

*\*\*The 2017 SWEEP application information was extracted from the application system as submitted, therefore, the California Department of Food and Agriculture cannot guarantee accuracy of the information.*

Applicant Organization	Project Description	Funds Requested	County	*Expected to Provide Benefit to a DAC
*Project sites located in disadvantaged communities were determined using CalEPA's CalEnviroScreen 2.0				
3rd Gen Berry Farms, LLC	The purpose of this project is to install a 75hp Variable Frequency Drive (VFD) to power the existing 75hp 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 existing digital flow meter and well level sensor will also be implemented on the 120 acres of berries served by this pump to increase water savings. This project site is located in the Pajaro Valley basin, which is critically over-drafted as of January 2016.	\$100,000.00	Santa Cruz	No
Ag Patch	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 gypsum machine will be added to amend the water and improve soil structure, which will reduce non-beneficial water uses such as runoff or excessive depth of water.	\$51,664.00	Fresno	No
Agriculture and Land-Based Training Association	The purpose of this project is to install a 9.5kW DC solar PV system to power the existing 75hp 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 91 acres of row crops and berries to increase water savings. This project site is located 0.43 miles outside of the "180/400 Foot Aquifer" 3-4.01, which is critically overdrafted as of January 2016.	\$100,000.00	Monterey	No
Allan Clark	This project will consist of installing a variable frequency drive on an existing deep well, moisture probe, flow meter, and solar power generation. All of these items will improve irrigation efficiencies and reduce greenhouse gas emissions.	\$100,000.00	Madera	No
Allan Family LP	This project will add variable frequency drives to all existing pumps, solar power generation, soil moisture monitoring, and an electronic flow meter to improve irrigation efficiencies on varying soil types.	\$100,000.00	Fresno	No
Amaraviti Farms LLC	The project will be installing a real time IWM-3 irrigation monitoring & scheduling system in our 250 acre almond field and also refurbishing our canal pumping system which has a very low system efficiency and poor flow. This new monitor & scheduling solution will allow to reduce water usage and GHG emissions for irrigation by reduced pumping and improved pumping efficiency. With more canal water available this year and the low efficiency of our system the project will refurbish our pumping system to reduce GHG. The Weather/ET, granular soil moisture, plant health and pressure sensors will be used to determine the appropriate interval between and duration of irrigation events and ensure water and nitrates dont go below the root zone saving water and GHG. The pressure sensor network will alert our field team to irrigation faults or broken drip lines reducing wasted water. This system will help in efficient irrigation across different soil types and slopes.	\$100,000.00	Merced & Stanislaus	No

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Amarjit Sohal	This project includes a 199 cre 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 ETo Station, VFDs and a solar array, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	\$100,000.00	Yuba & Sutter	No
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 solar System will help offset a percentage of our irrigation system energy requirements.	\$100,000.00	Tulare	Yes
Anthony Vineyards Inc.	We are proposing a total of 13 Hortau irrigation mangament stations for Hillside Oasis Ranch of 420 acres. These stations will water to plant needs using soil probes and data reporting Two of these stations will record and report data from the 2 proposed flowmeters. Lastly, the addition of a weather station will help us better understand our irrigating needs. Implementing these projects will save us water and reduce green house gas emissions by at least 15%.	\$100,000.00	Riverside	No
Ashley Lane LP	Ashley Lane will be implementing and using Hortau's smart irrigation platform with real time data including soil tension, weather data (wind speed,direction, ET, rain), flow rates to help eliminate excessive pumping which will help limit GHG emissions as well as reduce water usage by approximately 15%.	\$100,000.00	San Joaquin	No
B and B Family Partnership	Installing real-time remote soil moisture,and flow meter monitoring equipment to help irrigate more efficiently. The sensors installed will read soil moisture every 4" down to 48" (120cm). The sensors will also provide soil temperature readings. 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. The use of an existing weather station equipped with weather sensors will be 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 unit added to automatically measure reduction in water use and save greenhouse gasses(GHG) emissions through reduced pumping/irrigation use.	\$7,646.00	Kern	Yes
B&R Tevelde	The project plans to replace an old flood irrigation system that was used to irrigate alfalfa and row crops with micro irrigation for almonds. Soil moisture monitoring equipment will be installed 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.	\$100,000.00	Tulare	Yes

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B.Jue and Son	The proposed project will install irrigation automation with moisture sensors along with a 208 kW solar system that is anticipated to offset approximately 70% of the site's energy use. Moisture sensors will be installed to monitor plant uptake directly at the tree root zone which will assist in better irrigation water management.	\$99,658.00	Fresno	No
Badger Hahn Ranch	Badger-Hahn Ranch is planning on installing 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. In addition, Badger-Hahn will be installing a pulse-output flow-meter and Hortau's remote flow-meter monitoring station.	\$69,926.00	Colusa	No
Benchmark Vineyard Management	Upgrade irrigation systems to include evapotranspiration and soil tension based irrigation measurements. This will help get a more precise reading on necessary output for each site. The Tule Irrigation Technology equipment will measure the amount of water lost through transpiration to the environment and through a web based dashboard will help provide more efficient water application. The Hortau Irrigation Management will aid in issuing an accurate reading for the amount of water available in the soil through data points delivering the current soil tension. This will denote the level of stress the plant is experiencing and exactly how much water needs to be applied to lower the stress level or when to withhold water and prevent such things as leaching through over-irrigation. The other aspect included in the project will be a renewable energy source, via solar panels, for pumping and to reduce greenhouse gas emissions. The solar panels will relieve the grid during high volume output.	\$97,816.00	San Luis Obispo	No
Berkshire Investments, LLC	The purpose of this project is to install a 11 kW DC solar PV system to power the existing 40hp 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 55.7 acres of berries and row crops served by this pump to increase water savings. This project site is located in the Pajaro Valley basin, which is critically over-drafted as of January 2016.	\$100,000.00	Santa Cruz	No
Bernard Nydam	<p>The project includes changing from an inefficient submersible pump to a more efficient turbine pump with a variable frequency drive (VFD).</p> <p>A programmable on/off capability from a computer or smart phone will allow the pump to be started and stopped remotely to better meet crop water requirements and help reduce over irrigation. A real time soil moisture monitoring system will be installed in the orchard to monitor crop water use and irrigation water requirements. This will provide information and the control and will allow the irrigation system to be turned off when soil moisture depletions have been refilled.</p> <p>Two drip irrigation lines will be added to the micro sprinkler system in the orchard. The sprinkler system has 90 percent coverage of the orchard floor causing significant evaporation and humidity in the orchard. The drip lines will reduce the water lost to evaporation, reduce the water used by the weeds and reduce humidity. These will also reduce the tractor passes.</p>	\$70,694.00	Fresno	Yes

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Bill Cotter Farms	This project proposes improving irrigation procedures on our farm, by installing real time remote soil moisture monitoring sensors, site-specific Weather with Evapotranspiration (ET), plant health monitors and a flow meter in a 230 acre assorted almonds and walnuts ranch.	\$33,826.00	Yolo	No
Blackburn Walnut Farms	This project includes a 160 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 ETo Station, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	\$36,450.00	Fresno	No
Blossom Ranch LP	Soil tension stations, flow meter stations and weather data will be placed throughout the orchards. This data will be relayed in real-time and help with determining run/irrigation times. Water and GHG reductions will be approx. 15%.	\$99,414.00	San Joaquin	No
BLUEBERRIES OLE'!, LLC	<p style="text-align: center;">U-PICK &amp; COMMERCIAL BLUEBERRY FARM PROPOSAL</p> <p style="text-align: center;">I) REDUCE GH emission:</p> <p style="margin-left: 40px;">a. Automated irrigation valves to gain efficiency</p> <p style="margin-left: 40px;">b. Replace Drip Hose using less energy to supply water to system</p> <p style="margin-left: 40px;">c. Replace inefficient well pump</p> <p style="text-align: center;">II) REDUCE WATER USE:</p> <p style="margin-left: 40px;">a. Self-flush automated well filter</p> <p style="margin-left: 80px;">1) Drought caused sand to come up from well, with sediment, caused clogs/inefficient irrigation delivery</p> <p style="margin-left: 80px;">2) Better water flow through the drip system, eliminating clogged drippers</p> <p style="margin-left: 80px;">3) Less water use to clear filter-currently use manual flush procedure to unclog screen, wasting untold gal. of water</p> <p style="margin-left: 40px;">b. Weather station: more eff. irrigation management</p> <p style="margin-left: 40px;">c. Flow Meter: monitor water usage</p> <p style="margin-left: 40px;">d. Drip hose: replace damaged, leaking drip tape &amp; achieve efficiency of drip system</p> <p style="margin-left: 40px;">e. Soil moisture probes: pin-point water needs</p> <p style="margin-left: 40px;">f. Automated irrigation valves: irrigate @ night reducing water use</p> <p style="text-align: center;">WILL ATTEND IRRIGATION WORKSHOP</p>	\$53,923.00	Santa Barbara	No
Booker Vineyard & Winery	Booker Vineyard intends to improve its existing 60 (planted) 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 via a holding tank that is replenished through well pumps. Booker Vineyard intends to install a small solar farm to generate enough energy to compensate the use of the well pumps, install flow meters at each well pump to strictly monitor water usage and pump efficiency, and add Tule evapotranspiration sensors to ensure water is only being applied to the vines when absolutely necessary.	\$99,808.00	San Luis Obispo	No

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Bowles Farming Company, Inc.	The purpose of this project is to install an automated irrigation control system, weather & soil moisture sensors, volumetric management with the proposed digital flow meter and tank level sensors on 242 acres of tomatoes served by a 60hp electric vertical shaft turbine pump. This project site is located in the Delta-Mendota basin, which is critically over-drafted as of January 2016.	\$100,000.00	Merced	No
BRAD PAULS	The proposed project includes installing a high efficiency, double line drip irrigation system on 54 acres of almonds and stone fruit that is currently flood irrigated. Four inefficient pumps will be replaced by one new high efficiency pump with a variable frequency drive. A flow meter and in-field soil moisture monitors will be installed, and in field data will be accessible in real time. The result will be significant greenhouse gas savings and a 42% savings in applied water.	\$100,000.00	Fresno	Yes
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.	\$48,710.00	Fresno	Yes
Briarwood Vineyard LLC	The purpose of this project is to install a 6.3 kW DC solar PV system to power three existing submersible pumps. 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 and proposed digital flow meters and well level sensor will also be implemented on the 42.5 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.	\$100,000.00	San Luis Obispo	No
Britz, Inc.	Fanjet Micro Irrigation System	\$100,000.00	Tulare	Yes
Brooksi Almond Ranch Two, LLC	This project will consist of installing a 116 module solar system that will generate enough clean renewable energy to power the irrigation pumps which will bring our energy consumption to net zero. Additionally, we will be installing a real time soil moisture sensor and weather monitoring system that will provide real-time continuous soil moisture data and real-time site specific evapotranspiration data to help schedule irrigation events more accurately and efficiently; which will result in a reduction of applied water.	\$129,426.00	Kings	No
Buon Gusto LLC	Buon Gusto Farms (BGF) currently irrigates with well water that is stored in and then pumped from an open-air reservoir (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 diesel powered pumps are needed to pressurize the pond water for irrigation. BGF proposes to: 1) re-direct well water from the open pond to three existing (and five 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 climate-based irrigation scheduling; 3) replace the existing diesel-fuel water pumping with a solar-based system; and 4) participate in a local, certified greenwaste recycling program to capture carbon dioxide and sequester soil organic matter, simultaneously reducing GHG emissions while enhancing soil moisture retention.	\$98,630.00	Ventura	No

