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Agriculture Operation	Project Description	Amount Awarded	Estimated Matching Funds	County
Agriculture and Land-Based Training Association	The purpose of this project is to install a 9.5kW DC solar Photovoltaic (PV) system to power the existing 75hp turbine pump. This will reduce the amount of Greenhouse Gas (GHG) emissions associated with the energy required for pumping. In addition, weather and 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.	$96,950	$21,100	Monterey
B and B Family Partnership	The project includes 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" (120 cm). 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 reference evapotranspiration (ETo)/crop evapostranspiration (ETc). Crop water use, observed on the soil moisture sensors, will be balanced by calculated ETo/ETc values to prevent unnecessary irrigation events. The existing flow meter will have a telemetry unit added to automatically measure reduction in water use and save greenhouse gas (GHG) emissions through reduced pumping/irrigation use.	$7,646	$7,646	Kern
B&R Tevelde	The Recipient will convert from flood irrigation system to micro irrigation. In addition, soil moisture and environmental monitoring equipment will be installed and relay real-time data through a cellular network. Furthermore, the recipient will complete and irrigation-training course during the project term.	$100,000	$67,144	Tulare
Bernard Nydam	The project includes changing from an inefficient submersible pump to a more efficient turbine pump with a variable frequency drive (VFD). 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 information and control will allow the irrigation system to be turned off when soil moisture depletions have been refilled. 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.	$70,694	$15,000	Fresno
BLUEBERRIES OLE'! LLC	The project will replace the current drip irrigation hose. Automated irrigation valves will be installed to the existing irrigation system. The irrigation system will feature a sand-media filter and a flowmeter. Soil moisture probes will be installed.	$53,923	$39,967	Santa Barbara
Briarwood Vineyard, LLC	The Recipient will install a 6.3 kW DC solar photovoltaic (PV) system to power three existing submersible pumps. In addition, weather and 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. Furthermore, the Recipient will complete an irrigation-training course, and implement mulching, cover cropping and compost application during the project term.	$91,109	$23,151	San Luis Obispo
Britz, Inc.	Fanjet Micro Irrigation System	$100,000	$470,251	Tulare
Buon Gusto LLC dba Buon Gusto Farms	The Recipient currently irrigates with well water that is stored in and then pumped from an open-air reservoir (pond). This storage reduces irrigation efficiency because it promotes biological plugging of the irrigation system.The Recipient will: (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 greenhouse gas (GHG) emissions while enhancing soil moisture retention.	$98,630	$44,627	Ventura
Chertai Xiong	A diversified farm with 10 acres of mixed vegetables will convert from furrow to drip irrigation. The system will include a buried PVC manifold, lay flat hose sub-mains, and drip tape. Furthermore, in order to improve energy efficiency, the Recipient will repair the existing well pump and install a flow meter and a variable frequency drive panel to the pumping station. In addition, the Recipient will install soil-moisture sensors. The Recipient will also complete an irrigation-training course during the project term.	$60,758	$3,405	Fresno
Daniel Jackson Farms	The project includes installation of real-time remote field monitoring sensors, flow meters, and a solar system, which will help irrigate more efficiently and reduce greenhouse gas (GHG) emissions. The sensors installed will be reading soil moisture from 6" to 40". The sensors will also read fertilizer applications, and soil temperature at various depths. Soil moisture sensors will be used to determine the appropriate interval between irrigation, depth of wetting, and depth of extraction by roots and adequacy of wetting. These remote field-monitoring units will include weather sensors to help irrigate based on evapotranspiration (ET), and prevent unnecessary irrigation events. Soil temperature sensors will help fertilize appropriately at the best temperatures. Flow meters will also aid to improve water use efficiency by allowing the Recipient to quantify the water used per irrigation events. The new solar system will reduce GHG emissions. This project will help improve water use efficiency while reducing GHG emissions.	$99,923	$94,612	Tulare
