

California Department of Food and Agriculture
 2014 State Water Efficiency and Enhancement Program Round 1
 Projects Selected for an Award of Funds

Revised August 08, 2017

Agricultural Operation	Project Description	County	Grant Award
Adagio Olive Farms	A solar electricity generating system will be installed at Adagio Olive Farms in San Miguel, California to generate clean power on-site. Automated controls will be installed and irrigation management will be based on soil moisture content as monitored by two soil moisture profile monitoring nodes. Upon receiving these tools, an irrigation scheduling management plan will be implemented based on soil moisture and CIMIS evapotranspiration (ET) data. This project is estimated to conserve 41 ac-in of water and reduce greenhouse gas emissions (GHG) by 1331.5 Tonnes of C02 per year. Over an irrigated acreage of 8 acres, this project is estimated to conserve 5.1 ac-in/ac and reduce GHG emissions by 211 Tonnes C02/acre.	SALINAS	\$18,219
Adkins Ranch	Adkins Ranch irrigates approximately 51.7 acres of almonds, estimating 7,072 trees. The project will install double line drip irrigation installation (Almonds 21' x 16') to help save water.	TULARE	\$50,000
Amarante Farms	Amarante Farms seeks to install a new 20 acre micro-drip irrigation system later this year (October 2014). For the first 20 acres phase, construction is in progress; however, no funding has been received from CCID as the final inspection has not been performed. Amarante Farms are beginning farmers attempting to convert their Father's land to walnuts/almonds. Previously, the farm was flood irrigated and the excess irrigation water drained to the Bay Delta. Amarante Farms also plans to install a well later this year. The water supply in the area is volatile, but there appears to be sufficient ground water supplies. A new well will serve as the primary water source. There is a high probability Amarante Farms will not receive any irrigation water from CCID in future years and/or their allocation will be inadequate. Moreover, Amarante Farms would like to put in an electric powered well rather than a diesel powered well. The current well is too small and is not deep enough.	MERCED	\$16,280
Amberglow Ranch	Replace existing irrigation tubing and emitters for more efficiency. Add a grid tie solar system in order to help decrease Greenhouse Gas Emissions (GGE).	KERN	\$30,789

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American Farms, LLC	The project involves consolidation and fuel switch of of a 75 HP electric well with 215 HP diesel booster pump to a natural gas pumping station, along with the implementation of a soil moisture and weather based irrigation management plan at American Farms, Yuki 3, near Soledad, CA. Install equipment necessary to measure evapotranspiration (ET) in order to inform ET-based irrigation scheduling. Install soil moisture sensors to monitor soil moisture content. An irrigation scheduling regime will be developed based off of on-site monitoring equipment, with the goal of reducing applied water vs. traditional irrigation management without monitoring. This project is calculated to conserve 1537 acre-in of water and reduce greenhouse gas emissions by 8.2 Tonnes of C02 per year. Over an irrigated acreage of 131 acres, this project is calculated to conserve 11.7 ac-in/ac and reduce GHG emissions by 0.06 Tonnes C02/acre.	MONTEREY	\$50,000
Andy Muxlow Farms	Andy Muxlow Farms will 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 Andy Muxlow Farms to irrigate more accurately and have electronic records that will them to review past irrigation and make any changes for the upcoming seasons. These will be the first units installed with future expansions including all of their planted acres, well depth monitoring, remote camera, EC sensors, and on site weather stations. With all of these sensors, they hope to set the trend for the stone fruit industry on, not only the conservation of water, but also of the land.	TULARE	\$50,000
Barrios Farms Inc.	Barrios Farms is installing drip irrigation to a former row crop field. The field will be converted to almond to conserve water use.	TEHAMA	\$50,000
Becky Muxlow Farms	Becky Muxlow Farms will convert 80 acres of flood irrigation to micro irrigation using a dual line drip method.	TULARE	\$50,000
Bengard Ranch, LLC	Bengard Ranch is adding buried mainline to improve the efficiency of water conveyance on the ranch, and to improve the distribution uniformity of existing and planned drip irrigation systems.	MONTEREY	\$48,044
Bobby Yamamoto Farms, Inc.	The project will convert conventional flood irrigation to sub-surface drip using 7/8" drip tape with 12"emitter spacing and a emitter flow rate of 0.22gph buried approximately 12 " below surface.	STANISLAUS	\$13,885

