California Department of Food and Agriculture
2016 State Water Efficiency and Enhancement Program - Round 2
Grant Applications Submitted as of August 5, 2016

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Applicant Organization	Project Description	Funds Requested	County
3D Farms	We will convert a furrow irrigated corn field to a drip irrigated tomato field in an area with no electricity. The project components will include: replace a 61 hP diesel pump with a 60 hP propane pump; replace furrow irrigation with sub-surface drip irrigation; install solar powered Smart Stations with soil water tension monitors and electronic data output; install an electronic flow meter, install a sand media filter station; use 22 GPM/100' drip tape. The CU and DU of the new system will be in the 92 percent range according to irrigation industry standards. Eton will be monitored daily via emails from the Western Weather system.	$148,640	Sutter
Al Pie Del Cielo	The purpose of this project is to install a 9.45 kW DC solar PV system to power three existing electric submersible pumps. This will reduce the amount of GHG emissions associated with the energy required for pumping. In addition, weather & soil moisture sensors, soil tensiometers and volumetric management with the proposed digital flow meters and well level sensors will also be implemented on the 15 acres of wine grapes and olives served by this pump to increase water savings. This project site is located in the Paso Robles Area basin, which is critically over-drafted as of January 2016.	$112,612	San Luis Obispo
Almendras del Sol	This project involves installing a total of 6 Hortau soil tension measuring units that will report in real time the status of soil moisture. It also involves the installation of 2 weather stations that will report Evapotranspiration (ET) to our water scheduling advisor. This will insure that we are watering to the plants needs based on the weather in its immediate location.	$80,529	Colusa

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Amarjit Sohal	This project includes multiple properties that encompasses 199 acres we would like to include irrigation management practices on. We are seeking to add Soil Moisture stations from Irrigate.net out in the field 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 efficiencies by adding a flow meter to the discharges, and pressure sensors before and after the filter. This would be connected to a telemetry network as well. We believe that with access to this information, along with ET data from a proposed Eton Station, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	$85,586	Yuba & Sutter
Anderson Farms	Installing VFD and irrigation sprinkler system on our currently flooded 62.5 acre walnut orchard. Soil moisture sensors will also be added to maximize the efficiency and decrease the water loss for the irrigation system. The proposed project will reduce water use, demonstrate the highest level of irrigation efficiency and irrigation scheduling while preserving agricultural production and jobs.	$71,710	Butte

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Andre Alves	The pump in my almond orchard pumps a small amount of fine silt. Although the amount of fine silt is small, it is still enough to plug up the Spin Clean screen filter that came with my trickle irrigation system. When the filter becomes clogged, the pump runs at extremely high pressure which eventually leads to the entire system locking up, triggering the pressure relief valve to engage. When the pressure relief valve engages, water no longer enters the irrigation system, but blows out with high pressure into a stand pipe. When this happens, thousands of gallons of water are wasted and the pump uses more electricity than normal due to the greatly elevated pressure until I can get there to shut the system off and manually clean out the filter. Sand media filters would eliminate these problems because they flush automatically and operate at a constant pressure.	$11,081	Kings
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 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. Flow meters will also aid to improve water use efficiency by allowing us to quantify the water used per irrigation events. The two new solar systems will allow us to reduce GHG emissions. For ranch 304 we will convert from flood irrigation to drip irrigation, which will increase our water use efficiency.	$200,000	Tulare

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Anthony Vineyards Inc.	Anthony Vineyards water saving and improved efficiency project will include irrigation management systems that help the vineyard save water and reduce GHG emissions. In addition we will be installing flowmeters with smart stations to record water usage data.	$184,789	Kern
Apple Creek Vineyard Farm	Apple Creek Vineyard project includes water savings and greenhouse emission reduction. We will be using the Rain Bird ClimateMinder soil and climate monitoring solution. Some features of Rain Bird's ClimateMinder monitoring system: *Volumetric soil moisture monitoring at 6 depths through the soil profile (60"). *A pressure switch to monitor irrigation times and duration and pressure transducer to monitor real time line pressure. *Irrigation totalizing that gives you an applied water total for the last irrigation event, week to date, month to date, and year to date. *Climate monitoring including wind & gust speed and direction, ambient temperature, relative humidity, rain totals, leaf wetness and ET. *Field and crop specific pest and disease modeling and customized degree day tracking The conversion of a fossil fuel pumps to solar will result in a reduction of GHG emissions, improved energy effective v-drive with the existing pump to bring to the low pressure to the pump.	$70,500	Sacramento

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B & B Arboleda Inc.	This project includes a 248.5 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 field 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 believe that with access to this information, along with proposed in field ET data, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	$84,200	Butte
B & R Almonds Inc.	B and R Almonds is requesting grant money in order to upgrade their irrigation management practices. We are proposing an advanced irrigation management system, weather station, flowmeters with flowmeter monitoring, and an upgraded irrigation system- moving from flood to drip.	$160,614	Kern
B&R Tevelde	Three fields totaling 240 acres will be converted from alfalfa, wheat and corn to almond trees. The project reduces water and energy use by replacing flood/furrow-irrigated row crops with a micro-jet irrigation system for almonds. Components include solar panels to eliminate 89% of our energy, a VFD on the booster pump to reduce energy use, variable rate chemical injection pump to prevent over fertilizing, soil moisture probes to acutely manage irrigation crop ET, flow meter and cloud data management to monitor and verify use, and automated valve control to eliminate unnecessary driving and extra GHG emissions. A tail water return system will also be put in place to capture and reuse any runoff from the fields.	$200,000	Tulare

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Bai Chang	A specialty vegetable operating producing lemongrass and peppers will decrease water use by converting from flood to drip irrigation and will decrease greenhouse gas emissions by increasing pump efficiency and installing a variable frequency drive.	$39,030	Fresno
Balbir Sohal	This project includes multiple properties encompassing 154 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 field 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 meters to the discharges, and pressure sensors before and after the filters. This would be connected to a telemetry network as well. We also intend to add a solar array to the pump to power it. We believe that with access to this information, along with ET data from a proposed Eton Station, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	$151,245	Sutter & Yuba
Bartlet Farms LLC	This project includes a 16.6 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 field 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 pump 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 believe that with access to this information, along with ET data from a proposed Eton Station, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	$89,850	Butte

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Batth Ranch	Drip Irrigation on 140 acre ranch to replace existing flood irrigation practices. The system will include new mainlines, sub0mains, drip tape, and all parts and accessories required. PV system will provide co2 and electricity offset on pump.	$200,000	San Joaquin
Benel Farms	Benel Farms is located on 40 acres near Sanger, Ca. The existing crop type are peaches with a inefficient flood irrigation system. The proposed project will install low water use drip irrigation with a variable frequency drive, solar panels and irrigation automation. The proposed upgrades will dramatically reduce water and green house gas emission for a small family farm located in the heart of the Central Valley.	$199,677	Fresno
Bettencourt and Marson Dairy	This project proposes to dramatically improve water use efficiency on sandy soils by cutting the run length of a border check system in half by installing new pipeline. 2015 trials suggest that the proposed infrastructure extension will save at least 33 in/ac/yr. with an 80% DU. In this area, the application rate is determined and constrained by the time it takes for the water to reach the far end of the field. High inflow rates (~7000 gym) supplied by gravity by the district can push water across the field quickly, minimizing the amount of intake opportunity time despite high infiltration rates if the run length is short. Pressurized irrigation systems were considered but ultimately not selected due to the land ownership pattern situation on this dairy, lagoon water application, and energy cost. This project addresses the Water Conservation Priority Project Type "Reduced Pumping" and "Water Conservation". Crops are summer corn and winter oats for silage	$199,642	Merced

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Black Oaks Assets Management	The purpose of this funding request is to obtain financial assistance for several pieces of technology that will help reduce the carbon and water footprints of our vineyard while simultaneously maximizing wine quality for our winery clients. The vineyard is located in Petaluma, Sonoma County. The 90 acre parcel is planted to 55 acres of wine grapes, and is immediately surrounded by open pasture. The project will consist of installing a Ranch Systems weather station with accompanying soil moisture sensors in order to more accurately manage water on the vineyard, as well as a flow meter monitoring unit with remote monitoring and logging capabilities.	$14,098	Sonoma
Blackburn Walnut Farms	This project includes a 49 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 field 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 pump 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 believe that with access to this information, along with ET data from a proposed Eton Station, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	$35,370	Tehama
Blair Ranch LLC	Installation of a Hortau weather monitoring system and soil moisture monitoring stations with tensiometers and data recording. By reducing water usage, pumping times will be less thereby reducing GHG. The project also proposes to install a sulfurous generator on site to lower the water pH level from 8.1 to 6.5 making applied nutrients more available. Sulfurous generators also improve water penetration therefore reducing pumping times and requiring less water to irrigate.	$110,403	Riverside

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Bobby Yamamoto Farms, Inc.	Bobby Yamamoto Farms Inc. is proposing to do a clean energy upgrade to effect a total of 137 farmed acres in West Stanislaus county, in the West Stanislaus Irrigation District and Del Puerto Irrigation District. This project includes 3 separate components: 1. installing a 49 kW solar array that will be added to an existing 35kW array that is currently operating under a NEMA PG&E contract that offsets multiple pump motors and agricultural shops/offices. 2. Convert a 125 Horsepower tier 2 diesel motor to a 200 horsepower high efficiency 460 Volt electric motor controlled with a variable frequency drive programmed to run based on farm demand and water level of well, 3. Convert 33 acres of high pressure/High flow rate sprinklers to a low pressure drip system cutting pumping requirement by approximately 50%. All, three components will be offset using the new solar array which will offset energy use by 78% in total using PG&E aggregate metering.	$186,373	Stanislaus
Booker Vineyard & Winery	Booker Vineyard intends to improve its existing 60 acre wine grape property with the implementation of a water conservation and greenhouse gas emission reduction system. The vineyard currently possesses a drip irrigation design that is gravity fed and practices severe deficit irrigation. With the addition of an evapotranspiration (ET) based system and a renewable energy source through solar, Booker Vineyard will be able to accurately and strictly monitor water and energy usage to optimize its water efficiency through electronic data output.	$170,297	San Luis Obispo
Bottom Line Ranch	This project will consist of the installation of five (5) Tule ET sensors to monitor the moisture of the grapevines. The installation of a Davis Weather Link Station will allow us to forecast needs of the 250 acre vineyard based on site-specific weather conditions. These installations will allow us to reduce water usage and decrease pumping time to reduce green house gas (GHG) emissions.	$24,125	San Luis Obispo

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Bowles Farming Company, Inc.	The purpose of this project is to remove the existing booster pump powered by an 80 hp John Deere 4045TF280B diesel engine, and to install a 60 hp electric motor with VFD control. In addition, weather, volumetric soil and soil-tension sensors will be used for ET based volumetric management informed by soil tension data. This information will be combined with VFD/valve automation to deliver soil specific variable rate irrigation. This project also monitors canal level, flow meters, injection pumps, and PH/EC levels to ensure the precise amount of inputs and water are applied on 112 acres of pistachios. Monitoring and control telemetry is provided by WiseConn Engineering, irrigation schedule software is provided by PowWow Irrigation Advisor, and project design and integration is provided by Stockman's Water and Energy to deliver water and GHG savings in the critically over drafted Delta-Mendota basin (5-22.07).	$200,000	Merced
Brad Jones	This project consists of installing a low pressure double line drip irrigation system on 36 acres of stone fruit that is currently flood irrigated. A flow meter and soil moisture monitor will be installed. The result will be reduced greenhouse gas emissions and 43% water savings.	$97,945	Tulare
Bransford Farms	Our goal is to change our Irrigation practices to reflect the 21st century, by using new sensor based technology to refine our scheduling of Irrigation. The use of new soil moisture probes, and Evapotranspiration based scheduling will give us more accurate projections of crop water use and provide us with a way of monitoring weather conditions and soil moisture to ensure crop success and use water more effectively.	$35,348	Colusa

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Brent Ferreira	This project will improve water usage efficiency on 10 acres of vineyard. Soil moisture sensors will be used along side a weather station to correctly schedule irrigations. The vineyard will be converted from flood irrigation to inline drip. The pump and motor will be replaced with a new high efficiency submersible pump. Solar panels will be installed to offset the power consumed by the motor.	$77,341	Fresno
Britz Fertilizers, Inc.	Fanjet Micro Irrigation System	$199,652	Tulare
Britz, Inc.	Fanjet Micro Irrigation System	$199,117	Tulare
Brooksi Almond Ranch Two, LLC	This project will consist of installing a real time soil moisture sensor monitoring system that will include a real time local weather station for accurate site specific evapotranspiration data to help schedule irrigation events more accurately and efficiently which will result in a reduction of applied water. In addition we will be retrofitting pumps with variable frequency drives to increase the overall energy and pump efficiency which will translate into reduced irrigation pumping, a decrease in applied water and a decrease in energy consumption. Furthermore, a 116 module solar system will be installed that will generate enough clean renewable energy to power the irrigation pumps which will bring our energy consumption to net zero. Each of these energy efficiency and water conservation measures will reduce applied water, greenhouse gas emissions and improve air quality.	$162,967	Kings

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Buon Gusto LLC	Buon Gusto Farms (BGF) currently irrigates with well water that is stored in, and then pumped from, an open-air reservoir (i.e., pond). This storage reduces BGF's irrigation efficiency because it promotes biological plugging of the irrigation system. Additionally, greenhouse gases (GHG's) are emitted because a diesel pump is needed to pressurize the pond water for irrigation. BGF proposes to: 1) re-direct well water from the open pond to three existing (and eight new) storage tanks to reduce biological plugging and pumping needs; 2) update the irrigation system by replacing plug-worn irrigation hardware, installing soil moisture sensors and flow meters, and instituting electronic irrigation scheduling; 3) replace the existing diesel-fuel water pump with a solar-based system; and 4) participate in a local, certified green waste recycling program to capture carbon dioxide and sequester soil organic matter, simultaneously reducing GHG emissions while enhancing soil moisture retention.	$179,070	Ventura
C and C Ranches	This project includes a 22.9 acre property that we would like to include irrigation management practices on. We are seeking to add a Soil Moisture station from Irrigate.net out in the field 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 pump 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 believe that with access to this information, along with ET data from a proposed Eton Station, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	$25,440	Butte