David Jackson Farms	The project includes installation of real-time remote field monitoring sensors, flow meters, and a solar system, which will help irrigate more efficiently and reduce greenhouse gas (GHG) emissions. The sensors installed will be reading soil moisture from 6" to 40". The sensors will also read fertilizer applications and soil temperature at various depths. Soil moisture sensors will be used to determine the appropriate interval between irrigation, depth of wetting, and depth of extraction by roots and adequacy of wetting. These remote field-monitoring units will include weather sensors to help irrigate based on evapotranspiration (ET), and prevent unnecessary irrigation events. Soil temperature sensors will help fertilize appropriately at the best temperatures. Flow meters will also aid to improve water use efficiency by allowing the Recipient to quantify the water used per irrigation events. The new solar system will reduce GHG emissions. This project will help improve water use efficiency while reducing GHG emissions.	$100,000	$113,920	Tulare

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DLP Ag Partnership, LP	The project will install a 28.8 kW DC solar photovoltaic (PV) system to power the existing 30 hp submersible pump. This will reduce the amount of greenhouse gas (GHG) emissions associated with the energy required for pumping. In addition, weather and 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.	$96,950	$67,013	San Luis Obispo
DOUG & JULIE FREITAS FARMS	This project will consist of converting from flood to drip irrigation. The new drip system will be served by a pump skid located on an adjacent property. The Existing pump skid on APN 021-010-020, 21, 22, 24, 25 (Cemetery Ranch, 84 acres) was installed as part of the SWEEP 2016 Round 2 funding. It has a VFD. A flow meter will be installed to track water consumption to the SWEEP 2017 property APN 021-010-027 (Home Ranch) & 021-010-044(Brown Ranch NE) separately from the Cemetery Ranch. Remote field monitoring sensors will be installed with a Davis weather station, to allow for Irrigation Water Management (IWM) Level 3 to be achieved. Greenhouse gas (GHG) emission reduction occurs through reduced pumping from diesel, electric and natural gas wells associated with the flood to drip conversion and IWM Level 3.	$100,000	$8,876	Kings
Duane Friesen	The Recipient will install weather and soil based sensors and a low-pressure, drip irrigation system that will improve energy efficiency and reduce pumping. In addition, the Recipient will convert to solar energy and install a flow meter to the existing pumping station. Furthermore, the Recipient will complete an irrigation-training course; implement cover cropping and mulching during the project term	$99,161	$24,873	Tulare
E. W. Merritt Farms	The Recipient will install weather and soil based sensors and a low-pressure, drip irrigation system that will improve energy efficiency and reduce pumping. The current double crop of wheat and corn will be converted to an Almond orchard. Furthermore, an irrigation-training course will be completed during the project term.	$100,000	$820,851	Tulare
Emerald Seed Company	Emerald Seed Company is an onion and broccoli breeding facility and this project would be another way to continue with enhancing farming practices. The installing of a 40 hp variable frequency drive (VFD) booster pump along with a 150,000 gallon reservoir in place of a 100 hp diesel pump would save both Greenhouse gas (GHG) emissions and water. The Imperial Irrigation District (IID) requires irrigation orders 24 hours in advance and in 12 or 24 hour increments. Emerald Seed uses about six to eight hours of any one 12 hour irrigation order. This installation will allow the agricultural operation to utilize the four hours of water not used. Three soil probes will also be implemented to help evaluate soil moisture and the ready access of water will allow the grower to feed the plants as needed with limited wastes of water and GHG emissions.	$99,249	$121,503	Imperial
Eric Wuhl	Project includes installation of a solar system, which will help reduce around 83 percent of the energy requirements for irrigation. Also, soil moisture sensors will be installed in order to better manage soil moisture content, thus increasing irrigation efficiency. A flow meter will also be installed, which will help account for the amount of water used in every irrigation. The combination of these three installations will help the Recipient's agricultural operation become more sustainable, and reduce water usage and improve water use efficiency.	$99,990	$14,748	Fresno
George Chiala Farms	The project includes 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" (40 cm). 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. The existing flow meter will have a telemetry unit added to automatically measure reduction in water use and save greenhouse gas (GHG) emissions through reduced pumping/irrigation use.	$13,088	$12,803	San Benito
Jack John Investments	The Recipient will install a 10.1kW DC solar photovoltaic (PV) system to power the existing 15 hp electric submersible pump. In addition, weather and 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. Furthermore, the Recipient will complete an irrigation-training course and implement cover cropping during the project term.	$90,843	$23,417	San Luis Obispo