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Cagliero Vineyards Inc	The purpose of this project is to install a 11.3kW DC solar PV system to power the existing creek and booster pumps. 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 pond level sensor will also be implemented on the 160 acres of alfalfa and grain hay 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.	\$100,000.00	Monterey	No
California Olive Ranch	This project proposes to install soil moisture monitoring systems. Weather stations will be installed to monitor the local weather and water use by plants. Implementation of these sensors along with applied water logging will improve our capabilities to make educated decisions on why and how we irrigate our olives.	\$99,970.00	Artois Ranch: Glenn Corning: Tehama	No
Cantrell Ranch	This project includes a 95.98 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 ETo Station, a solar systems, we could reduce our water use and decrease our GHG Emissions by irrigating more efficiently.	\$100,000.00	Butte	No
CH Trembley Corporation	We will be installing a sprinkler irrigation system, a real time IWM-3 irrigation monitoring & scheduling system, VFD and flow meters in our 152 acre walnut field. We believe we will save 35% on water usage with these changes and reduce 0.1 MT CO2 eq. per year as well. We have been using flood irrigation up to now. The sprinklers will reduce evaporation and improve irrigation efficiency. The new monitor & scheduling solution will allow us to reduce water usage and GHG emissions for irrigation. The IWM-3 Weather/ET, granular soil moisture, plant health, dendrometer sensor network and satellite imaging will be used to determine the appropriate interval between and duration of irrigation events. The dense granularity soil sensor and 3D map will ensure water and nitrates don't go below the root zone saving water and pumping GHG. The network of IWM-3 sensors and software will also allow me to water differently for each block/set based on soil and other differences.	\$69,675.00	Tulare	Yes
Chamisal Creek Ranch LLC.	This project proposes to install several remote field monitoring stations which are comprised of soil moisture probes, pressure switches, temperature/humidity sensors, wind speed & direction sensors, and a solar pyranometer to measure soil moisture and weather in our orchards and vineyards. A weather station will be installed along with a pulse output flow meter will be installed with this remote monitoring system to gain maximum information to ensure more efficient use of water and crop productivity.	\$93,807.00	Colusa	No
Chandler Farms LP	This project would install a VFD controller to the existing pump and install soil moisture sensors to assist with irrigation scheduling.	\$14,669.00	Fresno	Yes
Chertai Xiong	A diversified farm with 10 acres of mixed vegetables will convert from furrow to drip irrigation and improve energy efficiency by repairing an inefficient pump and adding a variable frequency drive.	\$60,758.00	Fresno	Yes

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Chris Taylor	This project proposes converting 18 acres of flood irrigated olives to a drip system. Surface water will be pressurized with a new high efficiency 10 hp booster pump. A VFD will be installed as well as a 5.886 KW solar system to reduce GHG. A flow meter and soil moisture probes will be added to the project as well.	\$85,376.00	Glenn	No
Chris Taylor	This project proposes converting 20 acres of strawberries irrigated with hand move sprinkler pipe to Almonds with a micro drip system. A VFD will be installed as well as a 17.004KW solar system to reduce GHG. A flow meter and Climate Minder soil moisture monitoring system will be added to the project as well. The improvements proposed in this project will impact 20 acres in 2017. Post 2017, another 20 acres will be planted to almonds and impacted by the VFD and improved pumping efficiency although no funding is requested for the mirco irrigation or solar systems for the additional 20 acres, post 2017.	\$99,890.00	Glenn	No
Cindy Ward	We will be converting 26 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.	\$51,604.00	Tehama	No
Citri-Care	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	\$16,362.00	Tulare	Yes
Cook Ag Services	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	\$42,120.00	Fresno	Yes
Cortina Brothers LLC	Cortina Brothers LLC., is planning on installing 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. In addition, Cortina Brothers will be installing a VFD and an acid injection system which will increase water infiltration, reducing water usage and energy consumption.	\$99,986.00	Colusa	No
Cortina Brothers LLC	Cortina Brothers LLC., is planning on installing 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. In addition, Cortina Brothers will be installing a VFD and an acid injection system which will increase water infiltration, reducing water usage and energy consumption.	\$99,986.00	Colusa	No

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Curtis Travioli	The project converts 10 acres of citrus from the flood irrigation to micro irrigation. It also 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	\$37,399.00	Tulare	Yes
Daniel Jackson Farms	We will be installing real time remote field monitoring sensors, flow meters, and a solar system, which will help irrigate more efficiently and reduce GHG emissions. The sensors installed will be reading soil moisture from 6" to 40". The sensors will also read fertilizer applications, and soil temperature at various depths. Soil moisture sensors will be used to determine the appropriate interval between irrigation, depth of wetting, and depth of extraction by roots and adequacy of wetting. These remote field-monitoring units will include weather sensors to help irrigate based on ET and prevent unnecessary irrigation events. Soil temperature sensors will help me fertilize appropriately at the best temperatures. Flow meters will also aid to improve water use efficiency by allowing us to quantify the water used per irrigation events. The new solar system will allow us to reduce GHG emissions. This project will help us to improve water use efficiency while reducing GHG emissions.	\$99,923.00	Tulare	Yes
Darlene Bruce	Installing many new irrigation management (IWM) practices to 35 acre almonds orchard which included saving greenhouse gas (GHG) emissions and adding IWM like low pressure irrigation system with micro jets, 3 -Moisture sensors with telemetry and remote access that use CIMIS and ETo. Going from diesel pump to natural gas pump which will result in GHG savings	\$55,359.00	Butte	No
David Jackson Farms	We will be installing real time remote field monitoring sensors, flow meters, and a solar system, which will help irrigate more efficiently and reduce GHG emissions. The sensors installed will be reading soil moisture from 6" to 40". The sensors will also read fertilizer applications, and soil temperature at various depths. Soil moisture sensors will be used to determine the appropriate interval between irrigation, depth of wetting, and depth of extraction by roots and adequacy of wetting. These remote field-monitoring units will include weather sensors to help irrigate based on ET and prevent unnecessary irrigation events. Soil temperature sensors will help me fertilize appropriately at the best temperatures. Flow meters will also aid to improve water use efficiency by allowing us to quantify the water used per irrigation events. The new solar system will allow us to reduce GHG emissions. This project will help us to improve water use efficiency while reducing GHG emissions.	\$100,000.00	Tulare	Yes
David Te Velde Dairy	The proposed project includes energy efficiency upgrades on 3 ranches covering 1,395 acres of almonds, tomatoes & wine grapes. A VFD will be installed on a 200hp deep well pump. Automated pump starts and valves will be installed that integrate with CIMIS ET data for scheduling. All ranch data will be accesible in real time and the results will be water and greenhouse gas savings.	\$95,122.00	Tulare & Kings	Yes
David W. Hanna Trust	This project includes a 640 acre property that we would like to include irrigation management practices on. We want to monitor our pump efficiency by adding a flow meter to the discharges. This would be connected to a telemetry network to monitor more effectively. With the addition of a water level sensor, new VFDs and filter, and a proposed solar array, we believe we could drastically save GHG emissions and water.	\$100,000.00	Shasta	No



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DEWLSON FARM	This project will install remote monitored weather, soil, plant based sensors and valve controls for improved water management and replace existing inefficient above ground irrigation with underground piping and pressure-regulated micro-sprinklers. The project will install a 15 KW solar system. Also included is replacing existing pump and motor with efficient equipment and installation of a VFD and flow meter. Other management practices that will be completed include installation of cover crop and mulch on total acreage.	\$100,000.00	Santa Barbara	No
DiBduo Land Management Co., Inc.	The objective of this 130 acre established vineyard project is to improve efficiency in cultural practices and vineyard operations that result in a reduction of Greenhouse Gases and Water Usage, ultimately lowering production costs. A number of initiatives are proposed for implementation to achieve objectives including installation of a 1)Weather station to measure ET, rainfall, windspeed,and humidity; 2)Installation of soil monitoring stations at various depths for placing irrigation water only in the vine root zone, improve timing and efficiency of irrigations that will reduce emissions from excess pumping; 3)Install flowmeters and pump control; 4)Mulching top soil profile to reduce surface evaporation loss and save water; 5) Installation of a silo and soil gypsum machine to improve the efficiency of gypsum applications. This will improve the soil and water chemistry and increase soil holding capacity and water infiltration more uniformly throughout root zone and soil profile.	\$99,935.00	Tulare	Yes
DLP Ag Partnership LP	The purpose of this project is to install a 7.3kW DC solar PV system to power the existing 30hp 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 existing digital flow meter and well level sensor will also be implemented on the 31 acres of wine grapes served by this pump to increase water savings. This project site is located in the Adelaida region, which is not critically over-drafted as of January 2016.	\$100,000.00	San Luis Obispo	No
Don Holder	This project aims to save water by monitoring almond tree water needs in variable soil types and to offset green house gas through the installation of solar panels. This farm contains two soil types with different water retention characteristics yet irrigation practices are fixed over the entire area because only 1 soil moisture monitor is available. ET data has not been integrated into irrigation strategy. By monitoring actual soil water retention and the ET needs of almond trees, and supplying only the amount of water required by each soil type, both water - and the energy used to provide that water - can be conserved.	\$67,645.00	Fresno	Yes
DOUG & JULIE FREITAS FARM	This project will consist of converting from flood to drip irrigation. The new drip system will be equipped with a VFD and a flow meter to track water allocation. 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 well associated with the flood to drip conversion and IWM Level 3.	\$100,000.00	Kings	No

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E&B Farming	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. Water and soil amendment equipment will be installed to improve soil chemistry, allowing us to use water more effectively and keep it in the plant's root zone. A wind machine will also be utilized to reduce pumping for frost control during the winter months.	\$97,375.00	Tulare	Yes
E. W. Merritt Farms	Replace flood irrigation system on 425 acres with micro drip system consisting of 22' x 16' spacing double rowdrip system, buried PVC piping, P.C. Dripper at 24" spacing, mainline, submain, manifold piping, sub-unit control valves, isolation valves, relief valves, 2-9 tank sand media filter station with auto flush, and reservoir. Project also includes precision irrigation automation equipment.	\$100,000.00	Tulare	Yes
Edwards Ranch	Applicant is proposing to upgrade an older low efficiency electric pumping plant with a high efficiency electric motor and Variable Speed Drive with realtime pressure adjusting. The existing flood irrigation system on the 55 acres of prunes will be replaced with a low pressure double line drip system.	\$99,286.00	Tehama	No
Eleanor S. Garabedian	This project proposes to implement water management practices on 75 acres. Additional control valves will be installed to allow for soil specific irrigation. Soil moisture sensors will be installed to monitor irrigation efficiency with telemetry. Pumps efficiency will be monitored by adding a flow meter to the well discharge and pressure sensors before and after the filters. A solar energy system will be installed to provide a renewable energy source for the project.	\$98,000.00	Fresno	Yes
Elkhorn Berry Farms	This project will utilize field equipment and technology to improve water and energy use efficiency at a caneberry farm on the CA central coast. Project components include: 1) Fertigation precision enhancement through the use of a modular FertiKit 3G nutrigration system; 2) Irrigation precision improvement by using flowmeters, soil moisture sensors and telemetry to facilitate implementation of weather based and soil moisture based irrigation scheduling using CropManage; 3) Installation of a variable frequency drive (VFD) at our well pump to improve energy use efficiency.	\$62,832.00	Santa Cruz	No
Emerald Seed Company	Emerald Seed Company is an onion and broccoli breeding facility that is seeking future success in farming. These varieties are created to offer the opportunity to grow onions in pink root diseased soils.  This project would be another way for Emerald Seed to elaborate on our determination to enhance farming practices. Installing a 40hp VFD Booster pump along with a 150,000 gallon reservoir in place of a 100hp diesel pump would save both GHG Emissions and water. The IID requires orders 24 hours in advance and in 12 or 24 hour increments. Emerald Seed uses about 6-8 hours of any one 12 hour irrigation order. This install will allow us to utilize the 4 hours of water not used. Soil probes will also be implemented to evaluate soil moisture and ready access of water will allow us to feed the plants as they are need with limited wastes of water and GHG emissions.	\$99,249.00	Imperial	No