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Braga Ranch Partnership	This project includes the conversion of a 150 hp diesel pump to natural gas, installation of 1/4 mile of pipeline and monitoring hardware at a 193 acre ranch near Soledad, California. Drip irrigation, soil moisture sensors, weather gauges and web based monitoring will be added to the site to ensure efficient irrigation practices. This project is calculated to conserve 384 ac-in of water and reduce greenhouse gas emissions by 12.1 Tonnes of C02 per year. Over an irrigated acreage of 197 acres, this project is calculated to conserve 4 ac-in/ac and reduce GHG emissions by .12 Tonnes C02/acre.	MONTEREY	\$50,000
Broken Earth Winery	The scope of the project involves installation of weather and soil moisture monitoring hardware at a 530 Acre vineyard in Paso Robles, California, of which 104 acres will be impacted by the project. The vineyard overlies the Paso Robles Groundwater Basin, a basin experiencing severe overdraft during this drought, and the management team is dedicated to sustainability and conservation. Upon receiving these tools, an irrigation scheduling management plan will be implemented based on soil moisture and site-specific evapotranspiration (ET) data. This project is estimated to conserve 2,061 acre-inches of water and reduce greenhouse gas emissions by 16.3 Tonnes of C02 per year. Over an irrigated acreage of 104 acres, this project is estimated to conserve 19.8 ac-in/ac and reduce GHG emissions by 0.156 Tonnes C02/acre.	SALINAS	\$4,657
Bruce and Elisa Ciapessoni Living Trust	The project will add drip irrigation to 80 acre block of established almonds currently using flood irrigation.	TULARE	\$42,148
Byrd Cattle Company LLC	The project will eliminate an open ditch currently used for irrigation and replace with a shorter pipeline connected to the main irrigation pipeline. This will allow water to be delivered to the lower portion of three fields, increasing the efficiency and effectiveness of the irrigation system. These changes will save water and reduce the time needed to irrigate the entire property by a day. Since the water is delivered to the property by the Los Molinos Mutual Water Company (LMMWC) on a rotational basis, the shorter irrigation time will make the water available to other users sooner and help shorten the rotation period of the entire distribution system, especially in dry years.	TEHAMA	\$15,874

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C AND E OTT FARMS LLC	Project will install a Variable Frequency Drives (VFD) pump that allows Ott Farms to pump water more efficiently. The installation of the VFD would reduce greenhouse gases by reducing power usage and conserve water that currently is dumped when the pump is overproducing due to the irrigation systems varying capacity. Also, soil moisture monitoring devices throughout the various blocks in the different soil types will allow ability to more accurately see how water is moving through the soil profile. Additionally, the project will help to more accurately schedule the irrigation run times to prevent applying water past the root zone. Finally, this project has several benefits, including reduced water usage, greenhouse gases, and leaching of fertilizers.	STANISLAUS	\$45,775
Chandler Farms LP	This project will convert the final 9 acres of a 40 acre project from furrow irrigation to micro sprinkler.	TULARE	\$4,641
Clark Bros. Farming	Clarks Bros. Farming will install all in one soil moisture probes in row crop applications at property location A. This will allow the removal and re-installation each year a new crop is planted. In addition, Clarks Bros. Farming will install a PureSense monitoring system in pistachio orchard at property location B.	TULARE	\$29,085
Colliver Farms	Colliver Farms will convert a from inefficient flood irrigation on almonds to efficient drip irrigation with soil moisture monitoring on a 76 acre farm in Delhi, California (Loamy Sand).	TULARE	\$50,000
Costa Farms, Inc	The scope of the project involves consolidation of a vertical shaft turbine pump and booster pump to a single pump and electric motor with variable speed drive (VSD) control at two (2) well locations. Irrigation scheduling management plan will be implemented using existing soil moisture data and incorporation of CIMIS data from closest station. This project is calculated to conserve 3801 ac-in of water and reduce greenhouse gas emissions by 49.9 Tonnes of C02 per year. Over an irrigated acreage of 329 acres, this project is calculated to conserve an average 11.6 ac-in/ac and reduce GHG emissions by 0.15 Tonnes C02/acre	MONTEREY	\$50,000