Jacob D. Spooner	The Recipient will install a weather station that will include five weather variables (solar radiation, humidity, air temperature, leaf surface wetness, and wind). Daily reference evapotranspiration (ET) can be measured precisely within the crop canopy every day. This will be tracked and compared to soil moisture readings to determine crop rooting depth and applied water. The electronic flow meter will be installed on the pump as well, for tracking applied water, and flow rates (gallons per minute (gpm), total acre feet). Capacitance-type soil moisture sensors will also be installed in the orchard to ensure irrigation events are being maximized and not wasted by over watering the root zone. The sandy loam soil with sub-par water quality also addresses the need for a soil moisture probe to avoid water infiltration issues. The Recipient will add several photovoltaic cells to decrease the reliance of energy from the municipal power grid. The Recipient will retrofit the current pumping station and install a flow meter. Furthermore, the recipient will complete an irrigation-training course and implement cover cropping, mulching, and compost application during the project term.	$77,861	$14,203	Colusa
James William Miller	The Recipient will install weather, evapotranspiration (ET) and soil moisture monitoring systems. In addition, solar panels will be installed to power the existing well pumps. Furthermore, flow meters will be installed on each pumping station. Furthermore, the Recipient will complete an irrigation-training course and implement mulching during the project term.	$97,618	$4,702	San Luis Obispo
Jeniffer Vang	The Recipient will convert from flood to drip irrigation, install soil mositure sensors, a variable frequency drive (VFD), and a flow meter. Furthermore, an irrigation-training course will be completed during the project term.	$87,649	$5,289	Fresno
Jon Koregelos	The project will include the addition of one Hortau Station with three Tensiometers at depths of 18", 24" and 36", a pressure switch and will also include a full weather station and a Pulse Output Flowmeter added to the ditch pump.	$28,185	$35,280	Colusa
Kelby Sheppard	The project includes converting a diesel pump to solar, and installing a variable frequency drive (VFD), flow meter, and soil moisture sensors.	$99,528	$127,006	Butte

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Kevin A. Hebrew	This project is for a 20-acre property that will implement irrigation management practices. The Recipient will install a soil moisture station from Irrigate.net to monitor irrigation efficiency by monitoring the data online that is relayed through a telemetry network. The grower will monitor 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. The accessibility to this information, along with evapotranspiration (ET) data from the ETo station, the grower will reduce water use and decrease greenhouse gas (GHG) emissions by irrigating more effectively.	$76,780	$4,367	Tehama
Kozi Farms, LLC	The Recipient will install weather and soil based sensors and a low pressure, automated drip irrigation system that will improve energy efficiency. The Recipient will convert to solar energy and install a variable frequency drive to the existing pumping station. Furthermore, the Recipient will complete an irrigation training course; implement cover cropping and mulching during the project term	$100,000	$244,059	Fresno
Leland Rebensdorf	Convert flood to drip. Use soil moisture sensors for irrigation scheduling. Convert from diesel to an electric motor with a variable frequency drive (VFD).	$76,704	$15,348	Fresno
Live Earth Farm, LLC	This project will reduce the use of groundwater 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	$21,044	Santa Cruz
Ly Thao Nyia Yi	This project proposes to convert flood irrigation to drip irrigation. The current well pump will be retro-fitted and/or repaired. A variable frequency drive (VFD) will be installed on the existing pumping station.	$81,819	$4,339	Fresno
M & K Partnership	The Recipient will install weather and soil based sensors and a low-pressure, drip irrigation system that will improve energy efficiency and reduce pumping. The corn crop will be replaced by walnut orchard. Furthermore, other soil management practices and an irrigation-training course will be completed during the project term.	$100,000	$547,877	Tulare
MC Fagundes Ranch	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 variable frequency drive (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 evapotranspiration (ET), allowing the use of ET-based scheduling and keep irrigation to the minimum requirement for maintaining healthy crops.	$80,743	$64,043	Kern
Melanie E. Smith	This project will implement irrigation management practices on 80 acres of rice. The Recipient will monitor pump efficiency by adding a flow meter to the discharge. This would be connected to a telemetry network. The accessibility to this information, along with the solar array, will help reduce water use and decrease greenhouse gas (GHG) emissions by irrigating more effectively.	$77,756	$3,473	Shasta
Michael J Forrest	The Recipient is installing state-of-the-art, sustainable technology that will improve water and energy efficiency, and reduce the carbon footprint on the 48-acre Mountain View Ranch. The project includes: 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 the agricultural operation. 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 the ranch, both now and in the future.	$100,000	$195,645	Fresno