Applicant Organization	Project Description	Funds Requested	County	*Expected to Provide Benefit to a DAC
Eric Wuhl	<p>Installation of a solar system, which help reduce about 83% of our energy requirements for Irrigation. Also, Soil moisture sensors will be installed in order to manage in a better way our soil moisture content, thus increasing our irrigation efficiency. A flow meter will also be installed, which will help us account for the amount of water that we use in every irrigation. The combination of these three installations will help us become more sustainable and help reduce water usage and improve our water use efficiency.</p>	\$99,990.00	Fresno	No
FDS Farms	<p>This project includes a 318 acre property that we would like to include irrigation management practices on. We have existing soil moisture and weather stations and we also want to monitor our pump efficiency by adding a flow meter 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, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.</p>	\$100,000.00	Butte	No
Fisher Creek Land & Cattle Co	<p>Converting surface irrigation to trickle (drip) irrigation in a walnut orchard. Hortau Stations will help determine when and how long to irrigate using soil tension probes, weather data, and ET. The water saving is above 22%. All tension, weather and flow meter info will be transmitted in real time. With these tools Fisher Creek will be able to cut back on green house gases and save water.</p>	\$95,692.00	Santa Clara	No
Freshway Farms, LLC	<p>This project will consist of replacing inefficient aluminum pipe impact sprinklers with more efficient mini-revolver micro-sprinklers on a 145.12 acre Santa Barbara County strawberry crop and on subsequent strawberry crops grown by the applicant. We tested this system this year on a smaller plot and are very pleased with the results. The mini-revolver micro sprinklers will be used most heavily for the initial 26 week period of crop establishment and growth, and also will be used periodically throughout the growing season as necessary to supplement drip irrigation for purposes of modifying humidity and temperature in order to address pest pressure and to control salts.</p> <p>As described in detail in the Questionnaire and the attached documents, this project will save a significant amount of water due to increased irrigation efficiencies, and as a result of less pumping of the electric well used to pump the groundwater used for irrigation, will also reduce GHG emissions significantly.</p>	\$99,481.00	Santa Barbara	No
Friesen Farms	<p>This project dramatically reduces Friesen Farms' water consumption by converting from flood to drip irrigation on the Farms' 35 acres of organic almonds. The farm also plans to install moisture sensors and flow meters, thus reducing its water consumption by more than 21%. The installation of moisture sensors will improve the farm's water scheduling and overall irrigation operations. The advantage of these sensors is that they provide vital information as to how water is moving through the soil, depth of wetting, root development, and control over irrigation scheduling. Flow meters will also be installed throughout the project to assure that the proper amount of water is applied and can be monitored &amp; measured. The project also includes the installation of a submersible pump and the farm's conversion from fossil fuel/utility electric to solar power. The installation of a 28.9 kW solar system will eliminate most of the Farms' GHG emissions and produce long-term cost savings.</p>	\$99,161.00	Tulare	Yes

Applicant Organization	Project Description	Funds Requested	County	*Expected to Provide Benefit to a DAC
Gallo Vineyards, Inc.	<p>This project aims to reduce water use through implementation of improved irrigation recommendations for winegrapes. Project design utilizes a three-pronged approach to achieve this goal.</p> <ol style="list-style-type: none"> <li>1. Use soil moisture sensors to more accurately quantify soil moisture reserves to initiate irrigation in the spring, and to avoid irrigating past our effective rooting depth.</li> <li>2. Use of real-time site specific ET-monitoring technology to accurately maintain a deficit-irrigation program.</li> <li>3. Leverage pump automation technology to be able to respond to changes more quickly and avoid overwatering more effectively.</li> </ol> <p>This approach will allow us to make much more accurate decisions regarding irrigation amounts and frequency to maximize operational water use efficiency. This pilot project will trial these systems and technologies on a 270 acre ranch; successful implementation could mean expansion to all 23,440 acres of our farming operations, both in the San Joaquin Valley and in coastal regions.</p>	\$9,506.00	San Joaquin	No
Gary & Debra Coleman	Convert Flood to drip. Install moisture sensors to efficiently schedule irrigations.	\$52,930.00	Fresno	Yes
George C. Helmuth & Pamela D. Helmuth	<p>This project converts 69 acres of grapevines from flood-irrigation to double line drip irrigation. The property's extremely sandy soil seriously inhibits water conservation. The installation of drip irrigation combined with the real-time soil moisture sensors will improve water conservation by providing accurate site specific evapotranspiration data to help schedule irrigation events more accurately and efficiently. This will result in a reduction of applied water. In addition, we will retrofit the pump with a VFD in order to increase the overall energy savings and pump efficiency. These irrigation improvements will translate into reduced irrigation pumping thus decreasing water and energy consumption and respective GHG emissions.</p>	\$99,791.00	Fresno	Yes
George Chiala Farms	<p>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 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 ETo/ETc. Crop water use observed on the soil moisture sensors will be balanced with calculated ETo/ETc values to prevent unnecessary irrigation events.</p> <p>Existing flow meter will have telemetry unit added to automatically measure reduction in water use and save greenhouse gas (GHG) emissions through reduced pumping/irrigation use.</p>	\$13,088.00	San Benito	No
George Porter	Observant system incorporating: weather station, soil moisture sensors, filter station pressures, filter station control to improve irrigation efficiency on 80 acres of almonds.	\$29,161.00	Fresno	Yes

Applicant Organization	Project Description	Funds Requested	County	*Expected to Provide Benefit to a DAC
Georgetown Properties, LLC	<p>We will be replacing a 40 HP diesel booster pump with a 30 HP electric pump with a VFD to reduce greenhouse gases. In addition, we will be installing real-time remote soil monitoring sensors, weather station with evapotranspiration (ET), plant health sensing and pressure sensing in a 200-acre grapevine field which will help optimize &amp; reduce water usage for irrigation and reduce GHG emissions through reduced pumping. The IWM-3 sensor network installed will be used to determine the appropriate duration and interval between irrigation events, depth of wetting, extraction by roots and variations of wetting by block given the very hilly terrain. We will also install pressure sensors to better manage flows and alert or stop watering for drip line failures within blocks which are hilly. These cost effective technologies will help us reduce GHG emissions and save 15% water consumption.</p>	\$84,319.00	El Dorado	No
Gibbs Vineyard 2 LLC	<p>The purpose of this project is to install a 7.3kW DC solar PV system to power three existing submersible pumps. This will reduce the amount of GHG emissions associated with the energy required for pumping. In addition, weather &amp; soil moisture sensors, Tule evapotranspiration (ET) sensors and volumetric management with the existing and proposed digital flow meters and well level sensors will also be implemented on the 45.79 acres of wine grapes served by this pump to increase water savings. This project site is located in the Adelaida region, which is not critically over-drafted as of January 2016.</p>	\$100,000.00	San Luis Obispo	No
Green Farms	<p>The main aim of the project is to dig a reservoir with a capacity to store 55 Acre-Ft and install liners to prevent percolation. There is a creek that flows through the property which originates in the Sierra Nevada mountain ranges which are located to the East of the orchard. This creek has abundant supply of water during winter months due to rainfall events that usually last for about 3 to 4 months. The idea is to save the water from the creek that flows through the orchard and use it during summer months. We have been practicing this for the past 2 years and this is our 3rd year in farming this orchard. The current acreage consists of 160 acres of planted pistachios in their 36th year. The yearly water demand is 450 Acre-Ft. During summer, pumps become inefficient and hence this stored water could be used to compensate half month's water need for the entire orchard.</p>	\$99,718.00	Merced	No
Grohl Family Limited Partnership	<p>Project consists of integrating and refining current irrigation practices to ensure effective and efficient use of water on 195 acres of irrigated almonds. The addition of a weather station, flow meter, pump/valve control and real time soil moisture will provide factual data on applied water and add an Evapotranspiration element to project crop water use with precise timing with pump/valve control.</p>	\$46,751.00	Stanislaus	No
Grow Smart Farms, Inc	<p>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.</p>	\$100,000.00	Kings & Fresno	Yes

Applicant Organization	Project Description	Funds Requested	County	*Expected to Provide Benefit to a DAC
Gurdial and Jasbir Purewal Farms	<p>Purewal Farms is installing new sustainable technology that will improve their water and energy efficiency, and reduce their carbon footprint.</p> <p>In 2005 Jasbir Purewal installed a fan jet irrigation system to improve water efficiency in the first phase of sustainable agriculture upgrades on her 38.9-acre plum orchard.</p> <p>This year she is installing a weather station with three moisture sensors to maximize water efficiency, and a solar array that will power the pumping and irrigation systems, as outlined in this grant request.</p> <p>The project's goal is to utilize our water and energy resources in the most efficient way possible to promote the economic and environmental sustainability in all of our agricultural practices.</p>	\$100,000.00	Fresno	Yes
Gurnam Pamma	I want to replace my flood irrigation with a new micro-irrigation system. I also want to install a new VFD, moisture probes, and flow meter.	\$48,246.00	Butte	No
Harry A. Berberian & Sons	<p>The project dramatically reduces the water consumed on 60 acres of almonds by replacing the existing flood irrigation system with drip irrigation. To enhance the farm's long-term water savings, the project will install moisture sensors and flow meters resulting in 30% annual water savings. The installation of moisture sensors will improve the farm's water scheduling and overall irrigation operations. Flow meters will be installed throughout the project to assure that the proper amount of water is applied and can be monitored and measured throughout the season. Installation of a VFD and a submersible pump are also planned for this project as part of the owners' energy conserving strategies. Last year Berberian converted its fossil fuel-powered pumps to solar power. The solar power was grid-integrated effective August 15, 2016. The result of all of these improvements will be a serious reduction of operating expenses and GHG emissions.</p>	\$99,870.00	Fresno	Yes
Hass Heights Growers, Inc.	Retrofit the irrigation system and water management on 23 acres of avocados to save water and save energy. 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.	\$100,000.00	San Diego	No
Henry John Foppiano & Lynette Foppiano	This project will be installing Hortau's smart irrigation system, which includes real time tensiometers, weather data including; rain,wind speed/direction,ET, and flow meter data to scientifically determine exact crop needs. This will help reduce green house gases, water usage and nitrogen leaching by knowing the exact amount to apply.	\$100,000.00	San Joaquin	No

Applicant Organization	Project Description	Funds Requested	County	*Expected to Provide Benefit to a DAC
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 ETo/ETc values. ETo 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	\$6,133.00	Kern	No
HMP Orchards, LLC	HMP Orchards Water Use Efficiency Project of installing a Rain Bird ClimateMinder Monitor and Control System will allow management to monitor soil moisture, fertigation, remote equipment management, while optimizing growth of crops. The installation of this equipment will allow for remote monitoring of real time ET station on site and telemetry irrigation data for improved water use efficiency and reduction of greenhouse gas emissions. The GHG emission reduction will occur because the number of 60 mile round trips in the diesel pick up will be reduced to half as a result of the telemetry data.	\$95,534.00	Kern	Yes
Howard, Gordon & Sandi, LLC	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.	\$100,000.00	Riverside	No
Hudson Greer	This project includes a 237 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 also propose to tie 2 pumps together to shorten irrigation time, and add a VFD to the main pump to irrigate more effectively. 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.	\$100,000.00	Solano	No
J & M Thomas Ranch, Inc	Install a microsprinkler system in 43 acres of existing Walnut Orchard to replace the current practice of Flood Irrigating this Orchard.	\$71,428.00	Tulare	Yes
J&M Farming	The proposed project is located on 140.8 acres in Fresno County and farms both almonds and walnuts. The project will convert flood irrigation to drip irrigation, install a variable frequency drive and soil moisture sensors. The project will dramatically reduce water use on a family farm and implement the latest sensor technology in order to improve irrigation scheduling.	\$99,022.00	Fresno	Yes

Applicant Organization	Project Description	Funds Requested	County	*Expected to Provide Benefit to a DAC
Jack John Investments	The purpose of this project is to install a 10.1kW DC solar PV system to power the existing 15hp electric 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 48 acres of wine grapes served by this pump to increase water savings. This project site is located in the Adelaida region, which is not critically over-drafted as of January 2016.	\$100,000.00	San Luis Obispo	No
Jagtar Bagha dba California Farms	Greenhouse gas (GHG) emission reduction and irrigation water management (IWM) reductions with adding solar array and soil moisture sensors to farms walnuts orchards at two locations. This will allow for maximizing our IWM scheduling with the new sensors, CIMIS, Eto and remote access.	\$36,452.00	Butte	No
James Elizagoyen Trust (c/o Charles D Doglione, CPA)	Installing real-time remote soil moisture, and flow meter monitoring equipment to help irrigate more efficiently. The sensors installed will read soil moisture every 4" down to 48" (120cm). The sensors will also provide soil temperature readings. 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. One of the systems will be equipped with weather sensors will be 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 meters will have telemetry unit added to automatically measure reduction in water use and save greenhouse gasses(GHG) emissions through reduced pumping/irrigation use.	\$11,180.00	Fresno	No
JDP and MRP Maciel, LLC	Improve water efficiency and reduce GHG emissions on our farm in Bonsall California. The first part of our plan is to the install a pressure compensating in-line drip irrigation system on our citrus and avocados from their current and less efficient micro sprinkler system. The second part of our project will include the installation of an Irromesh irrometer moisture sensor system in order to monitor and improve our current irrigation practices. The third part of our project we will be replacing an older and less efficient booster pump with a new more efficient booster pump on our water holding tanks.	\$61,172.00	San Diego	No
Jeetinder Sohal	This project includes a 88 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 ETO Station, VFDs and a solar array, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	\$100,000.00	Sutter	No