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C AND E OTT FARMS LLC	C&E Ott Farms will be installing double line drip on walnuts. Row spacing will be 24' by 18' with 18mm thick tape with a .5gph emitter every 24." This system will have a 92% distribution uniformity (DU) and is capable of meeting evapotranspiration (ET) in a 24 hour irrigation. The project will incorporate a soil moisture monitoring and weather data station in order to calculate crop demand based on CIMIS ET data at the actual site.	$175,513	San Joaquin
Cagliero Ranches Inc.	The purpose of this project is to install a 45.4kW solar PV system to power the existing 60 hp electric vertical shaft turbine pump and a 30 hp electric booster pump. This will reduce the amount of GHG emissions associated with the energy required for pumping. In addition, weather & soil moisture sensors, and volumetric management with the proposed digital flow meter and well level sensor will also be implemented on the 120.3 acres of alfalfa and hay served by this pump to increase water savings. This farm is located in the Paso Robles Area basin, which is critically over-drafted.	$200,000	Monterey
Camp Brothers Farming, LLC	The proposed project will consist of the installation of a new drip irrigation system. Currently, there is micro sprinkler installed for the almond orchards. A drip irrigation system will promote plant health. The system will be run under low pressures which will reduce GHG gas emissions. A drip system will be more efficient and reduce the amount of water used.	$200,000	Kern

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Cantrell Ranch	Cantrell Ranch farms on 80 acres (approx. 20 acre ea. field), comprised of 60 acres of flood irrigated alfalfa & 20 acres of almonds on micro jets, all from electric groundwater well pumps. Project would replace flood irrigation on additional 20 acres of 2017 planted almond trees. Project scope includes a telemetry network, flow meters, leaf sensor monitors, soil moisture sensors, & Bi-County Irrigation Inc. Antelco Frame Jet Assembly 0.050" GRNNET micro jet sprinkler irrigation to replace the flood irrigation. Project scope also includes a 34.1 KW DC solar system for both electric Ag pumps and hay storage barn.	$116,846	Butte
Capital Agricultural Property Services, Inc.	The purpose of this project is to install a 45.4 kW DC solar PV system to power the existing 250 hp electric vertical shaft turbine pump. This will reduce the amount of GHG emissions associated with the energy required for pumping. In addition, weather & soil moisture sensors, Tule evapotranspiration (ET) sensors and volumetric management with the existing digital flow meter and proposed well level sensor will also be implemented on the 92.72 acres of wine grapes served by this pump to increase water savings. This project site is located in the Paso Robles Area basin, which is critically over-drafted as of January 2016.	$200,000	San Luis Obispo
Carando/Vann Ranch LLC	Carando Ranch is planning on installing 8 Hortau soil monitoring stations along with a full weather station. The Hortau Soil monitoring stations will allow the grower to monitor his irrigation water in real time and adjust his irrigation scheduling based on plant need and real time, in-field weather conditions.	$93,489	Yolo

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Cardenas, Jose	This project entails water conservation and energy efficiency upgrades on a 20 acre family farm. Measures include rehabilitation of an older well, installation of pressure bowls and a premium efficiency pump motor equipped with a VFD, conversion of 19 planted acres from flood irrigation to low pressure drip and installation of a flow meter and telemetry system which will result in more accurate irrigation scheduling and efficient use of water resources.	$76,125	Madera
Casey Jones	This project consists of installing a low pressure double line drip irrigation system on 148 acres of stone fruit that is currently flood irrigated. A flow meter and soil moisture monitor will be installed. The result will be reduced greenhouse gas emissions and 41% water savings.	$191,841	Fresno
CDFA - SWEEP	Project is to convert 180 acres of flood irrigated alfalfa into 180 acres of sub-surface drip irrigated row crops using soil moisture/evapotranspiration (ET) stations connected via cellular data link to internet for irrigation monitoring and scheduling	$130,000	Colusa County

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CDFA - SWEEP	The funding from this grant will be used to put in place a system that will collect and reuse both rain and irrigation runoff for Betteravia Farms' substrate strawberry research project. There are two objectives in place for the reuse of the collected water. Objective one is to irrigate a section of plants surrounding the ranch that will attract and host beneficial insects. Objective two is to outfit 6 of our 17 hoop houses with micro sprinklers which hang from the center of each of the houses. The purpose of these sprinklers would be to suppress two-spot mite pressure which would in turn reduce the pesticide use therefore limiting the use of our spray rig and that said rig's emissions. We have seen a significant reduction in water use when comparing soil-grown strawberries to substrate-grown, but we would like continue the search for ways to maximize our efficiency.	$44,935	Santa Barbara
Center Line Farms	The proposed grant application is for Centerline Farms will change flood irrigation to drip irrigation on approximately 117 acres of walnuts near Porterville, Ca. The proposed irrigation system will install micro spray irrigation, with a variable frequency drive, and soil moisture sensors.	$199,252	Tulare

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CH Trembley Corporation	We will convert 153 acre walnut crop planted in 2015 from flood irrigation to micro-sprinkler irrigation system. The existing well pump will be used with addition of a new booster pump and new all drip system components. In addition we will be installing real time remote soil monitoring sensors, flow meters, weather stations with evapotranspiration (ET) and plant health sensing to help optimize water usage for irrigation and reduce greenhouse gas (GHG) emissions through reduced pumping. The ET, soil moisture and plant health sensors installed will be used to determine the appropriate interval between irrigation events, 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 local Evapotranspiration (ET) and prevent unnecessary irrigation events.	$199,651	Tulare
Chafong Lee	A specialty vegetable operation producing bean green, corns, tomato, eggplant, crucifers, pepper, and squash 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.	$94,893	Fresno
Chandler Farms LP	This project would upgrade existing direct drive pump to a Variable Frequency Drive pump and install three soil moisture monitors	$14,477	Fresno
Chia Vang Her	A specialty vegetable operation producing Asian yard long beans, tomato, lemongrass, and Thai chili peppers will decrease water use by converting from flood to drip irrigation and will decrease greenhouse gas emissions by increasing pump efficiency and installing a variable frequency drive.	$102,314	Fresno
Chris Vandborg Farms	The project converts 80 acres of land from the flood irrigation of alfalfa, corn, onions, and carrots to micro irrigation of almonds. It includes installing soil moisture monitoring units throughout the fields to improve irrigation scheduling and efficiency.	$173,662	Kern

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Cindy Ward	We will be converting 24.5 acres of flood irrigated pasture/row crops into a micro sprinkler irrigated almond orchard. We will also be including a flow meter, a variable frequency drive and a moisture sensing system to irrigate much more accurately. Water for this project is derived from a well that was drilled in 2013 on an adjoining parcel. It is a 40 horsepower electric motor.	$51,604	Tehama
Circle D Farms Inc.	This project includes a 324 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 field 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 pump 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 are seeking to replace a diesel booster pump with an electric pump with a VFD. We are also proposing to add a solar array that will power the irrigation pumps. We believe that with access to this information, along with ET data from a proposed Eton Station, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	$200,000	Yolo

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CJJ Farming	This project includes a 73 acre property that we would like to include irrigation management practices on. We are seeking to add Soil Moisture stations out in the field 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 pump efficiency by adding a flow meter to the discharge, and pressure sensors before and after the filter. We would also like to install a VFD to the pump. This would be connected to a telemetry network as well. We believe that with access to this information, along with ET data from a proposed Eton Station, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	$31,515	Santa Barbara
Clark Bros. Farming	Converting one diesel powered deep well to electric power with a variable frequency drive. Also converting an existing direct drive electrical well to variable frequency drive.	$123,762	Fresno
Clarklind Farms	This project is 230.95 acres, 53.8 of flood irrigated mature pistachio trees converted to a point source drip irrigation system and add a smart controller and moisture sensors on 177.15 acres of 2nd year almonds. The irrigation shall use "smart technology" including soil moisture sensors, weather station, irrigation control, and flowmeter. The project will also include solar panels and variable frequency drives. The proposed system will improve irrigation scheduling and reduce water use and the production of GHGs.	$152,798	Tulare
Coastal Management Co.	Coastal Management grows 79 acres of oranges in Tulare County. This system will allow the grove to use less water and energy. The installation of soil moisture sensors, temperature and data management software will allow real time monitoring of water needs by mobile device of farm manager and office computers.	$26,559	Tulare

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Cole Creek Vineyard, LP.	This project will involve the installation of a solar project to power our electric pump. By running our electrical irrigation system off of solar energy, this project will immensely decrease greenhouse gas (GHG) emissions through the conversion and the use of renewable energy. In addition, Tule ET monitors, PureSense soil moisture monitors, and a site-specific weather station will be installed throughout the 32 acre vineyard to allow us to further control how much water is needed to be applied to the plants, decreasing our total water usage. A flow meter will be installed during the scope of this project.	$38,145	San Luis Obispo
Cook Ag Services	This project aims to install soil moisture monitoring equipment at Home Ranch, Shepard Ranch, and Bubenik Ranch to improve the efficiency and timing of irrigations and reduce emissions due to pumping. These sensors will allow us to determine water movement through the soil, depth of wetting, root development, and appropriate irrigation intervals. Weather sensors will be included at all 3 ranches to aid in ET-based scheduling to ensure that the local weather is taken into account when scheduling irrigations to avoid unnecessary applications. Pump controllers will be included to aid in the remote management of the irrigation systems.	$54,452	Fresno

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D and F Orchards	This project includes a 100 acre property that we would like to include irrigation management practices on. We are seeking to add multiple Soil Moisture stations from Irrigate.net out in the field 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 pump 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 believe that with access to this information, along with ET data from a proposed Eton Station, we could reduce our water usage and decrease our GHG Emissions by irrigating more effectively.	$184,721	Glenn
DANELL BROTHERS FARMS	Propose to install 1420' of 15" PVC Irrigation Pipeline and overflow valves to eliminate ditch usage. Also, we plan to install a VFD at the existing Well. This will prevent water seepage & evaporation loss from the ditch as well as reduce the GHG emissions from the Well pump working harder to keep up with watering the existing corn field.	$38,032	Kings
Daniel Myers	This project includes a 390 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 field 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 pump efficiency by adding flow meters to the discharge, and pressure sensors before and after the filters. This would be connected to a telemetry network as well. We believe that with access to this information, along with ET data from a proposed Eton Station, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	$107,641	Colusa

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Applicant Organization	Project Description	Funds Requested	County
Danzie Cuen	This project consists of installing a low pressure double line drip irrigation system on 35 acres of stone fruit that is currently flood irrigated. A flow meter and soil moisture monitor will be installed. The result will be reduced greenhouse gas emissions and 43% water savings.	$54,275	Tulare
David Corriea	This project includes a 40 acre property that we would like to include irrigation management practices on. We are seeking to add Soil Moisture stations out in the field 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 pump 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 convert our diesel pump to electric that will be powered by a 13.6 kw photovoltaic system. We believe that with access to this information, along with ET data from a proposed Eton Station, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	$148,200	Glenn
David Te Velde Dairy	Replace 5 existing diesel booster pumps with 2 electric booster pumps, construct reservoir to centralize pump locations, and install mainlines with full automation system on 800 acres tomatoes on subsurface drip tape.	$197,995	Tulare & Kings
Davis Diversified Farms,LP	This project entails converting 32 acres from flood to drip irrigation, installation of a variable frequency drive (VFD) on an existing 40 hip pump, the construction of an 107 kW DC solar power system which will produce 100% of the groundwater pumping power needs of 177.88 acres, and the installation of a telemetry system including an on farm weather station, soil moisture sensors and a communication node. Greenhouse gas (GHG) emissions will be reduced by less pumping and via the use of solar power to replace groundwater pumping currently powered by electricity from PG&E.	$144,839	Madera

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Applicant Organization	Project Description	Funds Requested	County
DENKEN	Denken Farms will replace a micro sprinkler irrigation system with a lower pressure and lower volume micro drip system on its 184 acres of citrus thereby reducing farm water use and GHG emissions. Denken Farms will also install a field located, PLC based, precision irrigation system with moisture sensing and weather station. An existing diesel engine driving a water pump will be replaced by an electric motor. New VFDs will be installed on the two well pumps applicable to this project. The double row drip irrigation system will be engineered and installed by Agri-Valley Irrigation, Inc. or equivalent.	$139,445	Fresno
Desert Fresh Inc.	Installation of a Hortau weather station and two soil monitoring stations with soil tensiometers. By incorporating an IWM3, we will save 15% water and use 15% less energy. In addition we will install a Yardney Filtaworx filter to enhance the efficiency of the existing drip system. Currently the drip system is performing at 70 to 75% but would be improved to 85 to 95% thereby reducing the pumping time and reducing electrical usage and carbon emissions (GHG). The Yardney Filtaworx filter flushes in 20 seconds as opposed to the 24 minutes with the standard sand and sock filters. With the reduced flush time pump running times will be reduced thereby reducing GHG emissions.	$52,786	Riverside
Diener Family 2000 Trust	This project seeks to improve water and electrical efficiency by modernizing existing filter systems to reuse and eliminate back flush water waste and by installing VFD drives on two existing pumping units and replacing a third diesel pump with an electrical pump with a VFD drive.	$38,550	Fresno

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Applicant Organization	Project Description	Funds Requested	County
Dino Boneso Vineyards	This project will install a capable solar powered well system to help decrease greenhouse gas (GHG) emissions by using renewable energy as well as the installation of Tule technology. The Tule technology will measure the evapotranspiration of the grapevines to allow Dino Boneso Vineyard to monitor the amount of water necessary to be applied. These two systems will allow Dino Boneso Vineyard to continue producing the 101 acres of wine grapes in a more sustainable fashion.	$66,035	San Luis Obispo
DLM Partners	Fanjet Micro Irrigation System	$198,832	Tulare
DM Camp and Sons	This project will consist of the new installation of yelomine pipe and the replacement of the current aluminum sprinkler irrigation system. The current system wastes water due to the excess water coming out of the joints and the ends making the whole system inefficient. The current diesel well and diesel pump will remain in the field but with the change of pipe, it will reduce the amount of pumping hours because no water will be wasted thus reducing GHG emissions and savings in energy.	$200,000	Kern
Don Holder	This project is designed for new farmers with small acreage who don't have the economy of scale to make substantial matching fund investments into water and energy infrastructure. As a new farmer with 18 acres, the cost to convert an old 25hp pump operating at 29% efficiency with a Variable Frequency Drive is prohibitive - yet such a conversion is both justified by and needed for efficient resource utilization. When combined with a drip system and soil based moisture based sensors, a small farm can become as efficient as a larger operation with more financial capacity than what a small farmer can bring to the table.	$64,751	Fresno