Miguel A. Ramos Perez	This project will improve water and energy use efficiency on a 26-acre conventional berry farm in Corralitos, CA (Pajaro Valley, central coast) by completing the following: a) Solar Photovoltaic (PV) system installation to supply electricity for a 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 (VFD) installation; and d) Field equipment including flow meter, soil moisture sensors, and dataloggers to facilitate water use monitoring and automated use of weather based and soil moisture based irrigation scheduling software -CropManage.	$77,123	$3,377	Santa Cruz
Moonlight Packing Corporation	The 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 percent savings in applied water.	$100,000	$79,186	Fresno
Nicole Burroughs	This project will install a new pipeline, scheduling and documenting irrigation based on the weekly soil moisture report from the California Irrigation Management Information System (CIMIS) Data to satisfy evapotranspiration on pasture. This project will also 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.	$61,593	$14,097	Tehama
Nora E. Paiva	This project is for 80 acre of almonds to embrace addition irrigation management practices. Currently, there are soil moisture stations out in the field from Irrigate.net to monitor irrigation efficiency viewable via online data that is relayed through a telemetry network. Nora Paiva Farms will monitor pump efficiency by adding a flow meter to the discharge, and pressure sensors before and after the filter. This will be connected to a telemetry network as well. The accessibility to this information, along with Evapotranspiration (ET) data from a ETo Station, an irrigation change, and a new 19.6 kW solar array will help reduce water usage and decrease greenhouse gas (GHG) emissions by irrigating more effectively.	$100,000	$38,956	Glenn
Paso de Record, LLC	The Recipient will install a 7.56 kW solar energy system to power two existing 30 HP submersible pumps. In addition, soil moisture sensors, evapotranspiration (ET) sensors and a weather station will be installed. A flow meter will be added to one of the existing submersible pumps. Furthermore, the Recipient will complete an irrigation-training course and implement composting, mulching and cover cropping during the project term.	$89,829	$24,431	San Luis Obispo
Paso Ono, LLC	The Recipient will install a 23.8 kW DC solar photovoltaic (PV) system to power the existing 50 hp electric submersible pump. In addition, weather and 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 61.5 acres of wine grapes served by this pump to increase water savings. Furthermore, the Recipient will complete an irrigation-training course and implement cover cropping and compost application during the project term.	$88,296	$83,678	San Luis Obispo

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Patricia A. DeShane	This project will convert a flood-irrigated, 75.13 acre alfalfa field to an above surface drip irrigation system for new almond trees. This project will include a 60HP variable frequency drive (VFD) on a 60HP centrifugal (booster) pump and flow meter on the new screen filter being added to the operation's Field 8 pumping station. One soil moisture probe will be installed. This soil moisture probe collects daily data at three different depths and collects pressure switch data to let the grower know the time of irrigation and the duration. All of this information can be accessed online through a personal profile to which the grower will have access.	$100,000	$65,835	Kern
Riverwest Farming LP	This project proposes to convert flood to drip irrigation, upgrade a pump, install soil moisture sensors and install a variable frequency drive (VFD).	$100,000	$175,524	Fresno
Robert Thill	The Recipient will upgrade the current pumping stations and install remote field monitoring. Furthermore, the Recipient will complete an irrigation-training course and implement mulching during the project term.	$99,958	$117,754	Butte
Ruben Esparza	This project will implement irrigation management practices on a 63.05-acre property. The Recipient will install soil moisture stations from Irrigate.net to monitor irrigation efficiency by monitoring data online that is relayed through a telemetry network. The Recipient will monitor pump efficiency by adding a flow meter to the discharges, and pressure sensors before and after the filters. This will also be connected to a telemetry network. The Recipient will install new tier 4 John Deere motors at each location. The accessibility to this information, along with evaportranspiration (ET) data from a ETo Station, the grower will reduce water use and decrease greehouse gas (GHG) emissions by irrigating more effectively.	$100,000	$6,286	Glenn