Applicant Organization	Project Description	Funds Requested	County	*Expected to Provide Benefit to a DAC
Jeff Warkentin (Individual-Lease)	We are going to install a new low pressure double line drip irrigation system with a variable frequency drive pump and real time remote field monitoring equipment to help us irrigate more efficiently while saving green house gases. The 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. The remote field monitoring units will also include weather sensors to help irrigate based on ET and prevent unnecessary irrigation events. These soil moisture sensors will allow me to irrigate more precise and according to ET. I am also going to install a remote field monitoring weather station that monitors 5 variables; air temperature, humidity, rain and wind speed, and wind direction from which ET is calculated specific to my site. Together,soil moisture monitoring sensors,weather station,pump controlers and irrigation system will allow me to dramatically save water and green house gases.	\$100,000.00	Fresno	Yes
Jeniffer Vang	40 acres of mixed vegetables converting from flood to drip irrigation and reducing energy use by repairing or replacing pump and adding a variable frequency drive.	\$87,649.00	Fresno	No
Jesse Smith	This project includes a 160 acre property that we would like to include irrigation management practices on. We are seeking 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 a solar array to power our pumps, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	\$100,000.00	Shasta	No
JJ Farms	Installing dual line drip and filter station to save on green house gases and water use. Installing flow meters to track irrigation output and pumping efficiency. Installing remote field monitoring equipment including weather stations, soil moisture probes and flow meter monitors. The weather station will allow ET based irrigation scheduling while double checking it with the soil moisture probes in the field.	\$60,147.00	Tulare	Yes
Jodi Helmuth	This project converts 58 acres of upcoming Almonds from flood-irrigation to double line drip irrigation. The property's extremely sandy soil seriously inhibits water conservation. The installation of drip irrigation combined with the real-time soil moisture sensors will improve water conservation by providing accurate site specific evapotranspiration data to help schedule irrigation events more accurately and efficiently. This will result in a reduction of applied water. In addition, we will retrofit the pump with a VFD in order to increase the overall energy savings and pump efficiency. These irrigation improvements will translate into reduced irrigation pumping thus decreasing water and energy consumption and respective GHG emissions.	\$100,000.00	Fresno	Yes
John Peelman	Implement:dual hose drip system, soil moisture sensors, weather station, VFD booster pump on 32 acres of Almonds.	\$76,347.00	Fresno	Yes
John Vang	A diversified farming operation with 39 acres of mixed vegetables will convert from flood to drip irrigation, repair or replace an inefficient pump, and install a variable frequency drive.	\$96,670.00	Fresno	No
Jon & Lisa Koregelos	The proposed project would include the addition of one Hortau Station with 3 Tensiometer depths of 18", 24" and 36", a pressure switch and would also include a full weather station and a Pulse Output Flowmeter added to the ditch pump.	\$28,185.00	Colusa	No

Applicant Organization	Project Description	Funds Requested	County	*Expected to Provide Benefit to a DAC
Joseph F Martinez	I will be installing a real time IWM-3 irrigation optimization solution on my 104 acre almond farm. I will also save additional water in 30 acres of my ranch by installing valve automation allowing me to separate irrigation scheduling for a 15 acre zone that I must water more due to soil and terrain. In the past by watering these 15 acres more I was also over-watering a 30 acre section on the same schedule. These projects will reduce water usage for irrigation by more than 15% and reduce greenhouse gas (GHG) emissions by more than 15% through reduced pumping. My new monitoring system will talk to my already installed VFD to minimize flow and start/stop irrigation based on the IWM-3 real time data such as local ET, soil moisture sensing, plant sensing and also pressure sensing to stop watering when there is a fault.	\$46,334.00	Yolo	No
Jost Farms Inc	The proposed project includes installing a high efficiency, double line drip irrigation system on 70 acres of stone fruit that is currently flood irrigated. The inefficient pump will be replaced with a new high efficiency one with a variable frequency drive. A flow meter and in-field soil moisture monitors will be installed, and in field data will be accessible in real time. The result will be significant greenhouse gas savings and a 37% savings in applied water.	\$100,000.00	Tulare	Yes
JPF Inc.	Install drip system on 130 acres of Almonds. A soil moisture monitoring system. Weather station. Booster pump with VFD.	\$99,997.00	Fresno	Yes
JR Land CO	We propose to install Solar Panels to offset greenhouse gas and to fully automate the irrigation of 35 acres of pistachios as well as install an Automated Soil Moisture System and a water flow meter with online reading capabilities. This automated process of monitoring soil moisture will reduce the amount of water applied to crops when not needed as well as apply water when needed. This process will save water as well as save on electricity usage and greenhouse gas production.	\$68,616.00	Kings	Yes
K & G Ranches	We have a ranch with 75 acres of almonds and 155 acres of walnuts that is using 100% groundwater. We believe we will save 29% of total ranch water use and 0.11 MT CO2 equivalents / yr of GHG. We will install a micro-sprinkler irrigation system to replace flood irrigation on our 155 acre walnut field to save water and pumping energy and greenhouse gasses (GHG). On our entire 230 acre ranch we will install an irrigation monitoring & scheduling system including local weather ET station, soil moisture sensors, plant sensors, satellite NDVI imaging and pressure sensors that will closely monitor irrigation distribution efficiency and send alerts if there is a break in the line due to a fault or damage by farm equipment or animals to save wasted water.	\$99,998.00	Tulare	Yes
Kaokaihli Vang	19 acres of lemongrass converting from flood irrigation to a drip irrigation system and improving energy efficiency of the pump by repairing pump and installing a variable frequency drive.	\$82,861.00	Fresno	Yes
Karl te Velde Ranch, Inc.	The proposed project includes installing Variable Frequency Drives on four ranches, three on deep well pumps and one on a reservoir pump. One ranch will have a flow meter installed, and two ranches will have remote monitoring installed to start and stop pump and view flow meter data and integrated CIMIS evapotranspiration data in real time. The result of these improvements will be savings in water and greenhouse gas emissions.	\$98,198.00	Kings	Yes
Katie Candelario	Install solar array for electric 40 hp pump and soil moisture meter sensors to better utilize water on 17 acre walnut orchard this will improve our irrigation water management from level 1 to level 3 adding telemetry, remote access and interfacing with CIMIS for water scheduling. Reducing our greenhouse gas (GHG) emissions with the solar install.	\$18,491.00	Butte	No

Applicant Organization	Project Description	Funds Requested	County	*Expected to Provide Benefit to a DAC
Kelby Sheppard	I am wanted to convert my diesel pump to solar with VFD and install soil moisture sensors.	\$99,528.00	Butte	No
Kencarol	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	\$16,054.00	Fresno	Yes
Kenneth Duerksen	The project will reduce the annual water consumption on Surabian Ranch's 58 acres of plums by 39%. The plan is to replace an existing flood/furrow irrigation system with a micro-irrigation/drip system to conserve water and energy thereby reducing greenhouse gases. Surabian will install a VFD to control water pressure and decrease energy use and soil moisture probes to modernize irrigation practices. The project's flow meters will measure water use and monitor uniformity, and an online dashboard/Weather Station will monitor and manage system performance. Our collaborators include: Reedley Irrigation to design and install the irrigation system, and Irrigation Matters to install the Weather Station.	\$100,000.00	Tulare	Yes
Kevin Hebrew	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 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.	\$76,780.00	Glenn	No
King Thelma Trust	This project includes a 110 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 ETo Station and solar array, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	\$100,000.00	Glenn	No

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Kozi Farming LLC	<p>Kozi Farming, LLC is installing state-of-the-art, sustainable technology that will improve both water and energy efficiency, and reduce the carbon footprint on 117.5 acres of their 850-acre farm.</p> <p>This is a 2-phase project that reflects their long-term commitment to sustainable agriculture. In Phase 1, Kozi Farming will upgrade four of six irrigation pumps, and install a double-line drip irrigation system. In Phase 2 they will install a centrally located 327 KW solar photovoltaic (PV) array that will power pumping and irrigation for the entire 850-acre farm. Kozi Farming has pro-rated 49 KW to the 117.5-acre project that is the subject of this grant application. This figure is reflected on quote from the solar contractor, the budget, and the GHG calculator.</p> <p>Kozi Farming's goal is to utilize water and energy resources in the most efficient way possible to promote economic and environmental sustainability.</p>	\$100,000.00	Fresno	No
L. G. Merriam Farms LP	This project will replace surface irrigation with a drip system on 2 parcels that are irrigated with the same pump. It will also include installing a more efficient motor, variable frequency drive, flow meters and soil moisture sensors.	\$95,063.00	Madera	No
La Selva Farms	This project will improve water and energy use efficiency on a 60ac conventional strawberry farm, by installing a variable frequency drive on an existing electric well pump.	\$16,025.00	Monterey	No
La Vella Grove	The deployment of two environmentally responsible techniques and equipment to continue production of quality California avocados. The project site covers 10.29 acres of which 9.5 acres contain 1,100 producing adult trees. The first activity will reduce the amount of water required to maintain the production. The second will produce the electrical power required to pump and move the water to the trees in a manner that will reduce the present GHG levels. The first phase, the acquisition and deployment of soil moisture sensors in conjunction with wireless telemeter controls and battery/solar powered flow valves. The sensors will be positioned at upper and lower areas of the root zones. Irrigating only at night. 20% water reduction. The second phase is to deploy a solar array to replace the electricity used by the well pump. Total anticipated GHG reduction >70%	\$56,000.00	Riverside	No
Lakshmi Farms	We will put in a VFD on our well pump to improve pumping efficiency. We will also install an irrigation monitoring and scheduling solution with local weather/ET, soil moisture sensing, plant sensing per IWM-3 standards. We will also put in a network of pressure sensors to alert if we have a failure with our drip line as this ranch is remote and we dont keep on field staff. Lastly we will put flow meters in for both of our pumps. We expect to save 15% on water usage and greenhouse gas emissions.	\$48,637.00	Tulare	Yes
laura cox	Convert 14 acres from flood to drip. Install soil moisture sensors and a flow meter to schedule irrigation efficiently. Install a new more efficient pump and motor.	\$60,057.00	Fresno	Yes
Lemhi Land & Cattle Co	Project will include converting a row crop planting that currently uses flood (surface irrigation) into a permanent planting with micro-sprinkler irrigation. The orchard will be using soil tensiometers to determine water availability in real time. The site will have weather data (including rain, wind speed/direction, ET), soil tension, and flow meter which will all be transmitting info/data in real time. Decision making with this data will help reduce Green House Gases and save water by limiting unnecessary pumping.	\$100,000.00	San Joaquin	No