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Danell Brother Farms	<p>The 7th Avenue Project is located on 18 acres just outside of Hanford, California. As it is currently designed, the project is scheduled to be installed with flood surface irrigation with pistachio trees being planted. These funds will upgrade the irrigation system and installation of micro (drip) irrigation for the entire project, along with mulch. The installation of drip irrigation combined with a thick application of mulch will result in an exponential reduction of the amount of water to be used on the project over the lifetime of the plantings.</p>	TULARE	\$38,223
Daniel Jackson Farms	<p>Daniel Jackson Farms will install a new system to monitor soil moisture through sensors with electronic data output and flow meters to ensure efficient irrigation scheduling. This project will allow for more accurate irrigation and provide electronic records in order for review of past irrigation to make changes for the upcoming seasons. These will be the first units Daniel Jackson Farms will install with future expansions including all planted acres, well depth monitoring, remote camera, EC sensors, and on site weather stations. With all of these sensors, Daniel Jackson Farms hopes to set the trend for the stone fruit industry, on not only the conversation of water, but also of the land.</p>	TULARE	\$50,000
David Jackson Farms	<p>David Jackson Farms will 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 project will allow for more accurate irrigation and provide electronic records in order for review of past irrigation to make changes for the upcoming seasons. These will be the first units David Jackson Farms will be installing with future expansions including all of their planted acres, well depth monitoring, remote camera, EC sensors, and on site weather stations. With all of these sensors, David Jackson Farms hopes to set the trend for the stone fruit industry, on not only the conversation of water, but also of the land.</p>	TULARE	\$50,000

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David Santos Farming	This project is for a subsurface irrigation system for approximately 76 acres of tomatoes. The system is designed for tomatoes spaced with 80" beds. The system has been designed to irrigate 76 acres in two sets. The system will have 13 mil, Netafim, 0.875, 0.18 gph at 14" drip tape. The system will include 4" layflat hose and fittings with 3" hydraulic pressure control valves and 2" flush valves. The system will include a four tank and media filter system with steel piping, auto flush, flow meter, 8" butterfly valves, air vents, double check valve and pressure relief, installed on a concrete pad. The system will include a 40 hp Booster rated at 1241 GPM at45PSI.	STANISLAUS	\$50,000
DEWLSON FARM		SANTA BARBARA	\$30,296
Dougherty Brothers	This project will convert an 86.37 acre flood irrigated row crop field with tail water runoff to low flow drip tape. A diesel pump will be replaced with a high efficiency 50 HP electric booster pump with pressure transducer and VFD controls. The field will be leveled for increased distribution efficiency. The system is designed by Alsco-Geyer in Arbuckle to a coefficient of uniformity (CU) and distribution uniformity (DU) of 92% according to irrigation industry standards. Projected water savings are 31.4 acre inches per acre per year, or 226 acre feet for the field, with GHG emission reductions of 45.55 tonnes CO2eq per year from pumping and an additional 18.4 tonnes of CO2eq per year from direct N2O emissions from fertilizer by adopting drip. In addition, the project will benefit disadvantaged communities with employment, tax revenues, and air and water quality benefits. Waterfowl in the Pacific Flyway will benefit from reduced runoff potential through the elimination of a tail water system	TEHAMA	\$50,000
DP Farms	Currently, DP Farms has 195 acres of row crops that is flood irrigated and drains into the San Joaquin River. In the past, DP Farms has used roughly 60 inches/acre/year of water to irrigate the crop. However, DP Farms would like to convert the flood irrigation system to a subsurface drip irrigation system to reduce the amount of water used to produce the row crops, apply the water and fertilizer more efficiently, and eliminate the drain water from the property.	MERCED	\$50,000
Evans Farming LLC	Evans Farming LLC is converting an almond orchard from flooded irrigation to micro-irrigation.	TEHAMA	\$48,178