Santa Rosa Berry Farms	The project will convert 32 acres of soil grown strawberries to table top, drip emitter irrigated substrate production. From the initial planting until the roots are established, the first phase of the current irrigation system uses a diesel booster pump to supply the pressure needed to run overhead irrigation sprinklers. The second phase from establishment on uses buried drip tape in the beds. This project will include obtaining a variable frequency drive (VFD) to run the drip emitters, reducing the usage of the diesel booster pump by 33 percent of its current run time.The same reduction will apply to the main electric pump as well. The Recipient will also be adding flow meters, moisture sensors, and irrigation management software to manage the watering of the crop more efficiently, reducing overall water usage. The Recipient will use the funding from this grant to cover one of the larger costs of to help implement significant changes outside the scope of this grant.	$100,000	$1,506,157	Ventura
Shafter-Wasco Investment Co.	This project consists of implementing Hortau's irrigation management system complete with a weather station, variable frequency drives (VFDs) and a flow meter - all working to save water and greenhouse gas (GHG) emissions.	$99,748	$29,113	Kern
Sohan and Mandeep Samran Family Trust	The Recipient will fix two (2) well pumps that have extremely low pump efficiency, and install a VFD for one of the booster pumps. The Recipient will also install a real-time IWM-3 irrigation monitoring solution, including irrigation scheduling software which will help reduce water usage for irrigation, and reduce (GHG) emissions through reduced pumping. The estimated savings are 15 percent on water usage and 0.17 M Tonnes of carbon dioxide (CO_2) equivalent per acre per year. The weather/evapotranspiration (ET), soil moisture, plant health, and 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 regarding irrigation faults or broken drip lines, thus reducing wasted water. The Recipient will also install three (3) flow meters with PC interface to monitor the water used. These cost-effective technologies will help the Recipient make better decisions about how to reduce irrigation while keeping yields.	$99,991	$101,449	Madera
Sukhraj Pamma	The Recipient will switch flood irrigation to micro-irrigation with the use of soil moisture sensors and a flow meter. The Recipient will be converting from Alfalfa to Peaches and Almonds.	$99,886	$340,400	Sutter
Sun Valley Packing L.P.	The Recipient will convert flood-irrigation to a double-line drip irrigation system. The current 20 hp electric pump will be replaced with a 100 hp electric pump. A variable frequency drive (VFD), a flow meter and a sand media filter station will be installed on the pumping station. In-field soil moisture monitors will be installed and will deliver real-time data.	$100,000	$82,113	Tulare
T & R Ranch	The Recipient will convert 2 diesel generator powered pumps and flood irrigation for solar powered pumps and drip irrigation. The recipient will install a variable frequency drive on the 200HP well pump. Irrigation monitoring including soil sensors, evapotranspiration, weather station and dendrometers will be installed. 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 will be installed. Flow meters will be placed on the well heads. Furthermore, the Recipient will complete an irrigation training course during the project term.	$100,000	$440,873	Tulare
Tirath S. Johal	This project for a 95-acre property will implement irrigation management practices. The Recipient will install soil moisture stations from Irrigate.net to monitor irrigation efficiency by monitoring data online that is relayed through a telemetry network. The Recipient will monitor pump efficiency by installing a flow meter to the discharge, and pressure sensors before and after the filter. This will also be connected to a telemetry network. The Recipient will install a 39.4 kW solar array to power the two pumps and new variable frequency drives (VFD). The accessibility to this information, along with evapotranspiration (ET) data from the ETo Station, the grower will reduce water use and decrease greenhouse gas (GHG) emissions by irrigating more effectively.	$100,000	$74,066	Yuba
Violich Farms, Inc.	The Recipient will construct an 87 kW solar system that will power 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. Furthermore, the Recipient will complete an irrigation-training course during the project term.	$100,000	$216,328	Glenn
Wallace Brothers	The Recipient will convert an existing 72-acre rice field to a tomato field divided into four level, constant grade irrigation blocks. In addition, the wells low lift turbines will be replaced with a higher-pressure turbine and the diesel motor will be replaced with an electric motor. A variable frequency drive (VFD) and flow meter will also be added to the pumping station. Each irrigation block will have an automated control valve connected to a radio based telemetry system that will allow moisture and environmental monitoring. Furthermore, the Recipient will complete an irrigation-training course; implement mulching, and compost application during the project term.	$100,000	$69,058	Sutter
West Star North Dairy	This project will replace the current flood irrigation system on an alfalfa field with a 2-set drip irrigation system. Part of this system will include a flow meter to measure water use, a new 50hp booster pump with a 50hp variable frequency drive (VFD), and a soil moisture probe, which will help with establishing irrigation schedules. These components will aid the goal of decreasing the amount of water usage, increase uniformity, regulate pumping, time and reduce greenhouse gas (GHG) emissions.	$100,000	$71,365	Kern