Applicant Organization	Project Description	Funds Requested	County	*Expected to Provide Benefit to a DAC
Lenora Rebensdorf Trust	Convert flood to drip. Use soil moisture sensors for irrigation scheduling. Convert from diesel to an electric motor with a VFD.	\$76,704.00	Fresno	Yes
Leroy Huerta	This project will convert surface irrigation to drip irrigation with more efficient pumping practices. Soil moisture and flow monitoring will be installed.	\$62,844.00	Fresno	Yes
Lewis Farms LLC	Convert flood to drip. Install a soil moisture monitoring system to efficiently schedule irrigations. Install a new more efficient pump.	\$27,565.00	Fresno	Yes
Live Earth Farm	This project is to reduce the use of groundwater at Live Earth Farm by implementing a comprehensive strategy from well to final product through improvements of pumping and irrigation equipment in combination with water saving farming monitoring practices.	\$48,866.00	Santa Cruz	No
Lola Sonoma, LLC	This project will implement a drip irrigation system for 5 acres of year-round seasonal vegetable row crops, greenhouse and active field pastureland. The system will be powered by a combination of solar and wind generated energy. A closed-loop feedback subsystem will utilize soil sensors to monitor moisture content and optimize the use of water from an existing 500-foot water well. An existing weather station (KCSNOM27) that is reporting on Weather Underground will be linked to irrigation controllers to ensure efficient irrigation scheduling. The system will also utilize CIMIS sensor data from CIMIS Station 144 Petaluma East to further optimize irrigation scheduling. The proposed project site currently has WiFi access to the Internet for an existing honey bee hive online monitoring system. This project's Web and mobile monitoring interface would have access through that existing infrastructure.	\$99,060.00	Sonoma	No
Lone Tree Creek Vineyards LLC	We will be replacing two diesel pumps - 87 HP diesel well pump and another 90HP diesel well pump - with two new 125 HP electric pumps with VFDs to reduce greenhouse gases. In addition, we will be installing real-time remote soil monitoring sensors, weather stations with evapotranspiration (ET), plant health sensing, pressure sensing in a 242-acre grapevine field which will help optimise water usage for irrigation and reduce greenhouse gas (GHG) emissions through reduced pumping. The IWM-3 sensor network installed will be used to determine the appropriate duration and interval between irrigation events, depth of wetting, extraction by roots and variations of wetting by block given the hilly terrain. We will also install pressure sensors to better manage flows and alert or stop irto drip line failures for each block which are hilly. These cost effective technologies will help us reduce GHG emissions and take informed decisions about adequate irrigation timings and amounts	\$99,937.00	San Joaquin	No
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.  The new 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.	\$15,829.00	Santa Barbara	No
Ly Thao	16 acres of mixed vegetables converting from flood to drip irrigation, repairing or replacing pump, and adding variable frequency drive.	\$81,819.00	Fresno	No

Applicant Organization	Project Description	Funds Requested	County	*Expected to Provide Benefit to a DAC
M & J, LP	The project will dramatically reduce M&J, LP's water consumption by replacing the existing flood irrigation system with drip irrigation on 39 acres of stone fruit. In addition, by installing moisture sensors and flow meters, the farm will achieve a 35% annual water savings. The installation of moisture sensors will improve the farm's water scheduling and overall irrigation operations. The advantage of these sensors is that they provide vital information as to how water is moving through the soil, depth of wetting, root development, and appropriate irrigation intervals. Flow meters will be installed throughout the project to assure that the proper amount of water is applied and can be monitored and measured throughout the season. In addition, the pump will be retrofitted to improve energy efficiency. These improvements will result in serious reductions of water consumption, operating expenses and GHG emissions.	\$61,562.00	Fresno	Yes
M & K Partnership	Replace flood irrigation system on 306 acres with micro sprinkler system consisting of 24' x 22' and 27' x 24' spacing FanJet irrigation system including buried PVC piping, 3/4" poly tubing SK 55 FanJet Assembly @24" @ 1 per tree, mainline, submain, manifold piping, Bermad sub-unit control valves, isolation valves, air and vacuum reliefs, 10 tank sand media filter station, new steel inlet and stainless steel discharge, reservoir, and new booster pump and electrical. Project also includes precision irrigation automation equipment.	\$100,000.00	Tulare	Yes
M&T Chico Ranch	375 acre almond and prune orchard that will be going from electric lift pumps and boosters to natural gas and using the ranches surface water from Butte Creek. Installing irrigation water management (IWM) measurement tools a flowmeter and soil moisture meter with telemetry for remote access. Reducing Greenhouse Gas (GHG) emissions with less pumping and going from ground water to 100% surface water.	\$90,805.00	Butte	No
Marz Farms, Inc.	Upgrading irrigation system from drip tape to drippers, using sensors.	\$100,000.00	Ventura	No
Marz Farms, Inc.	Upgrading irrigation system from drip tape to drippers, using sensors.	\$46,894.00	Ventura	No
Matt Nelson	Kokopelli Ranch operates a four year old organic avocado ranch in the De Luz area of Southern California. There are substantial opportunities to improve water use efficiency and reduce carbon dioxide emissions. Irrigation water for the ranch is currently supplied by a well and a connection to district water. A 40 HP well pump and a 5 HP pump lifts district water to the ranch. A storage tank sits at the top of the ranch which is gravity irrigated other than one block boosted with a 5 HP pump. Due to the pumping requirements at this ranch solar power would be able to greatly reduce power usage/carbon emissions. The additional of a Hunter SolarSync, soil sensors and a flow meter would help save 15% of applied water under IWM Level 3 parameters. It should be noted that due to the early age of the trees, the ranch may appear under irrigated in analysis. Water/power savings will be increasingly substantial in the future as the trees continue to grow and require more water.	\$43,220.00	San Diego	No
Matt Sani	Applying to convert from sprinkler to bowsmith dual line drip and automating the system. Also looking to install an ag solution master gypsum machine to increase water holding capacity and decrease pump run time. Lastly, we will be retro fitting the pump to increase our pumping efficiency.	\$46,337.00	Fresno	Yes
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 is a VFD to reduce energy use.	\$99,754.00	Riverside	No

Applicant Organization	Project Description	Funds Requested	County	*Expected to Provide Benefit to a DAC
MC Fagundes Ranch	<p>This project aims to dramatically reduce the ranch's energy consumption by replacing a 20 year-old energy inefficient diesel pump with a new electric pump and a VFD on the ranch's 80 acres of drip-irrigated almonds. (The Ranch converted its 80 acres from flood to drip irrigation in 1999.) In addition, the project will reduce water consumption by installing a "Weather Station" in order to verify the local weather when scheduling irrigation to avoid unnecessary applications. The weather station will be capable of monitoring solar radiation, air temperature, humidity, rainfall and wind. This device will provide a precise estimate of the daily ET, allowing us to use ET-based scheduling and keep irrigation to the minimum requirement for maintaining healthy crops. The 80 acres are already drip-irrigated and flow meters are installed throughout the ranch's irrigation system. This ensures the proper amount of water is applied and can be monitored throughout the season.</p>	\$80,743.00	Kern	No
McKean Farms	<p>This project, when completed, will convert 128 acres from existing flood irrigation to drip irrigation. Thus, a significant water savings will be gained. The project also allows a more efficient use of surface water versus ground water. Elimination of a diesel engine, to be replaced by a variable frequency drive electrical motor, will reduce the amount of diesel used, and thus further reduce GHG released into the atmosphere. With the installation of in field moisture sensing equipment, the amount of water applied can be more accurately applied.</p>	\$100,000.00	Fresno	Yes
MDM Marketing	<p>The purpose of this project is to install a 6.3kW DC solar PV system to power the existing 30hp electric booster pump. This will reduce the amount of GHG emissions associated with the energy required for pumping. In addition, weather &amp; soil moisture sensors, and volumetric management with the proposed digital flow meter and well level sensor will also be implemented on the 36.81 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.</p>	\$100,000.00	San Luis Obispo	No
Mechoopda Indian Tribe	<p>Cana Orchard is a 40-acre almond orchard in Butte County, California. Project plans include the installation of a pump monitoring station with 2 soil moisture monitoring devices and a weather station which will relay data via telemetry network, a filter retrofit to a defective filter, a flow meter and pressure sensors before and after the filter allowing remote monitoring of pumping system, and the installation of a solar system to replace on-grid electricity which currently powers the irrigation of the orchard. This project plans to greatly reduces Green House Gas emissions of our current farming operation and includes water reduction in lieu of water conservation efforts.</p>	\$71,542.00	Butte	No
Meghan Warkentin (Individual-Lease)	<p>We are going to install a new low pressure double line drip irrigation system with a variable frequency drive pump and real time remote field monitoring equipment to help us irrigate more efficiently while saving green house gases. The 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. The remote field monitoring units will also include weather sensors to help irrigate based on ET and prevent unnecessary irrigation events. The software integrates ET information from the local CIMIS weather station. These soil moisture sensors will allow me to irrigate more precise and according to ET. Together, soil moisture monitoring sensors, weather station, pump controllers and irrigation system will allow me to dramatically save water and reduce green house gases.</p>	\$100,000.00	Fresno	Yes

Applicant Organization	Project Description	Funds Requested	County	*Expected to Provide Benefit to a DAC
Melanie Smith	This project includes a 80 acre property that we would like to include irrigation management practices on. We want to monitor our pump efficiency by adding a flow meter to the discharge. This would be connected to a telemetry network as well. We believe that with access to this information, along with a proposed solar array, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	\$77,756.00	Shasta	No
Michael J Forrest	<p>Youngstown Grape Distributors, Inc. is installing state-of-the-art, sustainable technology that will improve water and energy efficiency, and reduce their carbon footprint on their 48-acre Mountain View Ranch.</p> <p>Youngstown's Sustainable Agriculture Programs include: upgrading to high efficiency pumps with variable frequency drives (VFDs), converting from flood to double-line drip irrigation, installing an automated water monitoring system, and installing a solar photovoltaic (PV) array that will power pumping and irrigation on their Mountain View Ranch.</p> <p>The project's goal is to utilize water and energy resources in the most efficient way possible to promote the economic and environmental sustainability for Youngstown Grape Distributors' Mountain View Ranch, both now and in the future.</p>	\$100,000.00	Fresno	Yes
Mikaelian & Sons Inc.	Mikaelian and Sons is very committed long-term to water-conserving and energy-conserving agricultural practices. This project includes several critical resource-conserving strategies : 1) converting 19 acres of newly-planted nectarines from flood to micro-irrigation with fanjets and flow meters (previously grapevines), 2) Installing a VFD with the existing turbine pump that is less than 2 years old, 3) installing a 20 HP booster pump with its own VFD that will lift and inject surface water into the pressurized micro-sprinkler system from a water collection area (surface water transported from the canal through the existing pipeline), thereby reducing the ground water usage and 4) installing a 12.8 kW solar system to replace at least 90% of the pump's energy consumption thus significantly reducing operating expenses and GHG emissions.	\$99,326.00	Tulare	Yes
Mills ranch	Mills Ranch proposes to use Sweep funding to convert a diesel powered well to an Electric pump and install a Variable Frequency Drive(VFD). Mills Ranch will also use the funding to install Hortau's Irrigation Management Platform. The irrigation management platform will utilize tensiometer's and in-field weather data to allow the grower to access real time data and irrigate to maximum efficiency. Mills Ranch will also install a Pulse output flowmeter and use Hortau's remote flowmeter monitoring system to access and data log water use in real time.	\$80,839.00	Glenn	No
Milton W. Giesbrecht	This project proposes to implement water management practices on 80 acres of walnuts. Soil moisture sensors will be installed to monitor irrigation effectiveness with telemetry. Also a weather station will be implemented to provide site-specific evapotranspiration data. Applied Water will be monitored by adding a flow meter to the discharges. In addition in order to increase water infiltration we will need to amend the water chemistry with sulfurous acid, through a proposed Sulfur burner.	\$54,334.00	Glenn	No



Applicant Organization	Project Description	Funds Requested	County	*Expected to Provide Benefit to a DAC
Moller Farming	<p>Moeller Farms is budgeting to install an Smart irriagation management system that will improve overall efficiency on the farm. We will reduce GHG's and water usage by using a scientific approach to irrigation. We will make our irrigation/pumping decisions off real-time soil tension data, weather data, real-time flow rates. With this info we will eliminate excessive pumping and cut water usage.</p> <p>The project will include the installation of 2 VFD's.</p>	\$93,750.00	Merced	No
Moonlight Packing Corporation	<p>The proposed project involves installing a high efficiency, low pressure micro sprinkler irrigation system on 71 acres of stone fruit that is currently flood irrigated. The current diesel pump motor will be replaced with an electric motor. A flow meter and variable frequency drive will be installed, as well as in-field soil moisture monitors. The result will be significant greenhouse gas savings and a 38% savings in applied water.</p>	\$100,000.00	Fresno	Yes
Naopaovang	<p>10 acres of mixed vegetables converting from flood to drip irrigation and improving pump efficiency by repairing the pump and installing a variable frequency drive.</p>	\$77,561.00	Fresno	Yes
New Dawn Farms	<p>The proposed project is a crop conversion from row crop tomatoes to almonds. The project is located near Hanford. The proposed project will convert flood on tomatoes and install point source fan jet irrigation for new almond trees. The project will include a VFD, smart irrigation controller, moisture sensors, and weather station. The project will also help to improve green house gas emissions by installing a VFD and improving irrigation efficiency.</p>	\$98,575.00	Kings	Yes
New Leaf Cold Storage	<p>The proposed project includes installing a high efficiency, double line drip irrigation system on 80 acres of stone fruit that is currently flood irrigated. The inefficient pump will be replaced with a new high efficiency one with a variable frequency drive. A flow meter and in-field soil moisture monitors will be installed, and in field data will be accessible in real time. The result will be significant greenhouse gas savings and a 36% savings in applied water.</p>	\$100,000.00	Tulare	Yes
Nick Bertagna	<p>This project includes a 9.18 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 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 ETo Station, and a proposed solar array, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.</p>	\$91,686.00	Butte	No
Nicole Burroughs	<p>This project proposes to dramatically improve water use efficiency by installing new pipeline, scheduling and documenting irrigation based on the weekly soil moisture report from the CIMIS Data to satisfy evapotranspiration on pasture, retrofit the agricultural pump, level the land and rework the borders and strips for more water efficient delivery. The retrofitted pump will have a flow meter and a solar energy system installed to provide a renewable energy source to the project.</p>	\$61,593.00	Tehama	No

