the length of time to irrigate. Currently the irrigation system is set up for manual on and off. Implementing an automation system to switch the water from field to field will allow shorter intervals of irrigation. Pulsing the water pulls water to the surface more quickly where the feeder roots are. This allows for less water to go to deeper levels where it is not necessarily needed. With this technology we are able to use less water per crop ton.	$117,335	$10,000	Merced
Shasti Farm LLC	This project will implement a Hortau's Irrigation Management System along with soil moisture sensors and data management software.	$78,685	$56,400	Kern
Sill Properties Inc.	Sill Properties, 1130 acres of Almonds in Kern County, CA., is proposing to install and implement an advanced irrigation management system which will enable the operation to save water and reduce greenhouse gas (GHG) emission while farming almonds. This project will include soil moisture tensiometers, flowmeters,a variable frequency drive and a weather station. With the advanced irrigation equipment, Sill Properties will be able to manage the crop's water needs resulting in at least a 15% water savings and a 15% energy savings.	$199,911	$150,179	Kern
Simoes Farms	The proposed project shall convert 35 acres of flood irrigated second leaf almonds to point source drip irrigation with a smart controller, weather station, soil moisture sensors. A variable frequency drive (VFD) will be installed on the electric pump and a solar system will be installed to further reduce green house gas (GHG) emissions related to the project.	$188,481	$0	Tulare

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Agricultural Organization	Project Description	Funds Requested	Matching Funds	County
Stone Ranch	The proposed project will convert row crops to alfalfa and tomatoes and changing from flood/furrow irrigation to drip on 299 acres. Two diesel pump will be removed and replaced with electric pumps and variable frequency drives (VFD). A smart irrigation controller and soil moisture sensors will also be added to maximize the efficiency and decrease the water loss for the irrigation system. Solar panels will be installed to help offset the green house gasses (GHG) emitted through the installation of the electric pumps and drip system. The proposed project will reduce water use in an overdrafted basin, demonstrate the highest level of irrigation efficiency and irrigation scheduling while preserving agricultural production and jobs within a disadvantaged community.	$200,000	$341,172	Kings
Strain Westside Land	Strain Farming 710 acres Almonds in Arbuckle, CA. is proposing to install and implement soil tensiometers and a weather station which will enable the operation to save water and reduce greenhouse gas (GHG) while farming Pistachios.	$56,223	$34,200	Colusa
Struckmeyer Family Farms	184 acres of flood irrigated alfalfa will be converted to 64 acres of Walnuts on buried micro drip, and 120 acres of Tomatoes on buried manifold drip tape. The new system will include flow meter, sand media filter tanks, variable frequency drive (VFD) control of irrigation booster pump, pressure transducer for pump control, and soil moisture/evapotranspiration (ET) stations connected via cellular data link to internet for irrigation monitoring and scheduling.	$197,281	$104,409	Colusa
Sun Valley Orchards	This project includes multiple properties that encompass 337 acres that we would like to include irrigation management practices on. We are seeking to add Soil Moisture stations from Irrigate.net out in the fields to monitor our irrigation efficiency by being able to view the data online that is relayed through a telemetry network. We also want to monitor our pumps efficiency by adding a flow meter to the discharge, and pressure sensors before and after the filter. This would be connected to a telemetry network as well. We also aim to add VFDs at multiple pumps. We believe that with access to this information, along with data from a proposed ETo station, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	$199,999	$30,664	Sutter
Sunny Acre Farming Inc	Installing high efficiency, low pressure micro sprinkler system on 69 acres of walnuts that are currently flood irrigated. A flow meter and moisture monitors will also be installed and data will be used to better manage irrigation scheduling.	$78,341	$0	Kings
Tchieng Farm	This specialty vegetable operation will be converting from surface to drip irrigation. Installed on the property will be a variable frequency drive (VFD), which will decrease greenhouse gas emissions (GHG).	$55,283	$1,950	Fresno
Terranova Ranch, Inc.	Project will integrate a 1-megawatt solar array into an existing group of electric ag well pumps by utilizing Net Energy Metering Aggregation (NEMA). Project includes the installation of a subsurface drip irrigation system.	$199,959	$2,021,777	Fresno
Thomas Myers	Project will add Soil Moisture stations from Irrigate.net out in the fields to monitor irrigation efficiency by being able to view the data online that is relayed through a telemetry network. Pumps efficiency will be heightened by adding a flow meter to the discharge, and pressure sensors before and after the filter. This would be connected to a telemetry network as well.	$126,992	$15,880	Colusa