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Westerlay Orchids, LP	The agricultural operation produces 2.5 million potted phalaenopsis orchids in climate controlled greenhouses. The floors are permeable, and excess irrigation water is absorbed into the soil. The Recipient will install an impermeable floor and drain catches in 6.6 acres of greenhouses. Seventy-three percent of irrigated water will be reclaimed and re-used, translating to a 20+ acre-inches/acre reduction in use. Furthermore, installing a more efficient reverse osmosis (R/O) pump and reducing total water needs will lead to a reduction of qualified greenhouse gases (GHG) of 0.79 MTCO2e per acre. The project will affect an expected 12 percent reduction in natural gas used for heating and de-humidifying the greenhouses, estimated at 41,000 therms annually or 217 MTCO2e according to an EPA calculator.	$99,776	$272,990	Santa Barbara
Yia Yang	Ten acres of mixed vegetables converting from flood to drip irrigation, repairing or replacing pump, and installing a variable frequency drive (VFD).	$73,685	$4,897	Fresno
Youngstown Grape Distributors Inc	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. 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.	$100,000	$39,946	Fresno

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Anthony Vineyards Inc	The recipient will add a total of 13 Hortau irrigation mangament stations for Hillside Oasis Ranch of 420 acres. The weather station will help better understand the farms irrigating needs. The recipient will be installing 10 soil moisture stations, a weather station, and two flow meters all with telemetry.	$100,000	$27,604	Riverside
Ashley Lane LP	The recipient will implement and use the 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 GreenHouse Gas (GHG) emissions as well as reduce water usage by approximately 15 percent.	$99,237	$54,420	San Joaquin
B. Jue & Sons	The recipient will install irrigation automation with moisture sensors along with a 208 kW solar system that is anticipated to offsett approximately 70 percent of the sites energy use. Moisture sensors will be installed to monitor plant uptake directly at the trees root zone which will assist in better irrigation water management.	$99,658	$262,707	Fresno
Balvinder Purewal	The recipient 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.These integrated systems will 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 percent powered by a photovoltaic (PV) solar array.	$86,677	$79,174	Fresno
Booke Vineyard and Winery	Booker Vineyard intends to install a small 84 kiloWatt 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 evapotranspiration sensors to ensure water is only being applied to the vines when absolutely necessary.	$99,809	$79,015	San Luis Obispo
Bradley Scott Pauls	The recipient will install a high efficiency, double line drip irrigation system on 57 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 (VFD). A flow meter and in-field soil moisture monitors (two) will be installed, and in field data will be accessible in real time.	$100,000	$35,593	Fresno
CH Trembley	The recipient will install a sprinkler irrigation system, a real time Irrigation Water Management-3 irrigation monitoring & scheduling system, Variable Frequency Drive (VFD) and flow meters in the 152 acre walnut field.	$69,675	$179,636	Tulare
Cheryl L. Gulden	The recipient will install multiple irrigation water management (IWM) practices on the 62 acres of peaches, prunes and walnuts. The 70 year pump will be replaced with a new 20 horsepower (hp) pump. Three Soil Moisture Meters and a flow meter are part of the IWM that's being added.	$43,764	$43,764	Butte
Chongyee L. Xiong	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. One soil moisture station and one flow meter will also be added.	$59,360	$6,767	Fresno
Cynthia Sue Ward	The recipient will be converting 26 acres of flood irrigated pasture/row crops into a micro sprinkler irrigated almond orchard. The recipient 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 (hp) electric motor.	$16,475	$35,129	Tehama
HMP Orchards, LLC	HMP Orchards Water Use Efficiency Project will install a Rain Bird ClimateMinder Monitor and Control System that will allow management to monitor soil moisture, fertigation, remote equipment management, while optimizing growth of crops.	$95,534	$56,262	Kern County
Jeff Warkentin	The recipient will 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 irrigate more efficiently while saving greenhouse 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 recipient will also install a remote field monitoring weather station that monitors five variables; air temperature, humidity, rain and wind speed, and wind direction from which Evapotranspiration (ET) is calculated specific to the site.	$18,964	$389,223	Fresno