Applicant Organization	Project Description	Funds Requested	County	*Expected to Provide Benefit to a DAC
Nora Paiva Farms	This project includes a 80 acre property that we would like to include addition irrigation management practices on. We currently have 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 ETo Station, an irrigation change, and a proposed solar array, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	\$100,000.00	Glenn	No
Outside Creek Cattle Co, Inc.	Replace open ditches and leaking pipelines with new PVC flood lines. Observant system comprised of a weather station and soil moisture sensors.	\$98,430.00	Tulare	No
Paiva Farms	This project includes a 140 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 also aim to change out all motors with new, cleaner motors. 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.	\$100,000.00	Butte	No
Pantaleoni Ranch Inc	Solar and IWM improvements for a 75 acre walnut and prune orchard. The use of soil moisture sensor and flow meter in this field will reduce erosion caused by over watering. Knowing the % of water in the soil profile is important to nutrient management because excess water will leach the nutrients into deeper depths of the soil and eventually, into the water table. Preventing protects water quality and quantity. GHG saving inculded installing solar for the irrigation pump which will help significantly reduce GHG emissions.	\$35,939.00	Butte	No
Par La Vina 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 application. A silo and soil solution machine will be installed to amend with water and soil quality, allowing us to hold more water in the beneficial root zone to minimize runoff and deep percolation.	\$100,000.00	Madera	Yes
Paso de Record, LLC	The purpose of this project is to install a 7.56 kW DC solar PV system to power two (2) existing 30 HP submersible pumps. 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 well level sensor will also be implemented on the 72 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 as of January 2016.	\$100,000.00	San Luis Obispo	No

Applicant Organization	Project Description	Funds Requested	County	*Expected to Provide Benefit to a DAC
Paso Ono LLC	The purpose of this project is to install a 10.1 kW DC solar PV system to power the existing 50 HP electric 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 existing flow meter and well level sensor will also be implemented on the 61.5 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.	\$100,000.00	San Luis Obispo	No
Patane Farms Frming Group, LLC	42 acre flood irrigation walnut orchard adding new irrigation water management (IWM) system and reduce greenhouse gas (GHG) emissions with reduced pumping and diesel to electric pump, adding IWM 2 scheduling with CIMIS and Eto using Climate minder remote access telemetry program and a flow meter.	\$57,693.00	Tehama	No
Patricia A. DeShane	This project proposes to convert a flood irrigated, 74 acres, alfalfa field to a micro fan jet irrigation system for new almond trees. This project will include a VFD for the vertical turbine pump that will be used on a reservoir, and give the grower the capability to reduce pumping time. A soil moisture probe and a flow meter will be installed as part of the drip system and permit the grower become efficient in their water use by measuring flow, developing irrigation schedules and regulate pumping, with the goal in saving water and reduce GHG emissions.	\$100,000.00	Kern	Yes
Patricia Jones	This proposed project consists of installing a high efficiency double line drip irrigation system on 33 acres of stone fruit that is currently flood irrigated. The inefficient pump will be replaced with a new high efficiency one with a variable frequency drive. A flow meter and in-field soil moisture monitors will be installed, and in field data will be accessible in real time. The result will be significant greenhouse gas savings and a 46% savings in applied water.	\$71,372.00	Tulare	Yes
Pine Crest Ranch	The approximately 2 mile long historic Ramsey Ditch carries irrigation water from Susan River to Pine Crest Ranch. 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 1200 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, water currently flows through an electric booster pump. This proposed project will eliminate the use of the electric booster pump.	\$99,980.00	Lassen	No
Pressley Ranches LLC	This project proposes the implementation of remote monitoring of soil moisture, weather-based irrigation scheduling, applied water tracking, remote pump control, and salinity intrusion monitoring in delta winegrapes, outside of Rio Vista. In addition a current unlined ditch will be converted to a pipeline to conserve water enroute to the vines.	\$99,882.00	Solano	No

Applicant Organization	Project Description	Funds Requested	County	*Expected to Provide Benefit to a DAC
PureFarms	<p>PureFarms' Sustainable Agriculture Project will include the installation of state-of-the-art water and energy technology that will promote water efficiency, and reduce the orchard's carbon footprint for years to come.</p> <p>PureFarms is installing a high efficiency pump with a variable frequency drive (VFD) control module, a double drip line irrigation system, and solar photovoltaic (PV) array for clean, renewable power. These integrated systems be monitored by a flow meter, and a weather station with moisture sensors to minimize waste and optimize efficiency.</p> <p>The project's goal is to promote the economic and environmental sustainability across all agricultural practices for our orchard.</p>	\$88,476.00	Fresno	Yes
PureFarms	<p>PureFresh Ranch #2 is installing new sustainable technology that will improve their water and energy efficiency, and reduce their carbon footprint.</p> <p>PureFresh is installing a high efficiency pump with a variable frequency drive (VFD) control module, double line drip irrigation system, and solar photovoltaic array on their 37-acre orchard.</p> <p>These integrated systems be monitored by a flow meter, and a weather station with moisture sensors that will be linked directly to their irrigation control station to optimize water efficiency. The pumping and irrigation systems will be 100% powered by a photovoltaic (PV) solar array.</p> <p>The project's goal is to utilize our water and energy resources in the most efficient way possible to promote the economic and environmental sustainability in all of our agricultural practices.</p>	\$100,000.00	Fresno	No
Raisin Four Inc.	<p>This project involves converting 33 acres of mandarins (to be planted in June 2017, replacing grapevines), from flood to drip irrigation. These 33 acres are the last of the farm's 253 acres to be converted from flood to drip over the last 3 years. This project reflects our farm's long-term commitment to sustainable agricultural practices. In addition to converting to double line drip irrigation, this project's water conservation features include: sand filters, moisture sensors and flow meters. In order to increase the project's energy efficiency, a 100 HP turbine pump and a VFD will be installed to replace a 15 HP energy inefficient pump. The VFD is a crucial element as it precisely matches the water production with the amount of water required by the crops. The project's expected GHG reduction is substantial as the pump's energy efficiency after the retrofit will increase to 85%. This project includes a "Weather Station" that will optimize water usage monitoring.</p>	\$100,000.00	Fresno	Yes
Ramos Farms	<p>This project will improve water and energy use efficiency on a 26acre conventional berry farm in Corralitos, CA (Pajaro Valley, central coast) by completing the following: a) solar PV system installation to supply electricity for well pump and a building that serves as shop and storage space for the farm, b) pump retrofit (bowl unit replacement), c) variable frequency drive installation, and d) field equipment including flowmeter, soil moisture sensors, and dataloggers to facilitate water use monitoring and automated use of weather based and soil moisture based irrigation scheduling software CropManage.</p>	\$77,123.00	Santa Cruz	No

Applicant Organization	Project Description	Funds Requested	County	*Expected to Provide Benefit to a DAC
Rancho Royal Oaks, LLC.	The purpose of this project is to retrofit existing pumps with variable frequency drives (VFD) to increase pumping efficiency and decrease greenhouse gases (GHG) in California. In addition, Hortau weather stations and soil tension sensors will be implanted on the 101 acres of organic berries served by these pumps. Real-time data collected from this equipment will facilitate irrigation scheduling to increase water efficiency and sustain California's water resources. All of the pumps are located in the Pajaro Valley Basin (basin #3-02) which is critically over-drafted. Overall the project's propositions can create a more sustainable and energy efficient California to preserve our family farm for future generations.	\$90,234.00	Monterey	No
Richard Atherton	This project includes a 36 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 ETo Station, a VFD and an organic acid injector, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	\$78,162.00	Solano	No
Richland Hulling Drying	This project includes a 227 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 ETo Station, a proposed solar array, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	\$100,000.00	Sutter	No
Riverwest Farming LP	Fanjel Micro Irrigation System	\$100,000.00	Fresno	Yes
Robert and Cheryl Gulden	Install multiple irrigation water management(IWM) practices on the 62 acres of peaches, prunes and walnuts. The grant will further reduce greenhouse gases (GHG) emissions with the electric pump. The 70 year pump will be replaced with a new 30hp 3 phase 440 volt slower start variable rpm motor. 3- Soil Moisture Meters and a flow meter are part of the IWM thats being added.	\$87,528.00	Butte	No
Robert Behlendorf	The purpose of this project is to install a 9.5 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, Tule evapotranspiration (ET) sensors and volumetric management with the proposed digital flow meter and well level sensor will also be implemented on the 35 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.	\$100,000.00	San Luis Obispo	No
Robert Thill	I am wanting to change my electric pumps to run on solar with the use of a flowmeter and soil moisture sensor system.	\$99,958.00	Butte	No
Robert Thill II	I am wanting to become more efficient in my operation by switching my electric motors to run off solar and installing moisture sensors and a flow meter to control the amount of water I'm putting on my orchard.	\$36,331.00	Butte	No

Applicant Organization	Project Description	Funds Requested	County	*Expected to Provide Benefit to a DAC
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.	\$150,283.00	San Luis Obispo	No
Rosser Ranches	Introducing soil moisture monitoring technology to reduce irrigation cycles and water applications. Installation of a new irrigation pump to improve irrigation efficiency by 50% on flood irrigated land. Installation of flow meter and solar system to monitor applied water and power irrigation pump in efforts to reduce GHG emissions. This project will be implemented on 22 acres of land used primarily as pasture for livestock production. The upgrades as proposed will significantly improve irrigation pumping efficiency which will result in reduced water applications, and also reduce GHG emissions starting immediately in the 2017 season, and serve as a long-term optimization solution.	\$93,145.00	Yuba	No
Royal Oaks Farms, LLC.	The purpose of this project is to retrofit existing pumps with variable frequency drives (VFD) to increase pumping efficiency and decrease greenhouse gases (GHG) in California. In addition, electronic weather stations and soil tension sensors with electronic data will be implanted on the 209 acres of strawberries served by these pumps. Real-time data collected from this equipment will facilitate irrigation scheduling to increase water efficiency and sustain California's water resources. All of the pumps in this project are located in the Pajaro Valley Basin (basin #3-02) which is critically over-drafted. Overall the project's propositions can create a more sustainable and energy efficient California to preserve our family farm for future generations.	\$96,565.00	Monterey	No
Ruben Esparza	This project includes a 63.05 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 discharges, and pressure sensors before and after the filters. This would be connected to a telemetry network as well. We also intend to install new tier 4 John Deere motors at each location. 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.	\$100,000.00	Glenn	No
Ryan Jackson 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. A gypsum machine and silo will be added to amend the water and improve soil structure, which will reduce non-beneficial water uses such as runoff or excessive depth of water.	\$100,000.00	Kings & Fresno	Yes