Agricultural Organization	Project Description	Funds Requested	Matching Funds	County
Tiffany Del Don	Project Proposal: 1)Install a 60.2 KW AC solar system that will produce enough electricity to offset the energy use of a 50 HP centrifugal booster pump used for drip irrigation. 2)Install new drip tape to increase irrigation system uniformity. 3)Install a Pure Sense soil moisture monitoring system with a weather station that will be used to help schedule the frequency and duration of irrigation events. 4)Install a Netafim NMC Pro Automation system that will monitor and control fertilizer injection into the irrigation system and electronically change water for the irrigation system based on a schedule created from soil moisture sensor readings. 5) Install a 50 HP variable frequency drive (VFD) electric panel on the irrigation system booster pump to ensure the irrigation system operates at the designed pressure and conserves energy. 6)Install a magnetic flow meter on the drip system to record applied water in gallons per minute and total acre feet.	$200,000	$109,098	Merced
Trebec Farms	There will be multiple soil moisture stations installed that will include an Enviro-Pro soil moisture sensor, PA-1 pressure sensor, and an Adcon radio unit. The evapotranspiration (ET) weather station will have a temperature/humidity sensor, a wind speed/direction sensor, rain gauge, pyranometer, and Adcon radio unit. The water sources will all have pump monitoring stations which include a McCrometer Flow meter, 2 pressure sensors (before and after filter), and an Adcon radio unit.	$67,350	$9,744	Colusa
Tria Vang's Farm	This project will decrease water use by converting from surface to drip irrigation while also repairing a leaking pipe. Greenhouse gas (GHG) emissions will be lowered by installing a variable frequency pump (VFD), which will improve pump efficiency.	$70,370	$2,525	Fresno
Triple C Farms	This project will convert 260 total acres from rice production to subsurface tomato production. Project will also eliminate 1 of 2 diesel pumps currently on the property and also will implement telemetry technology.	$119,423	$18,140	Sutter
Troy Jackson Farms	We will be installing real time remote field monitoring and water quality treatment equipment to help irrigate more efficiently. The sensors installed will be reading soil moisture from 6" to 40". The sensors will also read fertilizer applications, and soil temperature at various depths. Soil moisture sensors will be used to determine the appropriate interval between irrigation, depth of wetting, depth of extraction by roots and adequacy of wetting. These remote field-monitoring units will include weather sensors to help irrigate based on evapotranspiration (ET) and prevent unnecessary irrigation events. Soil temperature sensors will help me fertilize appropriately at the best temperatures. Not only am I going to be able to increase my water and fertilizer efficiency, but also I will be able to reduce energy usage by not irrigating only when necessary. Also, a solar project will be installed, which will help to reduce greenhouse gas (GHG) emissions due to energy demand from our irrigation pumps.	$200,000	$171,805	Tulare
Vital Farmland LP	Project will supplant flood irrigation on fields with a buried-manifold drip system that can apply water precisely according to crop water use (as measured by soil moisture sensors).	$200,000	$211,220	San Joaquin

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Agricultural Organization	Project Description	Funds Requested	Matching Funds	County
Wade Jackson Farms	We will be installing real time remote field monitoring and water quality treatment equipment to help irrigate more efficiently. The sensors installed will be reading soil moisture from 6" to 40". The sensors will also read fertilizer applications, and soil temperature at various depths. Soil moisture sensors will be used to determine the appropriate interval between irrigation, depth of wetting, depth of extraction by roots and adequacy of wetting. These remote field-monitoring units will include weather sensors to help irrigate based one evapotranspiration (ET) and prevent unnecessary irrigation events. Soil temperature sensors will help me fertilize appropriately at the best temperatures. Not only am I going to be able to increase my water and fertilizer efficiency, but also I will be able to reduce energy usage by not irrigating only when necessary. Also, a solar project will be installed, which will help to reduce greenhouse gas (GHG) emissions due to energy demand from our irrigation pumps.	$200,000	$213,795	Kings
Wahtoke Farms, LLC	The project includes the installation of real time remote field monitoring and water quality treatment equipment/agents, along with a water management system to help irrigate and manage water efficiently while saving green house gases (GHG). Remote field monitoring sensors will be used to determined the appropriate interval between irrigation, depth of wetting, depth extraction by roots and adequacy of wetting.	$59,700	$5,000	Fresno
Westside Ranch	The flood to drip conversion project is located in Five Points, Ca. The proposed project convert flood irrigation of alfalfa and installing drip irrigation for a new pistachios trees. The project will include and vaiable frequency drive (VFD), smart irrigation controller, moisture sensors, weather station and solar power. It will also help to improve greenhouse gas (GHG) emissions by converting a diesel buster pump to electric. This project will continue Freitas Farms goal of agricultural sustainability and long term solutions.	$187,356	$311,313	Kings
William Pruitt	Installation of 100 acres of subsurface row crop drip irrigation with an electric booster pump to replace the existing flood irrigation system with a diesel booster pump. The conversion will also include the installation of the following: 1) Pure Sense remote accessible in field soil moisture sensors & in field weather station to help schedule irrigation events 2) Variable frequency drive (VFD) electrical panel to ensure the system operates at the correct pressure and only uses the required electricity 3) Netafim NMC Pro irrigation controller (automation) that will monitor and record the amount of water and fertilizer applied to the field and automatically change field valves based on the current irrigation program 4) Seametrics magnetic flow meter to help monitor the irrigation system flow rate in gallons per minute and the total water applied to the field in acre feet 5) Multiple pressure gauges to verify the system is operating as designed.	$200,000	$122,280	Merced
Winner's Circle Vineyards, LLC	Installation of Ranch Systems data network, fitted with three wireless cellular telemetry nodes (two different models) and a full weather station at one of the locations. This is in coordination with the installation of an extensive soil moisture monitoring program using Aquacheck subsurface and basic probe models. Probes will be connected to the greater telemetry system using Rover technology which allows multiple probes to connect to a single cell node using antennas. By using this telemetry network the vineyard manager can make precise irrigation decisions based on actual vineyard soil water status, reducing both water usage and pumping costs.	$25,954	$0	Sonoma
Wm. Bolthouse Farms, Inc.	The project will replace 184 acres (~38 linear miles) of 3" diameter aluminum pipe with new 3" diameter Certa-Lok Yelomine PVC pipe and fittings.	$199,538	$200,027	Kings

Agricultural Organization	Project Description	Funds Requested	Matching Funds	County
Yang Farm	This specialty vegetable operation will be converting from surface to drip irrigation. Installed on the property will be a variable frequency drive (VFD), which will decrease greenhouse gas emissions (GHG).	$58,919	$1,950	Fresno