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Applicant Organization	Project Description	Funds Requested	County
Done Again' Farms	By adding Remote sensor-based technology to our almond orchards, we hope to refine our existing irrigation scheduling practices in order to achieve some form of water use efficiency and improve on farm data recording. In addition scheduling irrigation run times based up crop specific needs will become our focus with site specific monitoring in our almonds.	$22,583	Colusa
DOUG & JULIE FREITAS FARM	This project will consist of converting from flood to drip irrigation and pump efficiency retrofits. The new pumping plant will be equipped with a VFD and Flow meter. Additionally, real time remote field monitoring sensors will be installed with a Davis weather station to allow for IWM level 3 to be achieved. GHG reduction occurs through reduced pumping from our diesel, electric, and natural gas wells associated with the drip conversion and efficiency improvements associated with the pump improvements.	$200,000	Kings
DP Farms	DP Farms proposes to complete the following: Install a 79.5 KW AC solar system that will produce enough electricity to offset the energy use of a 100 horsepower electric booster pump. Install new Netafim drip hose to increase irrigation system uniformity. 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. 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. Install a 100 HP variable frequency drive electric panel on the irrigation system booster pump to ensure the irrigation system operates at the designed pressure and conserves energy. Install a magnetic flow meter on the drip system to record applied water in gallons per minute and total acre feet.	$200,000	Merced

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Applicant Organization	Project Description	Funds Requested	County
Duarte Family 1998 Trust	We will be installing real time remote soil monitoring sensors, flow meters, weather stations with evapotranspiration (ET) and plant health sensing in a 40 acre Almond field which will help optimize water usage for irrigation and reduce greenhouse gas (GHG) emissions through reduced pumping. The ET, soil moisture and plant health sensors installed will be used to determine the appropriate interval between irrigation events, 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 local Evapotranspiration (ET) and prevent unnecessary irrigation events. Flow meters will also aid to improve water use efficiency by allowing us to quantify the water used per irrigation events. These cost-effective technologies will help us take informed decisions about adequate irrigation timings and amounts. This project will help us to improve water use efficiency while reducing GHG emissions.	$26,183	Stanislaus
Dustin Fleming	I would like to switch from flood irrigation to solid set sprinkle system and install soil moisture sensors and variable frequency drive. This will allow me to decrease my water use and GHG's allowing me to have a more efficient operation.	$82,814	Sutter

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Applicant Organization	Project Description	Funds Requested	County
E&H Farms	For E&H Farms' water conservation initiative, E&H Farms intends to replace the current surface water irrigation system of an 86-acre tomato field and install a drip irrigation system equipped with real time remote field monitoring probes and weather station equipment. Ground sensors will be installed at 8 inches, 12 inches, and 18 inches deep and will assist in determining the appropriate interval between irrigation, depth of wetting, depth of extraction by roots, and adequacy of wetting. Weather stations will additionally be installed to monitor climactic conditions in the immediate area, thus allowing irrigation to be timed according to evaporation models while preventing unnecessary irrigation events. The installation of the system as a whole will allow E&H Farms to irrigate more efficiently, ultimately reducing both water consumption and Greenhouse Gas Emissions.	$77,456	Solano
E. W. Merritt Farms	Replace flood irrigation system on 442 acres with micro drip system consisting of 20' x 16' spacing double row drip system, buried PVC piping, P.C. Dripper at 24" spacing, mainline, submain, manifold piping, sub-unit control valves, isolation valves, relief valves, eight tank sand media filter station with auto flush, and reservoir. Project also includes precision irrigation automation equipment.	$200,000	Tulare
East Camp Farming Company	To install 9 Hortau moisture monitoring stations and 1 weather station. The Hortau Soil Tension Monitoring Systems will give us real time soil data to adjust and schedule irrigation accordingly. The weather station will provide ET data for the exact field environment resulting in efficient water usage.	$112,751	Colusa

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Applicant Organization	Project Description	Funds Requested	County
Eldon Thiesen Farms	This project aims to install soil moisture monitoring equipment to improve the efficiency and timing of irrigations and reduce emissions due to pumping. These sensors will allow us to determine water movement through the soil, depth of wetting, root development, and appropriate irrigation intervals. Weather sensors will be included to aid in ET-based scheduling to ensure that the local weather is taken into account when scheduling irrigations to avoid unnecessary applications	$38,096	Fresno
Emerald Seed Company	Emerald Seed is located in the Imperial Valley, served water & power by the IID and owned / operated by Mike Dessert, PhD. Mike and his family history have over 100 years in the vegetable seed business from Grand Junction, Colorado to Toronto, Canada and then in 1940 to the Imperial Valley. Emerald Seed located at Euc 34 is a known local showpiece for new vegetable varieties and education. Combining water efficiencies of sprinkler & drip along with clean electric energy thru a variable drive for high & low water pressure delivery would be a welcomed educational tool to our local ag producers. This project is the replacement of an existing diesel powered pump by an electric pump resulting in cleaner overall emissions including carbon & green house gas. Modern flexible water delivery tools of surface sprinklers for germination and/or drip to finish crops can result in 2-3 feet of water conservation / savings per acre as compared to conventional surface flood models.	$145,085	Imperial

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Applicant Organization	Project Description	Funds Requested	County
Erickson Farms Partnership	The proposed project is on approximately 96 acres of almonds and grapes located in Madera, Ca. The proposed project will install a VFD, solar system, and irrigation system automation with sensors, weather station and wireless mesh network. The project will be highlight the improvements in technology increase water efficiency and green house gas reduction within an agricultural operation.	$192,987	Madera
Fetzer Vineyards	On 172 acres of wine grapes, implement a real-time advanced irrigation management system using soil moisture sensors, ET and weather sensors, and flow and pressure indicators. TDR soil moisture sensors will measure available soil water to determine frequency and duration of irrigation, depth of wetting, root zone water extraction. Knowledge of soil water bank enables delay of first irrigation until soil water runs out providing large savings and regular water and GHG savings on carefully targeted irrigations. Tule ET and weather sensors enable ET based irrigation, targeting replacement of actual water used by vines and so reducing overall water use. Flow meter and in-line pressure sensors provide oversight of water applied per set and total water used. All data will be delivered real-time to the manager via a wireless telemetry system. A VFD pump control will be installed for more efficient irrigation across the widely variable small irrigation blocks.	$124,117	Monterey
Field HD, LLC	Converting 52 acres of flooded row crops to almonds with a drip irrigation system. We will install soil moisture monitoring equipment as well as weather sensors to improve the efficiency and timing of our irrigation events. A flow meter will also be installed to track future water use.	$80,854	Kern

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Applicant Organization	Project Description	Funds Requested	County
Freitas Farms One	The proposed project is on 160 acres of flood irrigated tomatoes in Five Points, Ca. The proposed project will convert flood irrigation to drip tape, install a new booster pump and variable frequency drive, moisture sensors and a weather station. The project will significantly reduce green house gas emissions through the use of industry cutting technology and modern farming practices.	$199,947	Fresno
Freshway Farms	Freshway Farms is dedicated to being an efficient and effective farming operation. In order to achieve this, our goal is to replace older inefficient sprinkler irrigation techniques and equipment with more efficient mini revolvers. These mini revolvers will allow us to apply water with a higher distribution uniformity which means less wasted water resulting in fewer hours of pumping. Our current system of sprinkler irrigation is relatively inefficient and emits large quantities of losses due to runoff caused from leakage. In order to cut down on GHG emissions, we must begin to irrigate more efficiently and effectively. Mini revolvers will reduce the amount of water pumped from our underground aquifer resulting in less of a chance for over drafting to occur. Overall, implementing mini revolvers into strawberry and broccoli fields will allow Freshway Farms to farm with an environmentally friendly conscious and still maintain the quantity and quality of its produce.	$198,310	Santa Barbara

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Applicant Organization	Project Description	Funds Requested	County
G & H Farms, LLC	The purpose of this project is to install a 42.8 kW DC solar PV system to power the existing 50 hp electric vertical shaft turbine pump and a 60 hp electric booster pump. This will reduce the amount of GHG emissions associated with the energy required for pumping. In addition, weather & soil moisture sensors, Tule evapotranspiration (ET) sensors, and volumetric management with the proposed digital flow meter and well level sensor will also be implemented on the 126.19 acres of lettuce served by this pump to increase water savings. This project site is located in the 180/400 Foot Aquifer Basin (3-04.01), which is critically over-drafted as of January 2016.	$200,000	Monterey
G.C.M Farms	This project is proposing to convert 244 acres of farmland from flood irrigation to drip irrigation. IWM Level 3 is planned for both fields using an Observant system with a Davis weather station allowing for irrigation to be based on Evapotranspiration and prevent unnecessary irrigations. Additionally, an existing diesel pumping plant will be converted to an electric pumping plant with a VFD.	$200,000	Kings
G4	G4 will replace a micro sprinkler irrigation system with a lower operating pressure and lower volume micro drip irrigation system on its 160 acre property containing citrus trees thereby reducing farm water use and GHG emissions. G4 will also install a field located, PLC based, precision irrigation system with soil moisture sensing and weather station. A new VFD will be installed. The double row drip irrigation system will be engineered and installed by Agri-Valley Irrigation, Inc.	$79,780	Kern

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Applicant Organization	Project Description	Funds Requested	County
Garry Richardson Farms	Installing soil moisture monitoring and a weather sensors across 890 acres of stone fruit, as well as a flow meter that is capable of being paired with telemetry. This will conserve water by improving irrigation efficiency and implementing an ET-based schedule, and result in reduced GHG's due to lower pumping requirements.	$97,866	Kern
GEM Farms	Project consists of integrating Solar on the pumping station to limit current electrical usage, and refine current irrigation practices to ensure effective and efficient use of water on 17 acres of irrigated almonds. The addition of a flow meter and weather station will provide factual amounts of applied water and add an Evapotranspiration element to project crop water use.	$53,381	Colusa
Gemstone Properties Inc.	This project includes a 148 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 field 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 believe that with access to this information, along with ET data from CIMIS, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	$124,467	Butte
George Amaral Ranches Inc.	Replace aluminum sprinkler pipe with Yellowmine pressurized pipe to reduce tailwater runoff by over 80% and build 6 acre solar project that will provide electric power for wells that irrigate farmable acres of over 1,000.	$200,000	Monterey

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Applicant Organization	Project Description	Funds Requested	County
George Chiala Farms	Installing real-time remote soil moisture, Evapotranspiration (Eton) weather, and flow meter monitoring equipment to help irrigate more efficiently. The sensors installed will read soil moisture every 4" down to 16" (40cm). The sensors will also provide soil temperature readings at each depth. Each station will be equipped with a pressure sensor attached directly to the drip line to monitor 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 on one of the four systems and used to calculate Eton/ETc. Crop water use observed on the soil moisture sensors will be balanced with calculated Eton/ETc values to 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.	$16,178	San Benito
Gerald Chelonian Farms	We currently have a 46 acre raisin grape vineyard that is flood irrigated. There are 20 acres of Thompson seedless grapes, six acres of Selma Pete grapes that we planted three years ago, and a 20 acre parcel that were old Thompson seedless grapes that we just pulled out this year and plan to plant 20 acres of Selma Pete grapes in the spring. We are looking to upgrade our efficiency by switching from flood to drip along with upgrading our outdated pump to allow for a uniform distribution of water throughout our field, resulting in less pumping time, less water, and less tractor passes.	$68,301	Fresno

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Applicant Organization	Project Description	Funds Requested	County
Gizdich Ranch	The Gizdich Ranch is an 18.7 acre ranch divided into 16 acres of apples and 2.7 acres of strawberries. The project will convert 16 acres of apples from hand moved sprinkler line to drip irrigation. A VFD (pump control) will be added to the existing well to match the reduced pumping requirements of the 18 acre low pressure system. Six soil tension field monitoring stations will be installed in the most representative area of the ranch to monitor crop variety and soil type. One weather station will be installed to calculate Evapotranspiration (ET).	$90,980	Santa Cruz
Glenda Babbitt	This project includes a 20-acre property that we would like to include irrigation management practices on. We are seeking to add a Soil Moisture station out in the field 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 pump 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 believe that with access to this information, along with proposed ET data, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	$106,320	Tehama

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Applicant Organization	Project Description	Funds Requested	County
Goodman Ranch	The grower is applying to improve their IWM Level from 0 to level 3 for 401 acres of almonds. There will be six soil moisture stations installed that each will include an Enviro-Pro soil moisture sensor, PA-1 pressure sensor, and an 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. This project will include a full ETO station and a well transducer for monitoring water levels. Knowing the actual Pumping water level is an integral part in calculating TDH for pump efficiency monitoring. All of the sensors and equipment will be linked through the telemetry network provided by Irrigate.net. This allows for accurate, and historical water data monitoring. The pump will have a certified organic acid injection burner equipped.	$107,511	Colusa
Goshgarian	The proposed project is an irrigation flood to drip conversion on 151.49 acres of pistachios and almonds located in Fresno County. The proposed project will replace a flood irrigation system with a double line drip system and will install smart sensor technology for more efficient management of the irrigation scheduling.	$199,946	Fresno
Goshgarian Farming Company	The proposed project is on 19 acres located in Selma, Ca. The project will convert a flood irrigation system to fanjet micro sprays while installing a moisture sensors, weather station, and plant monitoring sensors to adjust irrigation scheduling reducing overall water consumption for the project.	$47,207	Fresno