Applicant Organization	Project Description	Funds Requested	County	*Expected to Provide Benefit to a DAC
Salinas Land Company	<p>On 328 acres of winegrapes, implement a real-time advanced irrigation management system using soil moisture sensors, ET and weather sensors, dendrometers, and flow and pressure indicators. Acclima TDR315L sensors will be used to 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. Dendrometers will measure plant stress. All data will be delivered realtime to the manager via a wireless telemetry system. Ground water and GHG will be saved by more efficient irrigation decisions.</p>	\$71,898.00	Monterey	No
Samra Orchards LLC	<p>This project includes a 72.9 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 CIMIS, a new pump and a flood to micro conversion, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.</p>	\$100,000.00	Sutter	No
Santa Rosa Berry Farms	<p>The project under consideration is to convert 32 Acres of soil grown strawberries to table top, drip emitter irrigated substrate production. Currently we use a two phase irrigation process. From the initial planting until the roots establish we rely on a diesel booster pump to supply the pressure needed to run our over head irrigation sprinklers. From establishment on we use buried drip tape in the beds. This project will include obtaining a VFD to run the drip emitters reducing our usage of the diesel booster pump by 33% of its current run time. The same reduction will apply to our main electric pump as well. We will also be adding flow-meters and moisture sensors and a irrigation management software to manage the watering of the crop more efficiently reducing our over all water usage. We are implementing significant changes outside the scope of this grant, we are asking for partial funding to cover one of our largest costs.</p>	\$100,000.00	Ventura	No
Seth and Michelle Rossow Farms	<p>Rossow Farms would like to install an automation system for a 94 acre field with an existing sub-surface drip irrigation system. Along with the automation, we would like to implement a soil moisture monitoring system. Both of these systems will help us better manage when to irrigate and the length of time to irrigate. Currently the irrigation drip system comes with a manual on and off set up. Implementing an automation system will allow us to switch the water on and off in shorter intervals. Pulsing the water will pull the water to surface more quickly where the feeder roots are. This allows for less water to go to deeper levels where it is not necessarily needed. The drip system is currently powered with a diesel pump. We would like to convert this pump to electric.</p>	\$100,000.00	Merced	No
Shaeffer Ranch	<p>Install solar for two electric pumps on 102 acres of almonds this will help with reduction in green house gas(GHG) emissions and improve irrigation water management thru installing soil moisture sensors with telemetry resulting in more efficient water scheduling.</p>	\$50,000.00	Sutter	No

Applicant Organization	Project Description	Funds Requested	County	*Expected to Provide Benefit to a DAC
Shafter Cherry Orchards LP	Shafter Cherry will be reducing GHG emissions and water usage by only irrigating to crop needs by using Hortau's smart irrigation platform. Real time telemetry will provide real-time soil tension, ET, Weather data, Flow-rates.	\$100,000.00	Kern	Yes
Shafter Wasco Investment Co., Inc.	The 465 acres are located in Shafter, CA. This project consists of implementing Hortau's irrigation management system complete with a weather station, 2 VFD's and a flowmeter- all working to save water and green house gas emissions.	\$99,748.00	Kern	Yes
Shafter-Wasco Ginning Co.	This project consists of 953 acres in Kern County that farms almonds and wine grapes. We are proposing advanced irrigation management systems along with 2 flowmeters to save water and energy at Shafter Wasco Ginning Co.	\$99,694.00	Kern	Yes
Silverwood Ranch	We are going to install a new low pressure double line drip irrigation system with a variable frequency drive pump and real time remote field monitoring equipment to help us irrigate more efficiently while saving green house gases. The 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. The remote field monitoring units will also include weather sensors to help irrigate based on ET and prevent unnecessary irrigation events. The software integrates ET information from the local CIMIS weather station. These soil moisture sensors will allow me to irrigate more precise and according to ET. Together, soil moisture monitoring sensors, weather station, pump controlers and irrigation system will allow me to dramatically save water and green house gases.	\$100,000.00	Fresno	Yes
Sloughside Farms LLC	Upgrade soil moisture monitoring system and add remote control and monitoring to my electric well and propane powered surface water irrigation systems so that I can more efficiently irrigate our almond orchard, thereby using only the needed amounts of water and significantly reducing the number of vehicle miles needed to operate and monitor the system.	\$39,128.00	Yolo	No
Smith Farms Inc	This project includes a 210 acre property that we would like to include irrigation management practices on. We want to increase 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 we could also drastically reduce our GHG emissions by adding a solar system, and with this, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	\$100,000.00	Shasta	No
Sohan and Mandeep Samran Family Trust	We will be fixing two well pumps with extremely low pump efficiency and installing a VFD for one of our booster pumps. We will also be installing a real time IWM-3 irrigation monitoring solution including irrigation scheduling software which will help reduce water usage for irrigation and reduce greenhouse gas (GHG) emissions through reduced pumping. We estimate we can save 15% on water usage and 0.17 M Tonnes of CO2 equivalent per acre per year. The Weather/ET, soil moisture, plant health & pressure sensors installed will be used to determine the appropriate interval between and duration of irrigation events taking into account the wide range of soils on this ranch. The sensor network will also alert me to irrigation faults or broken drip lines reducing wasted water. We will also install three flow meters with PC interface to monitor the water used. These cost-effective technologies will help me take better decisions about how to reduce irrigation while keeping yields.	\$99,991.00	Madera	No



Applicant Organization	Project Description	Funds Requested	County	*Expected to Provide Benefit to a DAC
Souza Family Farms Inc.	The proposed project includes installing a high efficiency micro sprinkler system on 70 acres of Walnuts that are currently flood irrigated. A Natural gas pump will be abandoned for an electric pump that will be upgraded with a VFD. Energy will be off set by the proposed solar system, and the result will be savings in water and a reduction in greenhouse gas emissions.	\$99,981.00	Fresno	Yes
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.	\$77,861.00	Colusa	No
Spring Creek Vineyards LLC	The purpose of this project is to install a 10.1 kW DC solar PV system to power the existing 10 HP electric 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 24.55 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.	\$100,000.00	San Luis Obispo	No
Sran Farms	This project is trying to improve the existing irrigation systems on 230 acre almond operation by changing from a inefficient irrigation water and chemical injection plans, to using efficient Irrigation Scheduling and Certified Organic Acid Injecting. With the install of real-time Soil Moisture Sensors it will allow more precise irrigation with a observant software that determines when to irrigate by the appropriate interval between irrigation, depth of wetting and depth of extraction by the roots. Installing Weather Sensors will allow irrigation to be based on Evapotranspiration, preventing unnecessary irrigation. Installing real-time Flow Meters will monitor irrigation pressure for quick identification of leaks or any other system problems. Installing Certified Organic Acid Injection System will improve the water quality, infiltration and allow for a more efficient acid injecting. These equipments can make our irrigation very efficient, that can save water and reduce green house gas.	\$69,058.00	Fresno	Yes
Sukhraj Pamma	I am wanted to switch my flood irrigation to micro-irrigation with the use of soil moisture sensors and a flow meter.	\$99,886.00	Sutter	No
Sun Valley Packing L.P.	The proposed project includes installing a high efficiency, double line drip irrigation system on 53 acres of lemons on a ranch that is currently flood irrigated. The inefficient pump will be replaced with a new high efficiency one with a variable frequency drive. A flow meter and in-field soil moisture monitors will be installed, and in field data will be accessible in real time. The result will be significant greenhouse gas savings and a 54% savings in applied water.	\$100,000.00	Tulare	Yes
Sun World International	Sun World International (SWI) is a table grape grower in the in the San Joaquin Valley and Coachella regions. Our project aims to address water efficiency and GHG emissions from our ranch operations on our 300-acre table grape vineyard. Project includes use of soil moisture sensors with electronic data output, use of ET based irrigation scheduling, use of variable frequency drive, and conversion of electric grid pumps to solar powered pumps.	\$100,000.00	Tulare	No
Surinder Pamma	I would like to switch from flood irrigation to micro-irrigation with the use of a flow meter and moisture probes.	\$52,907.00	Butte	No

Applicant Organization	Project Description	Funds Requested	County	*Expected to Provide Benefit to a DAC
T & R Ranch	We are upgrading the energy and water efficiency of a 320 acre ranch that has walnut trees on it. We are using 2 diesel generator powered pumps and flood irrigation now but will be installing electric power lines to the ranch. To improve pumping efficiency we will install 1 VFD. We will install irrigation monitoring and scheduling solution including soil sensors, ET/weather station, plant and pressure sensors that will be connected through the cloud to scheduling software & flow meters. This project will reduce greenhouse gasses by 1.2 MT CO2 eq /yr and reduce sub-surface water use by 35% because this ranch uses 100% sub surface water. We will also install a network of pressure sensors to closely monitor irrigation distribution efficiency and send alerts if there is a break in the line due to a fault or damage by farm equipment or animals.	\$100,000.00	Tulare	Yes
T. Ray Farms Inc	This project proposes will improve the irrigation efficiency and management of 175 acres of almonds spanning two ranches. A VFD (pump control) will be added to an existing well to match the pumping requirements of each irrigation. Four soil tension field monitoring stations will be installed in the most representative area of the project based off of soil type. On-site Evapotranspiration (ET) for each ranch will be calculated with two weather stations installed in the proposed locations.	\$63,280.00	Solano	No
TAYLORCHARDS LLC	The project will be a complete replacement of current dilapidated supply side pipes. Project will install new 6" HDPE water line in place of existing 6" corroded metal pipe, avoiding constant breaks and excess water loss. Project will upgrade existing 4" system to new 6" HDPE pipe to improve system integrity. Both irrigation supply lines will be replaced mostly above ground. 2 solar powered solenoid valves will communicate telemetrically through the XiO-SCADA system to monitor and notify of system irregularities/failure. Seametrics flow meters will be installed to monitor water usage. Project will upgrade existing irrigation booster pump and implement remote VFD technology. Additional air release and check valves will be installed. Soil moisture sensors will be installed to determine accurate root saturation depth and telemetric information from these locations will be used to irrigate accordingly.	\$100,000.00	Ventura	No
Thelma King	This project includes a 130 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 ETo Station, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	\$100,000.00	Glenn	No
Tony Mendonca & Sons	Replace the existing 50-60 year old, severely leaking, 16" concrete pipeline with a new 18" PVC Pipeline to prevent having to pull a ditch to irrigate the 103 Acres of Winter Wheat and Summer Corn. This will include installing VFD's on both Wells and also the Ditch Pump as well as installing flow meters.	\$100,000.00	Tulare	Yes

Applicant Organization	Project Description	Funds Requested	County	*Expected to Provide Benefit to a DAC
Triath Johal	We intend to install new soil moisture stations out in the field for this project. They will be connected to a telemetry network that will be tied into the information from the pump, which will include flow and pressure. With these new systems we can monitor our irrigation practices effectively. We also intend to use CIMIS help us to monitor, and manage our proposed ET station to irrigate more effectively. Along with monitoring the water flow with the new flow meter, we can successfully monitor our irrigation practices and optimizing our water efficiency.	\$100,000.00	Yuba	No
Triple C Farms	This is a 2-phase project that reflects our farm's long-term commitment to sustainable agricultural practices. Phase 1 has been completed: over a 3 year time period (2011-2014), Triple C Farming converted 160 acres of tree nuts and citrus orchards from flood to drip irrigation. The installed drip irrigation system reduced its water usage by 30%. The costs for all aspects of Phase 1 are shown as matching funds. Upon the completion of Phase 1, we initiated Phase 2 which is the focus of this grant request: installing a 45 kW solar system to power the 2 ag pumps serving this project's 120 acres. The solar installation will replace 100% of the farm's annual electrical consumption. This solar project will power the Farms' existing 50 HP electric vertical shaft turbine pump and a 30 HP electric booster pump that irrigate the Farms' walnut and mandarin orchards. In addition, a Rainbird(r) "Weather Gateway" will be installed to optimize the farm's ability to gather data and scheduling watering.	\$91,152.00	Tulare	Yes
Troy Giesbrecht	This project proposes to install a flowmeter and irrigation monitoring stations including soil capacitance probes and a weather station on 8 acres of Walnuts in Glenn County in order to reduce Greenhouse gas emissions and Irrigation water use.	\$23,863.00	Glenn	No
Tucker Drip Systems	The proposed project will install drip irrigation and soil moisture sensors for 150 acres of row crops in south Sutter County. 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) Greatly improve pumping efficiency 4) Reduce irrigation system pressure requirements 5) the introduction of soil moisture sensors and weather station/CIMIS ET data for irrigation scheduling.	\$91,291.00	Sutter	No
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 allow 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. Also, we will install a solar system that will allow us to reduce our Green House Emissions created by our water pumping needs.	\$98,809.00	Tulare	Yes