Jimmie A Elizagoyen Trust 10121982	The recipient will install (two) real-time remote soil moisture, and a flow meter (already present) monitoring equipment to help irrigate more efficiently. Each station will be equipped with a pressure sensor attached directly to the drip line to monitor pressure and calculate irrigation run time. One of the systems will be equipped with weather sensors will be used to calculate Evapotranspiration (Eto/Etc). Existing flow meters will have telemetry unit added to automatically measure reduction in water use and save greenhouse gas (GHG) emissions through reduced pumping/irrigation use.	$11,180	$11,180	Fresno
John D. Blackburn III	This project includes a 160 acre property that Blackburn Walnut Farms would like to include irrigation management practices on. The recipient will add soil moisture stations from Irrigate.net out in the field to monitor the irrigation efficiency. The recipient will monitor the pump efficiency by adding a flow meter to the discharge, and pressure sensors before and after the filter.	$36,450	$5,999	Fresno
Los Alisos Ranch Company	The recipient will install real-time remote soil moisture, (evapotranspiration) Eto weather and flow meter monitoring equipment to help irrigate more efficiently. 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. Weather sensors will be installed on one of the four systems used to calculate Eto/Etc. 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	$15,828	Santa Barbara
Meghan Warkentin	The recipient is 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 the recipient irrigate more efficiently while saving greenhouse gases (GHG). The two 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 Evapotranspiration (ET) and prevent unnecessary irrigation events.	$100,000	$285,485	Fresno
Mikaellan & Sons Inc	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 Variable Frequency Drive (VFD) with the existing turbine pump 3) installing a 20 Horse power (HP) booster pump with its own VFD. The recipient will also install a 12.8 kiloWatt (kW) solar system to replace at least 90 percent of the pump's energy consumption. The recipient will also have one soil moisture station and reference California Irrigation Management Information System (CIMIS).	$81,650	$45,763	Tulare

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Milton W. Giesbrecht	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 the recipient will need to amend the water chemistry with sulfurous acid, through a proposed Sulfur burner.	$52,784	$1,550	Glenn
New Leaf Cold Storage LP	New Leaf Cold Storage 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 (VFD). A sand media filtration station will be added. A flow meter and two 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 percent savings in applied water.	$100,000	$40,620	Tulare
Patricia Jones	This project will install 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 two in-field soil moisture monitors will be installed, and in field data will be accessible in real time.	$71,372	$14,461	Tulare
Salinas Land Company Inc	On 328 acres of winegrapes, the recipient will implement a real-time advanced irrigation management system using soil moisture sensors, evapotranspiration (ET) and weather sensors, dendrometers, and flow and pressure indicators.	$42,439	$3,870	Monterey
Souza Family Farms Inc	The project will install a high efficiency micro sprinkler system on 70 acres of Walnuts that are currently flood irrigated. A Natural gas pump will be replaced with an electric pump that will be upgraded with a Varible Freqency Drive (VFD). Energy will be off set by the solar system, and the result will be savings in water and a reduction in greenhouse gas emissions.	$99,981	$379,998	Fresno
T Ray Farms Inc	The recipient will improve the irrigation efficiency and management of 175 acres of almonds spanning two ranches. A VFD (variable frequency drive) 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 locations.	$63,280	$15,781	Solano
Thelma King	The recipient will add a Soil Moisture station from Irrigate.net out in the field to monitor the irrigation efficiency by being able to view the data online that is relayed through a telemetry network. The recipientt will monitor the pump efficiency by adding a flow meter to the discharge, and pressure sensors before and after the filter. A 75.1 kW solar system will also be installed from matching funds.	$60,812	$174,108	Glenn
Troy M Giesbrecht	This project will install a flowmeter and irrigation monitoring stations including soil capacitance probes and a weather station on eight acres of Walnuts in Glenn County in order to reduce Greenhouse gas emissions and Irrigation water use.	$23,863	$1,261	Glenn
Villa San Juliette	The project will install a 6.6 kilowatts (kW) Direct Current (DC) solar photovoltaic (PV) system to power the existing 100 horsepower (HP) electric vertical shaft turbine pump. In addition, one weather & 14 soil moisture sensors (seven stations two probes each), two 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.	$93,773	$18,050	San Luis Obispo
Yurosek Farming Co LLC	The recipient will install four soil moisture monitors, two weather station/soil moisture monitor combination sets (enabling a match between real time crop water use with soil moisture), five flow meters, one variable frequency drive on a new booster pump, and an acid injection system.	$99,916	$30,336	Kern County