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Fisher 2012 GST Trust	Project will improve irrigation methods. Currently, the farm is only able to flood irrigate. Therefore, the project will put in an efficient pump and filtration system along with double line drip. In addition, a soil moisture monitoring system will be installed to dial in the farm system to be as water efficient a possible.	STANISLAUS	\$50,000
Freitas Farms 1	The Water Conservation for Valley Farmers project is located on 160 acres in Five Points, California. The project will install drip irrigation on pistachios trees in a field that was formally in garbanzo, tomato, and cotton production. This project will bring a valley farm back into production by using a highly efficient irrigation system utilizing irrigation emitters to apply water directly to the root zone. This project will help bring valley land back into production that would otherwise have to be fallowed for the foreseeable future.	TULARE	\$50,000
Fuentes Berry, LLC	The scope of the project involves installation of a Variable Frequency Drive (VFD) and implementation of a soil moisture based irrigation management plan at Fuentes Berry, near Salinas, California. A VFD will be installed on a 100 HP motor. Irrigation scheduling management plan will be implemented using existing soil moisture data and incorporation of CIMIS data from closest station. This project is calculated to conserve 525 acre-ft of water and reduce greenhouse gas emissions by 10.2 lbs of C02 per year. Over an irrigated acreage of 127 acres, this project is calculated to conserve 4.1 acre in/ acre and reduce GHG emissions by .08 lbs C02/acre	MONTEREY	\$35,679
Grapery, Inc.	Grapery, Inc. will install a Climatedinder irrigation system including sensors and soil moisture probes.	KERN	\$17,430
Grivey Brothers, Inc.	Grivey Brothers will have water savings of 21.4 acre/inches/acre by converting 47.6 acres of established walnut orchards from flood irrigation to solid set sprinkler irrigation. A Variable Frequency Drive (VFD) for a 75 HP irrigation pump motor will result in further water and energy savings.	TEHAMA	\$50,000

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Heavenly Avocado Ranch	The project site currently has 375 avocado trees under cultivation. Water is supplied in part by the state water project through an agricultural meter. The project will include the installation of a well including drilling and standard equipment ancillary to the project to stop usage of all water from the state. Additionally, the project includes the installation of solar equipment to provide 94% of all power necessary to operate the well and field equipment. Finally, the project will include installation of a more efficient plant watering system and water monitoring in order to reduce water usage, energy usage, and decrease the carbon footprint.	SANTA BARBARA	\$50,000
Henry Pruitt Anderson, III & Betty Jean Anderson	The project will remove 40 acres of row crops and install pistachios using a highly efficient drip irrigation system based on local evapotranspiration (ET) rates. Locally sourced mulch will also be added to the newly planted trees reducing water loss through ET, minimize the use of herbicides and assist with air quality through dust control.	TULARE	\$50,000
Hope Family Vineyard	Hope Family Vineyards has 38 acres of grapevines in Paso Robles, California. In order to increase on-farm conservation of resources and to increase productivity of their grapevines, the vineyard is considering soil moisture monitoring. The project will install two soil moisture radio nodes in the vineyard. A base station equipped with hardware necessary to calculate on-site evapotranspiration (ET) will also be installed to provide data necessary for precision irrigation scheduling. This project is calculated to conserve 306 acre-in of water and reduce greenhouse gas emissions by 2.4 Tonnes of CO ₂ per year. Over an irrigated acreage of 38 acres, this project is calculated to conserve 8.1 ac-in/ac and reduce greenhouse gas emissions by 0.06 Tonnes CO ₂ /acre.	SALINAS	\$6,494
Huerta Family Farms INC	The proposed project is a conversion of flood irrigated farmland to drip irrigated. The projects goal is to increase our irrigation efficiency. The proposed project will include soil moisture sensors to optimize irrigations. A more efficient submersible pump will be needed supply adequate pressure to optimize the distribution uniformity of the proposed system.	TULARE	\$35,126
Jackson Family Investments, LLC	Installation of KISS Subsurface Textile Irrigation onto a 19 acre test block	NAPA	\$50,000