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Applicant Organization	Project Description	Funds Requested	County
Grangetto Ranches, Inc.	The gravity fed irrigation system at the Easterly Location (Rancho C) will be improved by installing soil moisture sensors, flow meters and irrigation controllers with radio telemetry for better management. Field moisture will be monitored remotely for precise irrigation timing and to prevent over irrigation. Pressure compensating micro sprinklers will be installed to improve irrigation efficiency. A solar system will be installed on the West Side Location (West Ranch) to provide electricity for the irrigation pump which will reduce our carbon footprint.	$177,966	San Diego
Grapeman Exitus Vineyards LP	This project aims to install soil moisture monitoring equipment to improve the efficiency and timing of irrigations and reduce emissions due to pumping. These sensors will allow us to determine water movement through the soil, depth of wetting, root development, and appropriate irrigation intervals. Weather sensors will be included to aid in ET-based scheduling to ensure that the local weather is taken into account when scheduling irrigations to avoid unnecessary applications	$15,871	Kern
Grapeman Maricopa 166 Ranch LP	This project aims to install soil moisture monitoring equipment to improve the efficiency and timing of irrigations and reduce emissions due to pumping. These sensors will allow us to determine water movement through the soil, depth of wetting, root development, and appropriate irrigation intervals. Weather sensors will be included to aid in ET-based scheduling to ensure that the local weather is taken into account when scheduling irrigations to avoid unnecessary applications. A silo and soil solution machine will also be added to improve the efficiency of gypsum applications to improve water and soil chemistry and increase water penetration.	$68,271	Kern

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Applicant Organization	Project Description	Funds Requested	County
Grapeman Maricopa Ranch LP	This project aims to install soil moisture monitoring equipment to improve the efficiency and timing of irrigations and reduce emissions due to pumping. These sensors will allow us to determine water movement through the soil, depth of wetting, root development, and appropriate irrigation intervals. Weather sensors will be included to aid in ET-based scheduling to ensure that the local weather is taken into account when scheduling irrigations to avoid unnecessary applications	$26,381	Kern
Grapeman MH Ranch LP	This project aims to install soil moisture monitoring equipment to improve the efficiency and timing of irrigations and reduce emissions due to pumping. These sensors will allow us to determine water movement through the soil, depth of wetting, root development, and appropriate irrigation intervals. Weather sensors will be included to aid in ET-based scheduling to ensure that the local weather is taken into account when scheduling irrigations to avoid unnecessary applications	$21,126	Kern
Grapery, Inc.	This project will convert 322 acres of flood irrigated land over to a highly efficient drip irrigation system in table grapes. The project will include variable frequency drive (VFD), flow meter, smart irrigation controller, moisture sensors and weather station to effectively manage irrigation scheduling.	$200,000	Kern
Groveland Projects	This project will replace gasoline generator driven electric deep well pump with a PV solar powered pump with 3 days above ground water storage. Replace high pressure irrigation with low pressure, gravity fed, irrigation. Replace farrow/flood irrigation in orchard with trickle. Install smart irrigation controller, featuring ET and soil moisture sensors. Install flow meters on main water use, orchard use, market garden use, and auxiliary use. This project takes place in a remote, disadvantaged area, off-grid, on a tiny scale. It sells fruits and vegetables direct to the local community.	$29,628	Tuolumne

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Applicant Organization	Project Description	Funds Requested	County
Gurdial and Jasbir Purewal Farms	Installation of a submersible pump with variable frequency drive to improve pumping efficiency for a 40 acre Plum orchard to complement a fan jet irrigation system that has been installed. A weather station with three moisture sensors will be installed to utilize the water in the most efficient manner possible. Lastly, a solar panel system will be installed to power the pump in order to reduce carbon emissions.	$123,971	Fresno
Hacker Cattle Corp	Farm is 26.3 acres of 16 year old almonds irrigated with a sprinkler system. The sprinklers require a high pressure 15 hp booster pump to apply water from the irrigation district. When district water is not available, a "10" hp turbine well pump (rewound motor, loaded to 18 hp) and a 7.5 hp submersible well pump are both turned on to supplement. The pumps and irrigation systems will be completely renovated. Low pressure, double line drip will replace the sprinklers. The 15 hp booster pump will have a VFD to allow low pressure operation, and also allow adequate flow for filter back flushing. The existing sand tanks will be upgraded with a custom design low pressure system. The "10" hp turbine will be upgraded to a 20hp VFD well pump. The 7.5hp submersible well pump will no longer by used. A flow meter and 2 soil moisture stations will be added. Additional set valves will be placed in the field to create a north/south block for early season irrigation timing.	$61,214	Fresno
Harnish - Five Points, Inc.	Converting two direct drive electrical powered deep wells to variable frequency drive units.	$67,431	Fresno

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Applicant Organization	Project Description	Funds Requested	County
Henderson Farms Inc.	On our orchards we have not used new remote field technology to maximize our efficiency and reduce overall water use. Using the technology to further refine our irrigation practices is our goal. We also wish to redevelop our Evapotranspiration rates to field specific data instead of CIMIS use. We are also planning to re-train our staff to leverage environmental data and use real time soil moisture to develop standard irrigation operating procedures.	$53,443	Colusa
Hermosa Tierra Inc.	Hermosa Tierra Farm is proposing to install and implement an advanced irrigation management system with soil tensiometers, flow meters, VFD and a solar project to reduce water usage and reduce GHG's.	$200,000	Tulare
Highway 58 LLC	Project will use soil moisture, weather, and flow meter data. New A753 McCrometer/Adcon 3G cellular stations will be installed at flow meter and soil moisture/weather sites. Data will be time stamped every 15 minutes. The stations store 4-6 months of data locally in case cellular communications break down. SM site will be equipped with an Adcon SM-1 48" (120cm) soil moisture probe and a pressure sensor. The probe provides a volumetric (vol.%) moisture reading every 4" as well as a temperature reading every 12". A pressure sensor will be installed on the drip line near the soil moisture probe to monitor system pressure and will be used to calculate run times. One field station will also be equipped with weather sensors to calculate Eton/ETc values. Eton values will be used to calculate daily & weekly ETc values and coordinated with soil moisture and flow meter readings. Data is available via CropCONNECT web platform	$6,133	Kern

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Applicant Organization	Project Description	Funds Requested	County
Hmong Alliance Church of Fresno	A community farm providing land to 6 Hmong farmers producing specialty vegetables will decrease water use by converting from flood to drip irrigation and will decrease greenhouse gas emissions by increasing pump efficiency and installing a variable frequency drive.	$71,701	Fresno
Howard, Gordon & Sandi, LLC	East slope is a 79 acre farm in Coachella Valley that produces table grapes. The farm utilizes an existing lined reservoir, and two pumps to move water to the irrigation system. Currently both pumps are running at a low efficiency rate of 52 percent. The proposed project would change out both pump systems, and increase the efficiency rate to 82 percent. In addition, pumping time will be reduced by another 15-20 percent because of the installation of two new filter systems (filtaworx). The larger of the two pumps, would then be converted to a variable speed drive. Along with the efficiencies created through the new pump systems, a weather based soil monitoring system will also be integrated into the project creating a 10 percent water use efficiency benefit on the farm.	$165,805	Riverside
Hudson Greer	This project includes a 153 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 field 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 pump 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 convert our solid set sprinkler system to a micro jet system. We believe that with access to this information, along with ET data from a proposed Eton Station, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	$200,000	Glenn

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Applicant Organization	Project Description	Funds Requested	County
Huerta Family Farms Inc.	The purpose of this project is to convert flood irrigated farm land to drip irrigation while reducing GHG's and improving water efficiency. A solar system will provide renewable energy for irrigation. IWM will be implemented through the use of moisture sensors and a weather station. Flowmeters will be installed with the system to measure water use and be documented through Rain Bird IWM software. New energy efficient water pumping equipment will replace the existing.	$195,011	Fresno
Ideal Walnut	This project includes a 240 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 field 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 meters to the discharges, and pressure sensors before and after the filters. This would be connected to a telemetry network as well. We believe that with access to this information, along with ET data from a proposed Eton Station, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	$100,104	Sutter
Indeck - Paso Robles, LLC	The purpose of this project is to install a 32.1 kW DC solar PV system to power the existing 50 hp electric booster pump. This will reduce the amount of GHG emissions associated with the energy required for pumping. In addition, weather & soil moisture sensors, Tule evapotranspiration (ET) sensors and volumetric management with the proposed digital flow meter and well level sensor will also be implemented on the 133.74 acres of wine grapes served by this pump to increase water savings. This project site is located in the Paso Robles Area basin, which is critically over-drafted as of January 2016.	$200,000	San Luis Obispo

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Applicant Organization	Project Description	Funds Requested	County
Iyer Farms	We are proposing the conversion (3) diesel motors to an electric ones that are much more efficient. Installing drip and micro-sprinklers to replace surface irrigation. In addition we would like to add 3 pumping stations, they will include: 3 flow meters, 3 VFD's, 3 sets of media filters, 3 fertilizer injectors. We are also proposing a 5 hortau soil tension stations (one per irrigation set) and weather station to help with ET. We will be able to save at least 52%. By cutting back pumping we will be also reducing GHG emissions.	$200,000	Merced
Jacklich Farms	Jacklich Farms is proposing to install real time data collection irrigation management systems in order to improve their irrigation practices to save water and energy. Jacklich Farms will also convert their surface irrigation to micro sprinklers. This project will save 52% water in addition to reducing their GHG emissions by replacing booster pumps and adding VFD's.	$197,556	San Joaquin
Jason Erickson	The proposed project is located on 78 acres in Madera, Ca growing grapes and almonds. The current irrigation system is drip and micro sprays on an electric pump with a level 0 water management plan. The proposed project upgrades include a full irrigation system automation with wireless connectivity, sensors, and a PV solar system to power the drip irrigation system.	$199,192	Madera

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Applicant Organization	Project Description	Funds Requested	County
Jasper Ranch Partnership	This project entails 4 additions to the existing irrigation system: 1) replacement of flood irrigation with micro-sprinklers on 34 acres of existing almonds, 2) installation of 3 Hortau soil monitoring stations, 3) installation of a electric VFD booster pump, filters, and a flow meter to allow water from the Orland Artois Water District to be used to run the micro sprinklers on a total of 142 acres, replacing the use of ground water (and 2 diesel motors), and 4)installation of a pipe that ties all the irrigation systems together and allow the VFD booster pump to irrigate site 11 (40.1 acres of prunes). It will also eventually allow the installation of a drip system to replace flood irrigation on 66 acres. This plan will significantly reduce the amount of water used to irrigate the orchards of the Jasper Ranch by switching from flood irrigation to microsprinklers, improve efficiency, increase moisture monitoring capability, and reduce GHG emissions by reducing reliance on diesel.	$180,184	Glenn
Jed Webster	Install solar panels on garage and home of 15 acre almond orchard. The solar energy will be used to offset the power used by the Ag pump(7.5 hp) to irrigate the orchard. The soil moisture monitoring system will be used to save water by applying the right amount of water when and where it is needed. Flow meter will help in tracking applied water and will be electronic so it will be included in software with soil moisture probe.	$71,380	Madera
Jeff Banducci Farms, INC	Convert from flood to drip irrigation on 72 acres of alfalfa using sub-surface tape drip system. Install a VFD panel to reduce pumping to meet demand and install moisture sensors along with flow meter on ground water well to further conserve water use and reduce greenhouse gas emissions.	$136,752	Kern

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Applicant Organization	Project Description	Funds Requested	County
Jeff Clark Farms	The proposed project will convert 43.20 acres from flood to drip. The farm currently has 21.6 acres of mature pistachio trees planted in 1994 and 21.6 of eight leaf pistachio planted in 2007. The proposed project shall convert flood irrigated farm land to point source drip with an smart irrigation controller, moisture sensors, weather station, variable frequency drive, holding pond and solar. This project shall drastically reduce water use and the production of GHGs.	$183,590	Tulare
Jeff Perry	We will be installing soil moisture sensors, weather stations and a flow meter.	$100,000	Merced
Jennifer Rossotti	This project consists of installing a low pressure double line drip irrigation system on 35 acres of stone fruit that is currently flood irrigated. A flow meter and soil moisture monitor will be installed. The result will be reduced greenhouse gas emissions and 43% water savings.	$64,718	Tulare
Jim Bertagna	This project includes a 38 farmed acres that we would like to include irrigation management practices on. We are seeking to add 2 Soil Moisture station from Irrigate.net out in the field 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 pump 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 believe that with access to this information, along with ET data from a proposed Eton Station, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	$144,954	Glenn

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Applicant Organization	Project Description	Funds Requested	County
Jim Erickson	The Erickson automation and solar project is located on near Madera, Ca in the heart of the Central Valley. The proposed project will upgraded the existing pump, install irrigation monitoring, sensors, and a weather station along with automation the irrigation system to the point of having remote access anywhere in the world. A solar system will also be installed for this project which will significantly reduce the green house emission for the project for the next 20 years.	$197,450	Madera
JJ Farms	Installing flow meters to track irrigation output and pumping efficiency. Installing remote field monitoring equipment including weather stations, soil moisture probes, pump controllers and flow meter monitors. The weather station will allow ET based irrigation scheduling while double checking it with the soil moisture probe. The remote pump controller will allow me to irrigate down to the minute of what is needed and also allowing me to remotely irrigate off peak hours. Solar project converting a ranch to a zero net energy farm.	$181,544	Tulare
Joe H. Silva	For this project my goal is to use SWEEP funding for increasing irrigation efficiency and decreasing greenhouse gas emissions. To achieve these goals I would like to: upgrade my current flood irrigation system to a new and efficient drip system, install a soil moisture sensor station to better track water infiltration and to make sure make sure I am only irrigating in my root zone, Install a pump controller and flow meter to better track water usage and have more control over irrigation's, install a weather station that will measure ET, Temperature, Rainfall, Humidity, and Wind Speed. Install a new pump in order to replace an aging and inefficient pump that is currently being used.	$50,023	Fresno

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Applicant Organization	Project Description	Funds Requested	County
John and Alexandra Duarte	Converting a 71.4 acre field from grapes to almonds and walnuts. A new micro sprinkler based irrigation will be installed. We'll be shifting from using 100% underground water to 100% surface water, thus reducing the usage and pressure on the underground water table. A weather / evapotranspiration (ET) / plant moisture / plant health monitoring system will be installed to ensure the watering for the almonds and walnuts is optimized for the difference between crop types and soil types. This grant is to fund the material for the micro sprinkler system and weather/ET/soil moisture/plant sensing.	$60,869	Stanislaus
Jonnalee Dunn Farms	Project consists of integrating a flow meter on the pumping station to increase on farm records and refine current irrigation practices to ensure effective and efficient use of water on 37 acres of irrigated walnuts. The addition of a flow meter and weather station will provide factual amounts of applied water and add Evapotranspiration values to project crop water use.	$17,828	Colusa
Juan Briones	This project includes a 19.47 acre property that we would like to implement irrigation management practices on. We are seeking to add a Soil Moisture station from Irrigate.net in the field 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 pump 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 install a 19.5kW photo-voltaic system to reduce our GHG emissions substantially. We believe that with access to this information, along with ET data from a proposed Eton Station, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	$114,545	Glenn