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Van der Lee vineyard	<p>The proposed project aims to conserve vineyard irrigation water in Temecula wine country and reduce green house gas emissions related to electricity required for pumping irrigation water by the water district.</p> <p>The Temecula wine area has an estimated 1300 planted and irrigated acres of vineyard. In order to stay within the \$100k SWEEP grant budget limit, this project can monitor and optimize 440 harvested acres, or one third of the Temecula wine country vineyards harvested acreage.</p> <p>Using Vinduino wireless soil sensor technology, rated Level 3, as 15% reduction of irrigation water can be achieved. For 440 acres, this translates to a saving of 76,670 HCF, or \$137,340,- With a budget of \$98,280 for sensors, sensor stations, gateways and software licenses, the first year net return is \$38,960. Total net saving on irrigation water cost over 3 years is \$269,879</p> <p>The estimated CO2 emission saving for this project is 150,075 lbs.</p>	\$98,280.00	Riverside	No
Vann Brothers	<p>Vann Brothers is proposing to use Sweep Grant funding to install Hortau moisture monitoring stations as well a 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. In addition we will install flow-meters and a remote flow-meter monitoring system to record real time water usage.</p>	\$97,998.00	Colusa	No
Villa Pacifica Ranch	<p>This project will implement a more advanced irrigation management system on 47 acres of citrus &amp; avocados consisting of 2 solar panels systems, soil moisture sensors, digital flow meters, and a real-time weather base station providing accurate evapo-transpiration and vapor pressure deficit readings. Estimated energy off-sets of 84% with the installation of solar panels will significantly reduce GHG emission as well as reduce groundwater usage. Acclima TDR sensors will be used to measure available soil water bank to delay first irrigation of growing season, determine frequency and duration of irrigation events, depth of wetting and root zone water extraction.</p>	\$97,618.00	San Luis Obispo	No
Villa San Juliette	<p>The purpose of this project is to install a 6.6 kW DC solar PV system to power the existing 100 HP electric vertical shaft turbine pump. This will reduce the amount of GHG emissions associated with the energy required for pumping. In addition, weather &amp; soil moisture sensors, Tule evapotranspiration (ET) sensors and volumetric management with the existing digital flow meter and well level sensor will also be implemented on the 129 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 as of January 2016.</p>	\$100,000.00	San Luis Obispo	No
Violich Farms	<p>The project is the construction of an 87 kW solar system as well as the construction of an integrated farm data acquisition and automation system. The latter includes electronic remote control irrigation valves, soil moisture probes and other field and pumping plant sensors to provide data for better irrigation management. Details are contained within the application documents.</p>	\$100,000.00	Glenn	No

Applicant Organization	Project Description	Funds Requested	County	*Expected to Provide Benefit to a DAC
Wade Jackson Farms	We will be installing real time remote field monitoring system. The sensors installed will be reading soil moisture from 6" to 40". The sensors will also read 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. Soil temperature sensors will help me fertilize appropriately at the best temperatures. Not only am I going to be able to increase my water and fertilizer efficiency, but also I will be able to reduce energy usage by irrigating only when necessary. Also, a solar project will be installed, which will help to reduce GHG emissions due to energy demand from our irrigation pumps.	\$100,000.00	Tulare	No
Wallace Brothers	Wallace Brothers will convert an existing 72 acre rice field irrigated with a diesel well to 72 acres of subsurface drip irrigation tape for tomato production. Drip tape will be Netafim, 7/8", 13 mil wall with .18gph emitters at 14" spacing. Tape has a life expectancy of 7-10 years. The rice field will be re-leveled to constant grade before tape installation. A 200 amp electric service will be placed at the well. The wells low lift turbines for rice will be replaced with higher efficiency pressure turbine, the diesel motor will be replaced with a high efficiency electric motor with VFD. The field will be irrigated in 4 separately controlled irrigation blocks. Each block will have a Bermad control valve and will incorporate a 4-20mA VWC(volumetric water content) water sensor both connected to a radio based telemetry system that will allow moisture monitoring and control of the irrigation valves from a remote device.	\$100,000.00	Sutter	No
Walter Mizuno	Conversion to Solar from Electricity; to Drip Irrigation from Furrow; and installation of Telemetry controller with weather station to utilize eT water application confirmed by soil moisture monitoring.	\$100,000.00	Fresno	Yes
Wawona Packing Company	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. Several ranches that are currently furrow flood irrigated will be converted to micro irrigation to reduce the amount of water that must be applied throughout the season.	\$100,000.00	Tulare	Yes
West Lilac Farms II, LLC	Improve water efficiency and reduce GHG emissions on our farm in Bonsall California. The first part of our plan is to the install a pressure compensating in-line drip irrigation system on our citrus and avocados from their current & less efficient micro sprinkler system. The second part of our project will include the installation of an Irrromesh irrometer moisture sensor system in order to monitor and improve our current irrigation practices. The third part of our project we will be to install Variable Frequency Drives on our wells in order to use less Kilowatts.	\$96,617.00	San Diego	No
West Lilac Farms, LLC	Improve water efficiency and reduce GHG emissions on our farm in Bonsall California. The first part of our plan is to the install a pressure compensating in-line drip irrigation system on our citrus groves (26 acres) from their current and less efficient micro sprinkler system. The second part of our project will include the installation of an Irrromesh irrometer moisture sensor system in order to monitor and improve our current irrigation practices. The third part of our project we will be to install a Variable Frequency Drives on our wells in order to use less Kilowatts.	\$57,059.00	San Diego	No

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West Star North Dairy	This project proposes to replace the current flood irrigation system on an alfalfa field with a 2-set drip irrigation system. Part of this system will include a flowmeter to measure water use, a new 50 HP booster pump with a 50 HP VFD and a soil moisture probe, which will help with establishing irrigation schedules. These components will help aim the goal of decreasing the amount of water usage, increase uniformity, regulate pumping time and reduce GHG emissions.	\$100,000.00	Kern	Yes
Westerlay Orchids	<p>Westerlay Orchids produces 2.5 million potted phalaenopsis orchids in climate controlled greenhouse. The floors are permeable and excess irrigation water is absorbed into the soil.</p> <p>We propose to will install an impermeable floor and drain catches in 6.6 acres of greenhouse. 73% of irrigated water will be reclaimed and re-used translating to an 20+ acre-inches/acre reduction in use. (the SWEEP assessment tool is not equipped for our project and we show 10.4 acre-inches/acre reduction on that)</p> <p>Furthermore, installing a more efficient R/O pump and reducing total water needs leading to reduction of qualified GHG of 0.79 MTCO<sub>2e</sub> per acre.</p> <p>We also expect a 12% reduction in natural gas used for heating and de-humidifying the greenhouses estimated at 41,000 therms annually or 217 MTCO<sub>2e</sub> according an EPA calculator.</p> <p>The firm that installs these systems is Erfgoed B.V of the Netherlands  <a href="http://erfgoed.com/reference">http://erfgoed.com/reference</a>. Please visit their site to better understand our proposal.</p>	\$99,775.00	Santa Barbara	No
Westside Ranch	The proposed project is located on 2 adjacent fields near Five Points, Ca and will convert flood irrigation to drip in one filed along with sensors and automation and convert a diesel pump to electric on the other. The proposed project will reduce green house gas significantly over the lifetime of the project while reducing water consumption through the improvement in irrigation efficiency and smart technology.	\$99,298.00	Kings	No
Wm. Bolthouse Farms, Inc.	The project will replace 214 ac. 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 55 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 0.23839 metric tonnes per acre per year.	\$100,000.00	Kings	No

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WMJ Farms, Inc.	The project will dramatically reduce WMJ's water consumption by replacing the existing flood irrigation system with drip irrigation on 75 acres of stone fruit. By installing moisture sensors and flow meters, the farm will reduce its annual water consumption by more than 35%. The moisture sensors will improve the farm's water scheduling and overall irrigation operations. The advantage of these sensors is that they provide vital information as to how water is moving through the soil, depth of wetting, root development, and appropriate irrigation intervals. Flow meters will be installed throughout the project to assure that the proper amount of water is applied and can be monitored and measured throughout the season.	\$83,276.00	Tulare	Yes
Wright Family Farms	This project includes a 44.2 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 ETo Station, we could reduce our water use and decrease our GHG Emissions by irrigating more effectively.	\$72,776.00	Butte	No
Xiong Farms	18 Acres of mixed vegetables will be converted from flood/furrow irrigation to a drip irrigation system. An inefficient pump will be repaired and retrofitted, and a variable frequency drive will be added to increase energy efficiency.	\$59,360.00	Fresno	No
Yia Yang	10 Acres of mixed vegetables converting from flood to drip irrigation, repairing or replacing pump, and installing a variable frequency drive.	\$73,685.00	Fresno	No
YNT Farming	This project reduces water and energy use by replacing flood-irrigation with drip irrigation for YNT's 51 acres of almonds. The property's sandy soil seriously inhibits water conservation. Upon the project completion, YNT will realize a 39% reduction in annual water consumption. This dramatic water savings is due to the drip irrigation system's real-time soil moisture sensors, flow meters and a weather station. These improvements will contribute to water conservation by providing accurate site specific ET data to improve irrigation scheduling and reduce pumping. The installation of a VFD will reduce energy consumption. In addition, YNT Farming just completed a 29.1 Kw solar installation that will replace most of the farm's fossil fuel usage with renewable power and minimize GHG emissions.	\$100,000.00	Tulare	Yes
Youngstown Grape Distributors Inc	<p>Youngstown Grape Distributors, Inc. is installing state-of-the-art, sustainable technology that will improve water and energy efficiency, and reduce the carbon footprint of their 35-acre Lincoln Ranch.</p> <p>Youngstown's Sustainable Agriculture Programs include: upgrading to high efficiency pumps with variable frequency drives (VFDs), converting from flood to micro sprinkler irrigation, installing an automated water monitoring system, and installing a solar photovoltaic (PV) system to power pumping and irrigation for Lincoln Ranch.</p> <p>The project's goal is to utilize water and energy resources in the most efficient way possible to promote the economic and environmental sustainability for Youngstown Grape Distributors' Lincoln Ranch, both now and in the future.</p>	\$100,000.00	Fresno	Yes

Applicant Organization	Project Description	Funds Requested	County	*Expected to Provide Benefit to a DAC
Yurosek Farming Co LLC	The Yurosek Farming Co, located in Delano CA, currently farms a permanent pistachio crop on 224 acres which uses single line drip with 1 gal/hr emitters & electric pumps. Yurosek Farming is proposing the installation & implementation of an advanced irrigation management system that will enable improved water use efficiency & reduction of greenhouse gas (GHG) emissions. The new system will provide: 4 soil moisture monitors, 2 weather station/soil moisture monitor combination sets (enabling a match between real time crop water use with soil moisture), 5 flow meters, 1 variable frequency drive on a new booster pump, & an acid injection system. The acid injection will help improve water infiltration rates & reduce water run-off thus reducing environmental impact. With this advanced irrigation management system, Yurosek Farming will be able to more accurately determine the crop's water needs & improve both water & energy use efficiency resulting in water savings & reduction in GHG emissions	\$99,916.00	Kern	Yes
Zack Raven	The proposed project includes installing a high efficiency, low pressure, micro sprinkler irrigation system on 8 acres that is currently flood irrigated. The inefficient pump will be replaced with a new high efficiency one with a variable frequency drive. A flow meter and in-field soil moisture monitors will be installed. The result will be significant greenhouse gas savings and a 23% savings in applied water.	\$56,447.00	Tulare & Fresno	Yes
Zia Thea Xiong	40 acres of mixed vegetables converting from flood to drip irrigation and improving energy efficiency by replacing old pump and adding a variable frequency drive.	\$102,824.00	Fresno	Yes
Zonneveld Diaries, Inc.	Flood to micro sprinklers on 165 acres of Walnuts. Soil moisture sensors for irrigation scheduling.	\$99,850.00	Kings	Yes
Zulu Land LLC	Zulu Land, LLC intends to improve its water conservation by converting 35 acres of organic yellow peaches from flood to drip irrigation. The project's energy replacement (solar) component includes the installation of a 20.9 kW solar system. The solar system will replace at least 90% of the annual energy consumption by the peach orchard's groundwater pumps. The project's water conservation efforts will be monitored by flow meters, soil moisture sensors and communication nodes. Greenhouse gas (GHG) emissions will be significantly reduced due to improved water management tools, the installation of the drip system and the use of solar power.	\$100,000.00	Fresno	Yes