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JCJ Dairy	The Valley Farmers for Water Conservation Project is located on 38 acres near Hanford, California. The project will be at the forefront of water conservation and efficiency by applying the latest technologies in agricultural irrigation combined with the most recent data and research from the horticultural field. The project when completed will serve as the model for sustainable agricultural operations, and set the precedent of what valley farmers can do and where the direction the industry is headed.	TULARE	\$49,480
Jim Rossi DBA Four Oaks Farming	This scope includes equipment to test soil moisture levels and onsite weather and Cimis requirements to ensure that irrigations are being done at the proper time and the proper amount of water. Along with drip and micro-sprinkler systems that are already in place, Four Oaks Farming will further conservation efforts to preserve precious water resource.	SAN BENITO	\$28,016
Jon and Joy Lee	The project will install six additional solar panels and a pump to an existing agricultural well. In addition, three collection tanks will be set up to collect rainwater from the roof gutters of an existing 5,335 sq. ft. greenhouse.	TEHAMA	\$11,598
Karl te Velde Ranch, Inc.	Kalkat Fruit & Nut Company (Kalkat Fruit) will install four Decagon soil moisture monitoring systems at two property locations (see Property Locations A and B below). The soil moisture monitoring systems will help manage soil moisture and collect soil (evapotranspiration) ET, and soil temperature data.	TULARE	\$49,157
Kenneth L. Puryear	The project will install a single line drip system on 54 acres of grapes.	TULARE	\$50,000
Kingsburg Citrus Ranch	The project site is located on 40 acres of an 80 acre parcel. The project will convert the site from its current use of corn production and the use of surface irrigation and convert it to pistachio production using a highly efficient irrigation system utilizing point source emitters and orchard mulch. The complete project will serve as a model to surrounding farmers and the industry on the most current water conservation practices and techniques.	KERN	\$46,347

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Lagier Ranches, Inc.	Kingsburg Citrus Ranch 25 irrigates 100 percent with low volume irrigation. The project plan will install eight foot wide Weedmat under trees to reduce surface water evaporation and control water consuming weeds. It will reduce electrical use by an estimated 30 percent translating to air quality and other related conservation and environmental benefits for a minimum of 10 years. New soil moisture sensors (three 24" tensiometers) will be the basis for more efficient irrigation management by indicating when irrigation is needed or not needed. An additional water flow meter is needed to monitor overall water use. A pressure sustaining device will improve the water filtration pressure, resulting in improved water distribution uniformity.	PLACER	\$10,441
Lock Agricultural Ventures, LLC	At this time, Lagier Ranches is using an electric pump to irrigate with well water combined with a diesel pump for surface water, both designed for open flow irrigation. This current system of furrow/flood irrigation results in an over application of water. Also, an efficiency test performed on the electric well pump in 2013 showed a 42 percent pumping efficiency. This grant project would cover the purchase and installation of an electric submersible pump that would not only increase the efficiency to 75.35 percent, but also allow Lagier Ranches to drip/micro irrigate the orchard saving approximately 3.8 acre/inches of water per irrigation. It would also eliminate the need for the diesel pump and greenhouse gas emissions.	SALINAS	\$12,898
Michael G Jackson	The scope of the project application involves installation of a Variable Frequency Drive (VFD) and weather and soil moisture monitoring hardware on a 21 acre vineyard in Paso Robles, California. The management team is dedicated to precision viticulture, sustainability and conservation. Upon receiving these tools, an irrigation scheduling management plan will be implemented based on soil moisture and site evapotranspiration (ET) data generated as a result of this project. This project is calculated to conserve 169 acre-in of water and reduce greenhouse gas emissions by 1.7 Tonnes of C02 per year. Over an irrigated acreage of 21 acres, this project is calculated to conserve 8.1 ac-in water/ac and reduce GHG emissions by 0.079 Tonnes C02/acre.	TULARE	\$50,000

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Moniz Vineyards	Mike Jackson Farms will install a double line drip system on an existing stone fruit orchard. The orchard has been furrow irrigated with an existing concrete pipeline and flood valves. The proposed drip system will include 200 mesh filtration from well, valving and monitoring per NRCS spec, and pressure compensating drip emitters for maximum distribution uniformity.	SANTA CRUZ	\$14,500
Mumma Brothers	The project will focus on converting the existing irrigation of wine grape crops on the project property from the current sprinkler method to drip irrigation. The primary goal of this project is water conservation.	TEHAMA	\$50,000
Netto West Farming	In order to reduce total water used, increase water use efficiency, increase fertilizer use efficiency, decrease greenhouse gases, reduce pesticide use and herbicide application, decrease fuel consumption, conversion of 79 acres of flood irrigated alfalfa into low pressure subsurface drip irrigation placed at 20' intervals is required. The project requires the installation of an electric motor, variable speed drive, flow meter, moisture meters, new main line, lateral lines, pressure regulating valves, drip tape, moisture meters, and a weather base station.	TULARE	\$47,283
Nick Huerta	The project will change from flood irrigation for cotton to drip irrigation for pistachio trees. The project will reduce water and preserve farming at its location for the long term.	TULARE	\$27,940
Pasatiempo Vineyards, LLC	The project will convert flood irrigated farm land to drip irrigated.	TULARE	\$22,294