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Applicant Organization	Project Description	Funds Requested	County
JV Farms Organic	The project site is located in a prime location for a wind turbine due to the consistently high wind conditions. Nearby cities of Soledad and Gonzales have successfully installed wind turbines. The wind turbine will replace PG&E grid electricity for all electricity use the including the irrigation pumps potentially offsetting 623,596 lbs. of CO2e per year. To improve water use efficiency, we are adding an irrigation management system of soil probes and weather station with telemetry to the grower. The farm grows shallow rooted leafy vegetables and it is very difficult to know when the water has moved below the root zone. This project will install six soil moisture sensors across the farm at four depths to better understand what is happening in the soil and a weather station to predict the water needs of the crop thereby matching irrigation to the needs of the crop. The technology may reduce the run time and water applied improving irrigation efficiency.	$200,000	Monterey
KAP United LLC	To put dual drip low pressure irrigation system to replace Flood/Sprinkler Irrigation System in Almond Orchard to save water and electricity.	$100,000	Madera

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Applicant Organization	Project Description	Funds Requested	County
Keenan Farming Company	We will be installing real time remote soil monitoring sensors, local Weather with Evapotranspiration (ET), plant health monitors and flow meters in a 528 acre Pistachio field, which will help optimize irrigation and reduce greenhouse gas (GHG) emissions. The combination of ET, soil moisture and plant sensors installed will be used to determine the appropriate interval between irrigation events, 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 ET and prevent unnecessary irrigation events. Flow meters will also aid to improve water use efficiency by allowing us to quantify the water used per irrigation events. These cost-effective technologies will help the farmer make informed decisions about adequate irrigation timings and amounts. This project will help us to improve water use efficiency while reducing GHG emissions.	$36,993	Kings
Ken Puryear	The proposed project will remove 40 acres of flood irrigated row crops and install almonds using a highly efficient point source irrigation system controlled with smart irrigation technology, soil moisture sensors weather station and local ET rates. A very frequency drive and solar power are included in the project and will reduce the GHGs created by the farming operations.	$171,217	Tulare
L. G. Merriam Farms LP	This project will include installing a pump with a move efficient motor, flow meters, and soil moisture sensors. It will also replace surface irrigation with a drip system on 75 acres.	$141,008	Madera
La Granja 240 LP	Convert existing 125 HP pump to a VFD drive in order to minimize our water usage and more efficiently irrigate in our vineyards and citrus trees and add automation to drip irrigation system.	$100,186	Riverside

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Applicant Organization	Project Description	Funds Requested	County
Lambeth Farms	This project includes just over 47 acres of young almonds. We propose to install a 30HP variable frequency drive electric panel on the irrigation pump to improve efficiency and reduce GHG; combining that with the installation of real time remote field monitoring equipment and a weather station to assist in the calculation of ET would help irrigate more efficiently. The sensors installed will be reading soil moisture levels and temperature from 6" to 40". The data will be used to determine the time and the frequency of the irrigation scheduling which would reduce excessive GHG's.	$25,866	Fresno
Lange Vineyards	This project seeks to convert an open, sandy-bottom canal used for the conveyance of irrigation water, into a pipeline to eliminate 100% of carriage losses as a result of seepage and evapotranspiration, as well as eliminate 100% of groundwater usage and associated greenhouse gasses from pumping. This project will be facilitated by Woodbridge Irrigation District and will immediately serve approximately 332 acres of vineyard. This acreage has been irrigated with both groundwater and surface water in the past. With the new pipeline, Lange Vineyards will switch exclusively to surface water from the pipeline and eliminate 100% of carriage losses, reduce the greenhouse gasses from pumping groundwater, and preserve 100% of previously pumped groundwater in the over-drafted Eastern San Joaquin sub-basin.	$69,470	San Joaquin

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Applicant Organization	Project Description	Funds Requested	County
Larry Hirahara Family Farm	Install 21.96 kW DC Solar system to replace on average PG&E electric requirements. Use a Wise-conn system to monitor soil moisture and weather station to apply exact amount of water needed by crop. The system will also be connected to so pump can be turned off-on and duration adjusted remotely. Flow meter will also be connected to record water consumption. Install a self-priming pump to use surface water to connect to existing drip system.	$67,037	Madera
LaVina Ag, LLC	This project entails converting 18.5 acres from flood irrigated row crops to almonds with drip irrigation, installation of a variable frequency drive (VFD) on an existing pump, the construction of an 117kW solar power system which will produce 100% of the groundwater pumping power needs of 191 planted acres, and the installation of a telemetry system including flow meters, an on farm weather station, soil moisture sensors and a communication node. Greenhouse gas (GHG) emissions will be reduced due to reduced pumping and via the use of solar power to replace power from PG&E.	$200,000	Madera
Lawrence Allen	Lawrence Allen grows 50 acres of oranges in Tulare County. This system will allow the grove to use less water and energy. The addition of variable frequency drives with compatible pumps will reduce energy use by matching pump flow to load requirements. The use of soil moisture sensors, temperature and data management software will allow real time monitoring of water needs by mobile device of farm manager and office computers.	$17,153	Tulare

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Applicant Organization	Project Description	Funds Requested	County
LB Partnership	Replace flood irrigation system on 200 acres with micro drip irrigation system. Micro drip irrigation system includes 20' x 13' spacing double row drip system, buried PVC piping, P.C. Dripper at 24" spacing, mainline, submain, manifold piping, sub-unit control valves, isolation valves, relief valves, eight tank sand media filter station with auto flush, and reservoir. Project also includes precision irrigation automation equipment.	$200,000	Tulare
Legacy Growers LLC	The purpose of this project is to remove three portable booster pumps driven by propane-powered Chevy engines, and install one 60 HP electric booster with VFD control. In addition, 2,388 ft. of concrete pipeline will be removed and replaced with PVC pipeline which will increase water savings and reduce GHG emissions. Weather/soil moisture sensors, a flow meter, and volumetric management will also be implemented to the 76.8 acres of vegetables served by this pump to increase water savings.	$195,190	Santa Barbara
LFS AMZG, LLC	The intent of this project is to reduce applied water on third leaf pistachios through the use of an integrated moisture sensor and irrigation automation system. The sensing portion of the installation will include 4 moisture sensor stations utilizing Sentek multi-depth capacitive resistance based moisture sensors. These sensors will transmit the data to the cloud and, along with weather readings from a Davis weather station, will be used by PureSense software to calculate the correct amount of water to be applied for the following week. This amount will change on a daily basis as weather forecasting changes. Once the most efficient schedule is determined, this information will be sent to the Nautilus Automation System. This system will coordinate the function of all necessary pumps and valves to ensure the system is operating as expected, this operation includes backflush function, which it will monitor and operate. The	$38,200	Kings

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Applicant Organization	Project Description	Funds Requested	County
Linda Clark	Installation of new drip irrigation system with new PV Solar Array.	$79,308	Fresno
Lodge Ranch Enterprises	Retrofit the irrigation system and water management on 40 acre citrus and avocado farm to save water and save energy. Update old irrigation reservoir pump with new efficient motor, variable frequency drive and flow metering with pressure sensors to reduce energy use. Installation of solar equipment to power pumps together with weather and soil moisture monitoring hardware. An irrigation scheduling management plan will be implemented based on soil moisture and site-specific evapotranspiration data to lower water and energy use.	$200,000	San Diego
Longview Ranch	Automated moisture and Eton meters stations, wirelessly connected to a base station. installed on 90 acres of permanent orchard land.	$20,000	Yolo
Los Alisos Ranch Company, LLC	Installing real-time remote soil moisture, (evapotranspiration) Eto weather and flow meter monitoring equipment to help irrigate more efficiently. The sensors installed will read soil moisture every 4" down to 32" (80cm). The sensors will also provide soil temperature readings. Each station will be equipped with a pressure sensor and a in line flow meter attached directly to the drip line to monitor pressure, flow 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 on one of the four systems used to calculate Eto/Etc. Crop water use, observed on the soil moisture sensors will be balanced by calculated Eto/Etc values to prevent unnecessary irrigation events. Existing flow meter will have telemetry a unit added to automatically measure reduction in water use and save greenhouse gasses(GHG) emissions through reduced pumping/irrigation use.	$15,829	Santa Barbara

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Applicant Organization	Project Description	Funds Requested	County
Lucas Custom Farming Inc.	We will be installing soil moisture monitoring equipment and soil solution machine to help with overall water efficient	$19,000	San Joaquin
Luis A Scattini & Sons, LP	The purpose of this project is to install a 45.4 kW DC solar PV system to power the existing 125 hp electric vertical shaft turbine pump and a 60 hp electric booster pump. This will reduce the amount of GHG emissions associated with the energy required for pumping. In addition, weather & soil moisture sensors, and volumetric management with the existing flow meter and proposed well level sensor will also be implemented on the 43.6 acres of lettuce served by this pump to increase water savings. This project site is located in the 180/400 Foot Aquifer Basin (3-04.01), which is critically over-drafted.	$200,000	Monterey
Ly Farms	A specially vegetable operation producing tomato, green beans, peanuts, and sunchoke will decrease water use by converting from flood to drip irrigation and will decrease greenhouse gas emissions by increasing pump efficiency and installing a variable frequency drive.	$68,375	Fresno
Manuel C. Leal & Son Dairy	The proposed project is located on the southeast corner of Rd. 68 and Ave. 208 in Tulare, Ca. The project is a combination of almonds and pistachios using flood irrigation with no irrigation management plan currently. The proposed project will install drip irrigation, variable frequency drive, moisture sensors and a weather station. The proposed project will dramatically reduce water consumption in an already over drafted watershed while promoting irrigation efficiency and resource management.	$199,679	Tulare

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Applicant Organization	Project Description	Funds Requested	County
Maple Dairy	The project will reduce water by replacing an existing flood/furrow irrigation system for 187.70 acres of alfalfa in order to conserve water and reduce green house gases by reducing pump usage. In addition by installing sand filters, it will allow use of lower energy consuming booster pumps rather than deep water wells. Components include are: VFD to decrease our energy use, variable rate chemical injection pump to prevent over fertilizing, soil moisture probes to modernize irrigation practices, a flow meter to measure water use and monitor uniformity, and online FiTech dashboard to monitor and manage system performance. Our collaborators include: PG&E to reduce energy use and assist with GHG calculations, So Cal Gas Company to reduce natural gas use and assist with GHG calculations, and US Irrigation to design the irrigation system and assist with the water savings	$200,000	Kern
Mark Evans	I would like to switch from flood irrigation to micro irrigation system, install soil moisture sensors, variable frequency drive and converting my pumps from diesel to electric. This will allow me to decrease my water use and green house gases allowing me to have a more efficient operation.	$122,601	Butte
Matt Jackson	This project consists of installing a low pressure double line drip irrigation system on 161 acres of stone fruit that is currently flood irrigated. A flow meter and VFD will be installed as well as moisture monitors in the field. The result will be reduced greenhouse gas emissions and 43% water savings.	$199,989	Fresno

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Applicant Organization	Project Description	Funds Requested	County
Maurice Dillow	Purple Hills Ranch, currently utilizes a reservoir that has no lining for water retention. The proposed project would reconstruct and line the existing reservoir to conserve water and prevent groundwater leakage. Also proposed for the ranch is a variable speed pump to reduce energy usage. The third component of the project is to install 5 irrigation management systems on the ranch to reduce water use and reduce energy demands related to the pumping of water. Lastly a smart weather station with data collection will allow us to accurately track ET related to the ranch.	$150,528	Riverside
McKean Farms	Replacement of a temporary above ground drip system on 407 acres that is powered by a diesel engine with an underground micro drip system and new electric variable frequency drive motor. The new system will also link together two existing systems thereby allowing more efficient water use across all of the systems due to the fact that the VFD can be used to regulate field pressure and thus save energy. The project also includes a 497kW DC solar power plant to provide power to on-farm pumps. The solar power plant would be on the utility Net Energy Metering Aggregation program. The solar power plant would produce 856.6mwhrs per year of clean renewable energy.	$200,000	Fresno

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Applicant Organization	Project Description	Funds Requested	County
Mechoopda Indian Tribe	This project includes a 40-acre almond orchard in Butte County. The proposed plans include adding a monitoring station from Irrigate.net to monitor our irrigation efficiency through online data that is relayed via telemetry network. This station will include two soil moisture monitoring devices and a flow meter with pressure sensors, which will be placed before and after filtration. This will provide a IWM level 3. In order to install a flow meter and pressure gauges, we plan to replace an aged, leaky, and ill-installed filter with a new filter that will give an opportunity to utilize drip irrigation in the future. In addition, plans for a solar system to power the pump proves to be energy efficient and reduce GHG's. The data from installed devices will allow reduction of water use and GHG emissions by irrigating more efficiently. The Tribe plans on continuing the use of compost to increase water penetration and deep soil moisture from winter rains and reducing surface runoff pollution	$71,542	Butte
Meline Farms	This is a 208.5 ranch that we are applying for in order to become more energy efficient. We are seeking to install a solar system that will power 100 percent of the pumps energy requirement. We are also seeking to add flow meters to every pump to monitor our water use. With the addition of the flow meters, along with the current practice of us monitoring soil moisture and weather, we believe that we can reduce our GHG emissions and reduce our water use.	$200,000	Butte

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Applicant Organization	Project Description	Funds Requested	County
Melissa Pruitt Farms	Install a 60.2 KW AC solar system that will produce enough electricity to offset the energy use of a 50 horsepower electric booster pump. Install new Netafim drip tape to increase irrigation system uniformity for 106 acres. 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. 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. Install a 50 HP variable frequency drive electric panel on the irrigation system booster pump to ensure the irrigation system operates at the designed pressure and conserves energy. Install a magnetic flow meter on the drip system to record applied water in gallons per minute and total acre feet.	$200,000	Merced

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Applicant Organization	Project Description	Funds Requested	County
Michael Banducci Pistachios	The purpose of this project is to improve energy efficiency and water conservation on one parcel of our farm that could benefit the most by instituting equipment upgrades, additional solar power utilization, and water conservation practices and facilities. Two old energy inefficient pumps will be replaced with more energy efficient pumps, one with a VFP panel, that not only reduces energy use by being more energy efficient, but in addition, matches our pumping needs. A diesel motor will be replaced with a electric powered motor to further reduce green house gases. Additions to our existing solar panels will further reduce our carbon footprint. And finally, the addition of infra-structure for a tail water recovery system, including drainage pipes and connection to the water district canal, to improve our current method of water delivery and storage, along with soil moisture monitoring equipment and flow meters, will dramatically improve our water conservation practices.	$199,969	Kern
Michael G Jackson	This project consists of installing a low pressure double line drip irrigation system on 155 acres of stone fruit that is currently flood irrigated. The pump will be converted from a diesel motor to electric. A flow meter and variable frequency drive will be installed, as well soil moisture sensors. The result will be significant greenhouse gas emission reductions and 35% water savings.	$197,969	Fresno
Michael Shaeffer	This project includes a 31 acre walnut orchard that will include irrigation management practices. We will be taking our electric pump and converting it to solar to significantly reduce GHG. Project will add Soil Moisture station out in the fields to monitor irrigation efficiency by being able to view the data online that is relayed through a telemetry network.	$39,355	Butte

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Applicant Organization	Project Description	Funds Requested	County
Mills ranch	The project will include converting a 90.6 acre block that is currently flood irrigated to a sub-surface drip system. The project will include upgrading to a more efficient VFD. We will also be installing a flow meter and be utilizing Hortau's irrigation management platform to more efficiently manage our water use.	$192,891	Glenn
Mitchell Farms	The proposed project includes the installation of soil moisture tensiometers, weather sensors, variable frequency drives (VFD), and sand separation system to reduce Greenhouse Gas Emissions (GHG) and increase water use efficiency in a 50 acre walnut orchard.	$43,100	Sacramento
Moller Farming	Moeller Farms is budgeting to install an irrigation management system along with a weather station that will improve efficiency on the farm. The new system will reduce water use and GHG output. We are also proposing the installation of 2 VFD's.	$131,295	Merced
Moonlight Packing Corporation	This project consists of installing a low pressure micro sprinkler irrigation system on two stone fruit ranches that are currently flood irrigated a total of 125 acres. One ranch will convert a diesel pump to electric. A flow meter and variable frequency drive will be installed, as well as pump and soil monitoring measures. The result will be reduced greenhouse gas emissions and 46% water savings.	$198,393	Fresno
Narinder Kapany	Farm to install a micro-irrigation system to walnuts to assist in the reduction of water and GHG emissions by limiting farm operations, managing water distribution more efficiently and adding solar panels to reduce pumping energy. We will work towards creating a more environmentally friendly process in doing so.	$198,977	Sutter
Nicholas Visser	This project consists of installing a low pressure double line drip irrigation system on 38 acres of stone fruit that is currently flood irrigated. A flow meter and soil moisture monitor will be installed. The result will be reduced greenhouse gas emissions and 41% water savings.	$105,483	Fresno

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Applicant Organization	Project Description	Funds Requested	County
Nichols Vineyard	The purpose of this project is to install a 42.8kW DC solar PV system to power the existing 50 hp submersible pump and a 15 hp electric booster pump. This will reduce the amount of GHG emissions associated with the energy required for pumping. In addition, weather & soil moisture sensors, Tule ET and volumetric management with the proposed digital flow meter and well level sensor will also be implemented on the 76.32 acres of wine grapes served by this pump to increase water savings. This project is located in the Paso Robles Area, which is critically over-drafted.	$200,000	San Luis Obispo
Nicole Burroughs	The proposed project will bring a 63 year old system, per Department of Water Resources Records, into the 21st century. A significant decrease in greenhouse gas emissions will occur by retrofitting the pump that is currently at 33% efficiency and adding solar panels. Water will be saved through replacing old cement piping with new plc. pipe.	$66,833	Tehama
Norman Etchison, Inc.	This project aims to install soil moisture monitoring equipment to improve the efficiency and timing of irrigations and reduce emissions due to pumping. These sensors will allow us to determine water movement through the soil, depth of wetting, root development, and appropriate irrigation intervals. Weather sensors will be included to aid in ET-based scheduling to ensure that the local weather is taken into account when scheduling irrigations to avoid unnecessary applications. A soil solution machine will also be installed to improve the efficiency and uniformity that materials are applied to the field.	$61,493	Kern

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Applicant Organization	Project Description	Funds Requested	County
NRG Enterprises, L.P.	The purpose of this project is to remove two portable Chevy propane booster pumps and install two 75 HP electric boosters with VFD control. In addition, 9,412 feet of concrete pipeline will be removed and replaced with PVC pipeline, increasing water savings and reducing GHG emissions. Additionally, weather and soil moisture sensors, a flow meter, and volumetric management will also be implemented on the 111 acres of vegetables served by these pumps to increase water savings.	$200,000	Santa Barbara
Nuss Farms	Nuss Farms has approximately 183 acres of farm ground that is to be converted from Furrow Irrigation to Drip and the utilizing an new high electric motor to replace a diesel pumping plant. The system will utilize existing surface water canals that will feed the new electric pump and filter station. Permeant mainlines and values will be installed.	$200,000	San Joaquin
Nygren Hill Vineyard, LLC	The purpose of this project is to install a 7.56 kW DC solar PV system to power the existing 7.5hp submersible pump. This will reduce the amount of GHG emissions associated with the energy required for pumping. In addition, weather & soil moisture sensors, Tule evapotranspiration (ET) sensors and volumetric management with the proposed digital flow meter and well level sensor will also be implemented on the 15 acres of wine grapes served by this pump to increase water savings. This project site is located in the Paso Robles Area basin, which is critically over-drafted as of January 2016.	$85,325	San Luis Obispo

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Applicant Organization	Project Description	Funds Requested	County
OSR Enterprises, Inc.	The purpose of this project is to remove two portable Chevy 350 V8 propane booster pumps and install a single 75 HP electric booster with VFD control. In addition, 6,028 ft. of concrete pipeline will be removed and replaced with PVC pipeline which will increase water savings and reduce GHG emissions. Weather/soil moisture sensors, 2 flow meters, and volumetric management will also be implemented to the 130.4 acres of vegetables served by this pump to increase water savings.	$200,000	Santa Barbara
Paiva Farms	This project includes a 135 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 field 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 pump 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 believe that with access to this information, along with ET data from a proposed Eton Station, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	$75,675	Butte
Pao Yang	A specialty vegetable farm producing Chinese cabbage, green beans, lemon grass, green onions, peppers, and jujube will decrease water use by converting from flood irrigation to drip irrigation and will decrease greenhouse gas emissions by increasing pump efficiency and installing a variable frequency drive.	$104,830	Fresno

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Applicant Organization	Project Description	Funds Requested	County
Parga Partners	Parga Partners will replace a higher operating pressure micro jet style irrigation system with a low flow and low pressure double row drip irrigation system on its 38 acre property containing citrus trees thereby reducing farm water use and GHG emissions. Parga Partners will also install a field located, PLC based, precision irrigation system with moisture sensing and weather station. A new VFD will be installed. The double row drip irrigation system will be engineered and installed by Agri-Valley Irrigation, Inc.	$48,009	Fresno
Parnagian Enterprises	Paranagian Enterprises LP will replace a micro sprinkler irrigation system with a lower operating pressure and lower volume micro drip irrigation system on its 195 acres of citrus thereby reducing farm water use and GHG emissions. Parnagian Enterprises will also install a field located, PLC based, precision irrigation system with moisture sensing and weather station. New VFDs will be installed on the well pumps. The double row drip irrigation system will be engineered and installed by Agri-Valley Irrigation, Inc.	$128,531	Fresno
Patel Farms	This project includes a 12 acre property that we would like to implement irrigation management practices on. We are seeking to add a Soil Moisture station from Irrigate.net out in the field 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 pump 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 believe that with access to this information, along with ET data from a proposed ETO Station, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	$43,541	Colusa

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Applicant Organization	Project Description	Funds Requested	County
Patricia Jones	This project consists of installing a low pressure double line drip irrigation system on 33 acres of stone fruit that is currently flood irrigated. A flow meter and soil moisture monitor will be installed. The result will be reduced greenhouse gas emissions and 43% water savings.	$51,966	Tulare
Pepper Tree Ranch	We are going to install real time remote field monitoring and water quality treatment equipment to help irrigate more efficiently while saving green house 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 me to irrigate more precise and according to ET and prevent unnecessary irrigation events. A gypsum silo will allow me to amend the water (with gypsum) and reduce the amount of standing water and surface water evaporation. The silo helps with water infiltration and prevents ponding/evaporation. The use of electronic flow meters and automatic set valves will help eliminate human error and will cut out variance. The electronic flow meters, auto valves, soil moisture monitoring sensors and gypsum silo will all be tied together electronically via the Rainbird platform and will allow me to dramatically save water and Gheg's.	$58,673	Kings
Pete C. G. Silacci	The primary purpose of this project is to replace an existing electric turbine with a high-efficiency, VFD-driven unit. Additionally, weather & soil moisture sensors, soil tensiometers and volumetric management with the proposed digital flow meters and pond level sensor will also be implemented on the 214 acres of row crops served by this pump to increase water savings. This project site is located in the Salinas Valley Basin (East Side Aquifer), which is not critically over-drafted as of January 2016.	$198,601	Monterey

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Applicant Organization	Project Description	Funds Requested	County
Pine Crest Ranch	The approximately 2 mile long historic Ramsey Ditch carries irrigation water from Susan River to Pine Crest Ranch through a residential area in the city of Susanville. A portion of the ditch is piped while the remaining portion is an open ditch. Currently, a 1200 foot section of the Ramsey Ditch is being repaired and partially piped. This proposed project will add an additional 2400 feet of pipe to the Ramsey Ditch. Adding pipe will reduce the loss of water through seepage into the ground and evaporation. When the irrigation water reaches Pine Crest Ranch, the water may flow through an electric booster pump to three 1/4-mile sections of wheel line. This proposed project will add a VFD to the booster pump to improve efficiency and reduce energy costs.	$198,685	Lassen
Pisoni Farms	Installation of soil moisture tension monitoring sensors to improve our irrigation scheduling and reduce overall groundwater pumping and energy use. Well pump and booster pump will also be powered by renewable energy with the installation of a 310.08 kW DC solar system.	$199,716	Monterey
Potter Bundgard Ranch	The purpose of the project is to remove a 50 HP electric vertical shaft turbine along with a 125 HP diesel booster and install a 125 HP electric powered turbine pump with VFD control. To increase water savings, evapotranspiration-based weather and soil moisture monitoring, and volumetric management with a flow meter will also be implemented on the 33.2 acres of berries and vegetables.	$177,067	Monterey

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Applicant Organization	Project Description	Funds Requested	County
Premier Agricultural Properties, LLC	A total of 7 field monitoring stations which are comprised of tensiometers, a pressure switch, unshielded temperature sensor and a shielded temperature sensor will monitor soil moisture and weather in the field. This data will aid the grower in maintaining an optimal soil moisture tension to mitigate plant stress. The tensiometers offer the ability for the grower to identify and water to plant needs. A weather station will be installed along with 3 pulse output flow meters will be installed with Hortau smart stations to compliment the field monitoring component of this irrigation management system. By measuring these parameters in the field, the grower will be able to optimize the management of this ranch.	$77,585	Santa Barbara
Pretzer Farms Inc.	This project will upgrade 145 acres of Almonds from furrow irrigation to drip irrigation. Water demand will be determined the combination of soil moisture sensors and local ET through weather stations. Flow meters will measure the amount of water applied. All of the information will be aggregated through a remote monitoring system.	$166,468	Fresno
Pulido Farms	The project will include replacing the current irrigation system with a new one. Project would include installing new drip line, piping, submersible variable speed pump 10-40 hp range, and mainline. We will also Install soil moisture sensors to better monitor our water usage.	$44,043	San Benito

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Applicant Organization	Project Description	Funds Requested	County
PureFarms	Installing a Fan Jet Irrigation system in a 40 acre Plum orchard to reduce the inefficiency of running surface water and reduce water consumption. This system will be outfitted with a flow meter to monitor water usage savings, A weather station/moisture sensors will also be installed, linked directly to the irrigation control station, to utilize the water in the most efficient way possible, eliminating the chance to over water. As well as installing a solar system to power the Ag pump to reduce our carbon emission. A new higher efficiency pump with a variable drive control module will also be installed to reduce power consumption.	$164,258	Fresno
PureFarms	Installing micro fan-jet irrigation system to improve water delivery efficiency and reduce water usage and waste and an electronic flow meter to allow for continuous water usage monitoring. Install a weather/moisture station that electronically submits data to my laptop and also linked to the irrigation control system to eliminate over watering. Install a variable drive system on pump to reduce energy consumption. Install a solar system to run all electronic components of the irrigation system to reduce carbon emission.	$109,407	Fresno
Quinn Vineyards East	The purpose of this project is to install a 42.8 kW DC solar PV system to power the existing 50 hp submersible well pump and a 15 hp electric booster pump. This will reduce the amount of GHG emissions associated with the energy required for pumping. In addition, weather & soil moisture sensors, Tule ET sensors and volumetric management with the existing digital flow meter and well level sensor will also be implemented on the 111.3 acres of wine grapes served by this pump to increase water savings. This project site is located in the Paso Robles Area basin, which is critically over-drafted as of January 2016.	$200,000	San Luis Obispo

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Applicant Organization	Project Description	Funds Requested	County
Rajkovich Brothers Partnership LP	Rajkovich Brothers farms a total of 364 acres of cherries, walnuts and apricots in both Santa Clara County and San Benito County. The proposed project will provide Rajkovich Brothers with crop conditions in real-time on three ranches using 25 Hortau field monitoring stations and two weather stations. The proposed project will also convert the grower's last diesel pump to natural gas. Both projects will save water and energy use.	$199,898	Santa Clara & San Benito
Rakkar Properties	Rakkar Properties grow 435 acres of pistachios in Madera County. This irrigation system will reduce the amount of water and energy usage by incorporating soil moisture sensors and data management software. The system allows for real time monitoring by mobile phone. PV Solar System will offset CO2 emissions and reduce GHG.	$200,000	Madera
Ranch 29 Limited Partnership	This project will implement a sprinkler irrigation system using yelomine pipe and removing the aluminum pipe sprinkler irrigation system. Water leaks from the aluminum pipeline fittings and joints causing a waste of water and non-uniformity throughout the fields. This change and along side with the current IWM plan, will save water and promote crop health. A diesel well and diesel booster pump will be used to irrigate the fields but with the change in piping material, pumping use will decrease reducing energy and greenhouse gas emissions.	$200,000	Kern
Red Gate Farms	This project consists of installing a low pressure double line drip irrigation system on 146 acres of stone fruit that is currently flood irrigated. A flow meter and variable frequency drive will be installed, as well as pump and soil monitoring measures. the result will be reduced greenhouse gas emissions and 46% water savings.	$198,747	Tulare

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Applicant Organization	Project Description	Funds Requested	County
Reina Properties	Reina Property in Delano, CA. is proposing to install and implement an advanced irrigation management system which will enable the operation to save water and reduce GHGs while farming pistachios. The irrigation management system provides soil moisture tensiometers, flowmeters, variable frequency drives and a weather stations. In addition, an acid injection system is to be installed which will save water and reduce energy consumption. With the advanced irrigation equipment. Reina Properties will be able to manage the crop's water needs resulting in water savings along with an energy savings reduction thus lowering pumping costs.	$200,000	Kern
RELM	Machado Farms is dedicated to improving irrigation and pumping efficiency on their crops. They intend on improving their current system so they can save water and reduce GHGs.	$94,066	San Joaquin
Richard Egan	Conversion from conventional electric power to solar power for pumps for irrigation with soil moisture monitors	$123,000	Lassen
Richland Enterprises	This project includes multiple properties encompassing 328.3 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 field 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 meters to the discharges, and pressure sensors before and after the filters. This would be connected to a telemetry network as well. We also intend to install a solar system to power each of the pumps. We believe that with access to this information, along with ET data from a proposed Eton Station, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	$200,000	Sutter & Yuba

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Applicant Organization	Project Description	Funds Requested	County
Rick and Nicole Peterson Joint Venture	This project includes multiple properties encompassing 145 acres that we would like to implement 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 flow meters to the discharge, and pressure sensors before and after the filter. This would be connected to a telemetry network as well. We believe that with access to this information, along with ET data from a proposed Eton Station, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	$104,966	Butte
Riverwest Farming LP	Fanjet Micro Irrigation System	$194,501	Fresno
RKJ Avocados	The project will reduce water and energy use resulting in greenhouse gas emission reductions related to this 18 acre avocado/grapevine farm. The 12-month project, beginning in December 2016, will install a new high-efficiency water treatment and distribution system. The system will include a series of moisture and humidity sensors connected via ground wire to a central computer using ET scheduling software to irrigate 10 zones as sensors indicate conditions require it. An older, inefficient well pump will be replaced and 4 single speed boost pumps will be replaced with VF pumps. Solar panels and two hydro-electric water wheels converting energy from sunlight and from water falling between two retaining ponds into electricity will provide all power for the farm, the residence as well as a surplus back into the power grid. High efficiency emitters and some drip has already been installed. Current poor DU will be improved as new systems software and emitters are gradually adjusted.	$199,928	San Diego

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Applicant Organization	Project Description	Funds Requested	County
Rocky Canyon Vineyard, LLC	This project will include the implementation of a Tule Evapotranspiration plant monitoring system, the installation of pure sense soil monitors, the installation of a site-specific weather station, and the implementation of a solar powered well system. Through these implementations, Rocky Canyon Vineyards will be capable of reducing our water usage by monitoring the plants' moisture and by reducing greenhouse gas emissions by using a solar powered pump that runs on renewable energy. Additionally, we will be replacing one of the pumps and installing a Variable Frequency Drive to improve energy efficiency.	$109,033	San Luis Obispo
Rodolfo Romero	An 18 acre farm producing raisins 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.	$47,908	Tulare
Ronald C. Leimgruber Farms	This project will convert 46 acres of alfalfa/field corn (rotating production) on RCL Farms from sprinkler irrigation to lower pressure, more efficient sub-surface drip irrigation. The project will replace an old diesel pump to a new, more energy efficient electric pump, with the additional installation of VFD providing greater pump efficiency. RCL Farms will add flow meters to measure water use & install irrigation sensors to better monitor soil moisture content, promoting efficient water use. We will use CIMIS & install a Tule Technologies weather station to monitor crop water requirements & schedule irrigation events based on crop demand for even further reduction in water & energy use. We will use CropManage for irrigation scheduling and commit to attend irrigation training. These changes are expected to provide a 27% in water savings according to the NRCS water savings calculator and total greenhouse gas emissions reductions of 41.50 (MTCO2e) per acre (See Attachments).	$200,000	Imperial

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Applicant Organization	Project Description	Funds Requested	County
Ronald J Machado	The purpose of this project is to improve water efficiency as well as pump efficiency, which will help cut back on green house gases and water usage. The project will include an irrigation system change from flood to micro-sprinklers, upgrade current 20 HP river pump, which has an overall pumping efficiency (OPE) of 29% to 40 HP 45' slant pump that has an OPE of 61% with variable frequency drive (VFD) controller. The pumping site will be outfitted with a Seametrics flow meter and a Hortau station to transmit/document the flow rates in real time. A Hortau station will be located in the field to provide growing/conservation information to the grower in real time. Along with the Hortau tension a weather station will be installed. This information will include soil tension sensors, pressure switch (time/date stamp irrigations), and full weather data including ET (evapotranspiration)	$114,805	San Joaquin
Saba Muraisi	Saba Muraisi would like to use this opportunity to maximize the efficiency of her vineyard. Through the use of solar power as well as the instillation of a VFD and a soil moisture monitoring system, Saba Muraisi will bring her operation to the pinnacle of efficiency. Hopefully acting as a model for other farmers in the area to take steps in a similar direction.	$200,000	Tulare
Salt Creek Orchards Group LLC	Install 9 Hortau soil tension monitoring units and 2 weather units. The soil tension units will provide us with real time data to cut irrigation rates knowing what the condition of the soil is at the time. The weather stations will provide Evapotranspiration data to make irrigation scheduling decisions based on what is happening in that specific environment.	$112,846	Colusa

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Applicant Organization	Project Description	Funds Requested	County
Sam & Suzanne Etchegaray	We will be installing soil moisture monitoring systems on each of our ranches so that we can accurately monitor water movement through the soil, root growth and root pull, and determine the proper irrigation interval. Weather stations will be installed to monitor the local weather and water use by plants. Silos will be installed across the ranches to increase the ease of application of soil amendments such as gypsum, which will increase the water holding potential of the soil, improve the soil structure, and reduce water runoff.	$200,000	Tulare
Samra Orchards LLC	This project includes a 135 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 field 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 pump 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 believe that with access to this information, along with ET data from a proposed Eton Station, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	$59,656	Sutter
Satyam Farms	This project is to convert 200 acres from surface to micro/drip. The original diesel engine used will be removed and converted to electricity. The pumping sites will consist of new booster, VFD's, Flow meters, media filters, fertilizer injection system. The irrigations will be scheduled according to Hortau's tensiometers and weather station which will provide and document information in real time.	$198,973	Merced

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Applicant Organization	Project Description	Funds Requested	County
Schreiner Brothers Partnership	A new drip irrigation system will be installed to replace high pressure, diesel powered sprinkler irrigation. The new drip irrigation system will include a 40 horsepower electric booster motor and pump, VFD, buried plc. pipelines, and buried drip tape (SDI).	$76,638	Sutter
Scott Anthony Ranch, L.P.	The purpose of this project is to convert two (2) 173 bop 3056E Caterpillar industrial diesel booster pumps into two 75 HP electric booster pumps with VFD control on project sites 604 and 619. Additionally, weather and soil moisture sensors, flow meters, and volumetric management will be implemented on the acreage served by these pumps to increase water savings.	$199,913	Monterey
Sean V. Doherty Farms	This project includes a 145 acre property that we would like to implement irrigation management practices on. We are seeking to add Soil Moisture stations from Irrigate.net out in the field 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 pump 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 believe that with access to this information, along with ET data from a proposed Eton Station, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively. We also would like to convert our diesel booster to electric and have both pumps powered by a proposed solar system.	$162,286	Not Provided

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Applicant Organization	Project Description	Funds Requested	County
Seaver Farms	This project includes a 51 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 field 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 pump efficiency by adding a flow meters to the discharge, and pressure sensors before and after the filter. This would be connected to a telemetry network as well. We believe that with access to this information, along with ET data from a proposed Eton Station, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	$161,052	Colusa
Seth and Michelle Rossow Farms	Rossow farms would like to convert a 29 acre field that is irrigated with sprinklers and furrow to being irrigated with a sub-surface drip irrigation system. Along with the drip irrigation system, we would like to implement a soil moisture monitoring system and automation system to better manage when to irrigate and the length of time to irrigate. Currently the irrigation drip systems come with a manual on and off set up. 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 all 3 of these technologies in place we are able to use less water per crop ton.	$153,159	Merced

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Shafer Vineyards	The long-term drought and climate conditions in California require the agricultural community to implement new water savings and Greenhouse gas reductions. In this spirt Shafer Vineyards will install Tule evapotranspiration sensors to make more informed irrigation decisions. This technology make real-time data available on mobile devices and desktop dashboards giving crop water status and irrigation recommendations. we expect that using these innovations will result in a 15% savings in irrigation water and a 15% reduction of Greenhouse gas emissions. By tracking flow meters and electricity bills we will be able to validate the efficiency of the project.	$31,500	Napa
Sierra Orchards	Our goal is to completely overhaul the water delivery system to a 105 acre block of mature walnut trees through installation of a high efficiency pump motor paired with a VFD, replacement of the leaking, aged drip system with hanging micro sprinklers, and purchase of a Davis weather station to augment the information we currently receive from the 5 remote soil moisture loggers already installed. A third party reviewer rated the distribution uniformity of our 19 year old subsurface drip system at 50%, meaning we use double the energy and water to meet minimum irrigation requirements throughout the orchard. The 50 year old pumping system used to deliver this water is just 49% efficient, significantly lower than what will be attained with a modern motor and VFD. With a projected D.U. of 95%, and pump efficiency of 84%, the overhauled system will allow us to irrigate less with more efficiency, significantly reducing our green house gas emissions.	$129,493	Solano

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Applicant Organization	Project Description	Funds Requested	County
Sierra View Dairy	Installing low pressure, low flow sub-surface drip tape system on 112.5 acres of corn/wheat that is currently flood irrigated, for the purpose of water savings and improving the distribution uniformity of applied water. Green house gas emissions will be reduced by eliminating excessive pumping and a reduction in horse power. Two Irrometer M900 moisture monitors with 3 sensors each will be installed and E.T. based irrigation scheduling will be implemented.	$197,541	Tulare
Sill Properties Inc.	Sill Properties, whom farms 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 GHGs while farming almonds. This project will include soil moisture tensiometers, flowmeters, a variable frequency drive and a weather station. Also Sill Properties would like to convert flood irrigation to drip on 252 acres.	$199,978	Kern
Sohal Brothers	This project includes a 2 properties encompassing 168 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 field 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 flow meters to the discharge, and pressure sensors before and after the filter. This would be connected to a telemetry network as well. We believe that with access to this information, along with ET data from a proposed Eton Station, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	$59,401	Sutter

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Applicant Organization	Project Description	Funds Requested	County
SOLANA FARMS, INC.	Solana Farms is located north east of Paso Robles, CA. The Paso Robles area has been suffering drought conditions and is in need of any water saving actions available. This project will include soil moisture sensors and sap sensors to reduce our water consumption, and a new ag well flow meter and variable frequency drive to improve our flow efficiency and water use recording and a solar system to significantly reduce GHG emissions through pumping with renewable energy. Water savings are extremely critical in the overdraft of the Paso Robles basin (3-04.06).	$197,460	San Luis Obispo
Spooner Farms	To reduce pumping costs, and provide electricity to the pump for better efficiency of irrigation. Also the integration of Remote field monitoring equipment will help further refine irrigation practices in order save on groundwater use. In addition we plan to integrate site specific Evapotranspiration in order to understand plant water needs for the crop.	$81,875	Colusa
Stenderup Ag Partners	Currently 2 small blocks at Section 21 (41.67 acres combined) and another 40 acre block at Section 28 are furrow irrigated. Irrigation uniformity is difficult and inefficient. Installation of a drip system, sand media filter station, and soil moisture sensors will improve irrigation efficiency and uniformity, as well as reduce pumping time.	$116,279	Kern
Stephens Ranch Inc.	Farm to install a micro-irrigation system to all field crops to assist in the reduction of water and GHG emissions by limiting farm operations and managing water distribution more efficiently. We also propose the installation of solar panels to assist in the reduction of GHG emissions. We will work towards creating a more environmentally friendly process in doing so.	$180,139	Sutter

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Applicant Organization	Project Description	Funds Requested	County
Steven Carter	The purpose of this project is to install a 45.4 kW DC solar PV system to power the existing 40 hp electric vertical shaft turbine pump. This will reduce the amount of GHG emissions associated with the energy required for pumping. In addition, weather & soil moisture sensors, and volumetric management with the proposed digital flow meter and well level sensor will also be implemented on the 50 acres of alfalfa and hay served by this pump to increase water savings. This farm is located in the Paso Robles Area basin, which is critically over-drafted.	$200,000	San Luis Obispo
Stovall Ranch	The project will include a replacement, solar powered pump and motor for the tail water return system that gravity feeds the 70 acre irrigated cattle pasture. In addition, it will replace piping that takes water from the return system to the reservoir. Soil moisture motoring system will be added, along with a flow meter.	$88,690	Sacramento
Sun Valley Ranches	This project includes a 145 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 field 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 pump efficiency by adding a flow meter to each discharge, and pressure sensors before and after the filter. This would be connected to a telemetry network as well. We also propose to install a new solar system to power the pumps. We believe that with access to this information, along with ET data from a proposed Eton Station, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	$199,999	Sutter

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Applicant Organization	Project Description	Funds Requested	County
Surinder Singh	Surinder Singh would like to use this opportunity to maximize the efficiency of his almond orchard. Through the use of solar power as well as the instillation of a VFD and a soil moisture monitoring system, Surinder Singh will bring his operation to the pinnacle of efficiency. Hopefully acting as a model for other farmers in the area to take steps in a similar direction.	$200,000	Tulare
Swenson Farms	Young farmers acquired the 600 acres of what is called Swenson Farms. Since ownership, we have explored the maximization of resources, specifically water and soil, for the lands highest and best use. Swenson Farms wants to improve irrigation and water transportation efficiency through the use of simple infrastructure as well as modern irrigation technology. The addition of solar power and the technological advances to irrigation will limit the on-farm energy use, as well as the amount of fuel needed to manage such pumps and irrigation. With the addition of a valve to separate orchards, as well as a VFD unit, we will be able to utilize micro-sprinklers that currently serve zero function due to an overage of pump pressure. As an example, this lead to the necessity of flood irrigation on our 18 acre prune orchard.	$102,316	Colusa
Three Mac Farms	Replace 150 acres of temporary above ground drip system and 145 acres of flood irrigation with an all below ground micro drip system. The temporary drip system is served by a temporary filtration system and a 240hp diesel engine driven pump. The temporary filtration system diesel pump will be replaced with a 100hp electric motor. Automated precision irrigation system equipment, including field moisture sensors, will be installed. Replacing the temporary above ground drip system and flooded system with a new automated micro drip irrigation system will reduce farm water usage and GHG emissions. A VFD will be installed on the electric motor replacing the diesel engine.	$200,000	Fresno

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Applicant Organization	Project Description	Funds Requested	County
Tim Razzari	Install drip line irrigation with a booster pump in a mature pistachio orchard currently using flood irrigation to use approximately 40% less water.	$28,260	Merced
Todd Fernandes Farms	The proposed project is on approximately 300 acres of row crops using flood irrigation with no water management currently being applied. The project will convert the row crops to almond trees and flood irrigation to drip irrigation along with	$200,000	Tulare
Tong Vang	A specialty vegetable operation producing pepper, corn, stone fruits, crucifers, cucumber, sunflowers, and dry beans 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.	$84,897	Fresno
Toor Farming LLC	Photovoltaic System, Flow Meters, Soil Moisture Sensors, Pump Automation	$200,000	Tulare
Toor Holdings	Toor Holdings would like to use this opportunity to maximize the efficiency of its almond orchard. Through the use of solar power as well as the instillation of a VFD and a soil moisture monitoring system, Toor Holdings will bring its operation to the pinnacle of efficiency. Hopefully acting as a model for other farmers in the area to take steps in a similar direction.	$200,000	Tulare
Toor LLC	ToorLLC would like to use this opportunity to maximize the efficiency of its pistachio orchard. Through the use of solar power as well as the instillation of a VFD and a soil moisture monitoring system, ToorLLC will bring its operation to the pinnacle of efficiency. Hopefully acting as a model for other farmers in the area to take steps in a similar direction.	$200,000	Tulare

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Applicant Organization	Project Description	Funds Requested	County
Tower Oaks Vineyard, LLC	The purpose of this project is to install a 20.2 kW DC solar PV system to power the existing 50hp electric submersible pump. This will reduce the amount of GHG emissions associated with the energy required for pumping. In addition, weather & soil moisture sensors, and volumetric management with the proposed digital flow meter and well level sensor will also be implemented on the 59 acres of wine grapes served by this pump to increase water savings. This project site is located in the Paso Robles Area, which is critically over-drafted.	$142,911	San Luis Obispo
Travis Jones	This project consists of installing a low pressure double line drip irrigation system on two ranches, 93 total acres of stone fruit that is currently flood irrigated. Flow meters and soil moisture monitors will be installed. The result will be reduced greenhouse gas emissions and 42% average water savings.	$188,631	Fresno & Tulare
Triple C Farms	To improve current irrigation system and expand cropping capabilities through the use of sub-surface drip irrigation. The current furrow irrigated system is inefficient for row crops, and requires the use of a diesel engine to lift water to both 40 acre fields. Our engine/pump requires us to dump excess water into a drain ditch to not break our furrow ditches. We request a new propane powered engine and improvements to the existing pump to pressurize the system, and place water in a plc. mainline to increase efficiency.	$137,865	Sutter

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Applicant Organization	Project Description	Funds Requested	County
Triple E Livestock & Land, Co.	We will be installing soil moisture monitoring systems on each of our ranches so that we can accurately monitor water movement through the soil, root growth and root pull, and determine the proper irrigation interval. Weather stations will be installed to monitor the local weather and water use by plants. Silos will be installed across the ranches to increase the ease of application of soil amendments such as gypsum, which will increase the water holding potential of the soil, improve the soil structure, and reduce water runoff.	$200,000	Tulare
Troy Jackson Farms	We will be transitioning from open flood irrigation to drip irrigation system. This change will help us increase our water use efficiency. We will be installing real time remote field monitoring equipment to help irrigate more efficiently. The sensors installed will be reading soil moisture from 6" to 40"., 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 ET and prevent unnecessary irrigation events. 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 irrigating only when necessary.	$46,126	Tulare

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Applicant Organization	Project Description	Funds Requested	County
Tucker Drip Systems	The proposed project will install a new drip irrigation system in south Sutter County. The scope of the project includes a new high efficiency pumping plant, sand media filters; underground plc. mainline, field laterals, and manifolds; low-flow drip tape, and the John Deere Field Connect soil moisture monitoring system. The project will save water and reduce greenhouse gas emissions in multiple ways, including: 1) the reduction of gross applied water through new cropping patterns 2) installing drip irrigation in place of high pressure sprinklers 3) the introduction of soil moisture sensors and weather station/CIMIS ET data for irrigation scheduling.	$197,933	Sutter
Ty Muxlow Farms	Install a new system to be able to monitor soil moisture through sensors with electronic data output and flow meters to ensure efficient irrigation scheduling. This will allow us to irrigate more accurately and have electronic records that will us to review our past irrigation and make any changes for the up coming seasons. These will be the first units we will be installing with future expansions including all of our planted acres, well depth monitoring, remote camera, EC sensors, and on site weather stations. With all of these sensors we hope to set the trend for the stone fruit industry on not only the conversation of water bus also of the land.	$197,884	Tulare
V & R Church Ranch	V & R Church Ranch is planning on installing 7 Hortau soil monitoring stations along with a full weather station. The Hortau Soil monitoring stations will allow the grower to monitor his irrigation water in real time and adjust his irrigation scheduling based on plant need and real time weather conditions.	$84,448	Colusa

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Vang Thao	A specialty vegetable operation producing tomatoes, green beans, eggplants, crucifers, and peppers 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.	$54,309	Fresno
Vann Family Two, LLC	To install Hortau moisture monitoring stations as well as weather stations. The Hortau Soil Tension Monitoring Systems will give us real time soil data to adjust and schedule irrigation accordingly. The weather station will provide ET data for the exact field environment resulting in efficient water usage. In addition we will install flowmeters to record our water usage.	$125,206	Colusa & Yuba
Vann Peterson Farms Partnership	Vann-Peterson Farming Partnership is planning on installing 8 Hortau soil monitoring stations along with a full weather station. The Hortau Soil monitoring stations will allow the grower to monitor his irrigation water in real time and adjust his irrigation scheduling based on plant need and real time weather conditions.	$103,708	Colusa
Verwey Farms	Installing a PVC Pipeline to replace open ditches that are used for irrigating Corn & Wheat. This will eliminate water being pumped from the 5 wells and the dairy manure wastewater, into unlined ditches, then using 4 Tractor ran side-winders, the water is pumped from the canal in to the corn & wheat fields. The new proposed pipeline would also eliminate dairy manure wastewater from being transported through open ditches.	$200,000	Kings

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Applicant Organization	Project Description	Funds Requested	County
Vreeland Nursery In'l Inc.	Nano water filtration system will be replaced with more efficient reverse osmosis (RO) filtration system, thereby reducing irrigation water wastage during filtration and energy used for filtration. Three acres of potted indoor flowering tropical house plants are irrigated using micro sprinklers and a hanging drip system. Currently the irrigation water is filtered using a Nano filtration system. Fifty percent of the water is wasted during filtration. This filtration system is to be replaced with an RO system in which only 25% wastage occurs. This will result in a savings of 2.4 acre-feet of irrigation water per acre of crop. The RO filtration system will filter twice as much water during the same time period, resulting in a 50% savings in electricity usage.	$65,500	Monterey
Walter Mizuno	Funding is requested to support the conversion of an existing furrow flood irrigated stone fruit orchard to a more water and energy efficient drip irrigation system. Plans are underway to install a more energy efficient irrigation pump and motor to replace the existing unit installed in the 1960's. In order to take full advantage of the planned irrigation pump upgrade, there are plans to install a variable frequency drive and convert the flood irrigation system to a more energy efficient dual line drip system, saving energy and water and reducing GHG emissions over the current method of irrigation.	$44,355	Fresno

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Applicant Organization	Project Description	Funds Requested	County
Wawona Packing Co. LLC	This project aims to install soil moisture monitoring equipment to improve the efficiency and timing of irrigations and reduce emissions due to pumping. These sensors will allow us to determine water movement through the soil, depth of wetting, root development, and appropriate irrigation intervals. Weather sensors will be included to aid in ET-based scheduling to ensure that the local weather is taken into account when scheduling irrigations to avoid unnecessary applications. Flow meters will be installed across all ranches to ensure the proper amount of water is applied and can be monitored throughout the season. Lastly, several ranches that are currently furrow irrigated will be converted to micro-irrigation to reduce the amount of water that must be applied to appropriately irrigate the crop.	$200,000	Tulare
Wellsona Vineyards, LLC	The purpose of this project is to install a 35.3 kW DC solar PV system to power the existing 75 hp turbine pump. This will reduce the amount of GHG emissions associated with the energy required for pumping. In addition, weather &soil moisture sensors, Tule evapotranspiration (ET) sensors and volumetric management with the proposed digital flow meter and well level sensor will also be implemented on the 67.17 acres of wine grapes served by this pump to increase water savings. This project site is located in the Paso Robles Area, which is critically over-drafted.	$200,000	San Luis Obispo
Wemple Ranch	The project is designed to replace a currently used irrigation system that conveys water down Mill Creek into a pond and from there, water is pumped from the pond to supply water to a center pivot that irrigates crop land. The proposed project would include a pipeline that would directly supply the pivot with gravity flow. The project would allow for a electrical pump savings and water savings due to ditch loss and evaporation.	$14,232	Lassen

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Applicant Organization	Project Description	Funds Requested	County
West Coast Ranches	Upgrade from diesel motor, flood irrigation to an electric motor, micro-jet sprinkler; with flo-meters. This will reduce the amount of greenhouse gas emissions (GHG) and substantially reduce the water used on this 130 acre almond orchard.	$189,419	Sutter
Whiskey Hill Farms	The irrigation water and energy savings project at Whiskey Hill Farms will replace a leaking 70,000-gallon water storage tank with 5 15,500-gallon tanks. The energy efficiency of the farm will be enhanced by replacing an old well pump operating at 9% efficiency with a new high efficiency pump. Energy efficiency will also be increased by installing two VFD's to regulate the motor speed of the booster pumps in the system to only run as fast as the current load demands. Soil tension sensors will be utilized to improve irrigation scheduling by monitoring the real time needs of the crops so water can be turned on the instant the crop demands it. Lastly, greenhouse integrated photovoltaic panels will be used to generate solar power that will offset the energy used to power the well pump, reducing the amount of energy generated from greenhouse gas emitting sources.	$199,907	Santa Cruz

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Applicant Organization	Project Description	Funds Requested	County
William Pruitt	Install a 60.2 KW AC solar system that will produce enough electricity to offset the energy use of a 75 horsepower electric booster pump. Install new Netafim drip tape to increase irrigation system uniformity for 172 acres. 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. 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. Install a 75 HP variable frequency drive electric panel on the irrigation system booster pump to ensure the irrigation system operates at the designed pressure and conserves energy. Install a magnetic flow meter on the drip system to record applied water in gallons per minute and total acre feet.	$200,000	Merced

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Wilson Farms	Installation of variable frequency drives, soil moisture probes, weather stations, pump flow meters and in-field flow meters, all such devices incorporating radio telemetry for upload to cloud servers, to be used in conjunction with commercial crop modeling and pump monitoring software to optimize irrigation efficiency and reduce energy use and related greenhouse gas emissions in the unique Delta farming environment. This project will focus on the adoption of more sustainable practices for irrigation decision making, including: use of continuous soil moisture data to understand the influence of local high water tables on irrigation requirements as well as to monitor infiltration rates to help avoid pushing applied water below the root zone; use of crop modeling to accurately determine daily vine stress in each block, and; use of VFDs to improve flexibility in scheduling irrigation events. Additional energy savings will be achieved through the elimination of pump bypass systems.	$74,761	Yolo

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Wm. Bolthouse Farms, Inc.	The project will replace 43 acres (~9.4 linear miles) of 3" diameter aluminum pipe with used/ like new 3" diameter Certa-Lok Yelomine PVC pipe and fittings. The existing aluminum pipe is worn out from 20+ years of usage and subsequently has numerous leaks at the joints and various points along its length. The existing pipes also drain completely between each irrigation cycle because the joint seals and sprinklers don't keep the water in the lines when they are shut off. Our conservative calculation shows we are losing more than 11.2 million gallons of water per year through this specific system. This loss will be eliminated by installing the new leak proof Certa-Lok sprinkler pipe system that will include check valves at the sprinkler head to keep all the water in the pipes between irrigations. Additionally, this savings of water will allow us to reduce our electric motor run hours and thus reduce our GHG emissions by 0.48 metric tons per acre per year.	$50,000	Kings
Youngstown Grape Distributors Inc.	Convert flood irrigation to Drip and install automation. Add Variable speed Drives on irrigation pumps and monitoring equipment to reduce the amount of water used and to schedule irrigation timing which will reduce emissions.	$161,918	Fresno
Zack Raven	Installing low pressure micro sprinkler system for walnuts, replacing deep well pump with new pump and high efficiency motor, installing VFD on new pump, and installing soil moisture sensors with data logger for more accurate monitoring.	$51,562	Tulare