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Prado Farms LLC	<p>Pasatiempo Vineyards will add water conditioning system and a soil moisture monitoring systems to their current irrigation systems. The water conditioning system will help open up the soil due to compaction and allow water to easily penetrate to the soil without having to waste excess water. These water conditioning systems will be soil solution machines that will be able to add gypsum through the current drip system. The soil moisture monitoring and irrigation scheduling systems will allow managers to irrigate more precisely and know when there is adequate soil moisture in the ground; therefore, less water will be wasted each irrigation. By executing this project, Pasatiempo Vineyards deems that this will help the ranch to be environmentally sustainable for the present and future. There are several properties in close proximity of each other where these systems will be placed.</p>	TULARE	\$38,132
R B Farms LLC	<p>The project will convert from flood irrigation to low-pressure drip irrigation on existing walnut orchard.</p>	MONTEREY	\$50,000

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Rancho Rendezvous Farms	<p>The scope of the project involves replacement of an existing well powered by a diesel engine with a new well powered by an electric motor. A 150HP Variable Speed Drive (VSD) will be installed as a resource conservation project to reduce greenhouse gas emissions and energy usage. New soil moisture monitoring hardware and telemetry will be installed in the field. Evapotranspiration (ET) rates from nearest CIMIS station will be recorded. In order to reduce water usage and greenhouse gas emissions, these tools will be used to monitor soil moisture content and to inform irrigation scheduling. This project is calculated to conserve 2297 ac-in of water and reduce greenhouse gas emissions by 24.2 Tonnes of C02 per year. Over an irrigated acreage of 137 ac, this project is calculated to conserve 16.8 ac-in/ac and reduce greenhouse emissions by .18 Tonnes C02/acre.</p>	SALINAS	\$3,997
Reamer Farms	<p>This project will install soil moisture monitoring using a cellular node with soil moisture probe at Fandango Olive Orchard, in Paso Robles, California. This project lies in a D4 Drought Designation, and the grower has a need for improved irrigation management. As part of a plan to reduce reliance on groundwater pumping, the grower wishes to install the hardware necessary to develop an irrigation management plan based on soil moisture monitoring. This project is calculated to conserve 20.5 acre-in of water and reduce greenhouse gas emissions by 0.2 Tonnes of C02 per year. With an irrigated acreage of 4 acres, this project estimated to conserve 5.1 acre-in/acre of water and reduce GHG emissions by 0.04 Tonnes C02/acre.</p>	TEHAMA	\$50,000

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Rick Jackson Farms	<p>Currently, Reamer Farms irrigates seven vineyards totaling approximately 180 acres using visual observations only. Reamer Farms' water use efficiency would increase with the installation of Ranch Systems' soil moisture sensors, climate sensors and controllers allowing remote control of irrigation valves. In this way, Reamer Farms would have real-time soil moisture and climate data available remotely to facilitate efficient evapotranspiration (ET)-based irrigation scheduling. In addition to applying only the amount of water that is demonstrably required by the vines, this system will also reduce the carbon emissions of (1) the irrigation pump (with reduced hours of use); and (2) the company vehicles which would otherwise travel the 22 miles roundtrip to manually adjust the water pump's settings and to visually inspect the vineyard for irrigation purposes.</p>	TULARE	\$50,000
Sakakihara Farms	<p>Rick Jackson Farms will 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 for more accurate irrigation and provide electronic records for review of past irrigation in order to make any changes for the upcoming seasons. These will be the first units installed with future expansions including all of their planted acres, well depth monitoring, remote camera, EC sensors, and on site weather stations. With all of these sensors, Rick Jackson Farms hopes to set the trend for the stone fruit industry, on not only the conversation of water, but also of the land.</p>	MONTEREY	\$16,620

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Scott Raven Farms	<p>The project uses Hortau, Inc. soil moisture tension monitoring technology to improve irrigation scheduling and reduce groundwater pumping, conserving both water and energy. Soil moisture tensiometers will be used on 7 ranches over multiple years, benefiting 407 acres of strawberries and reducing water use up to 30%. The project leverages an existing communications network supported by the Pajaro Valley Community Water Dialogue and administered by the Resource Conservation District (RCD) of Santa Cruz County. Field level data is transmitted via the communications network to mobile devices to improve irrigation decision-making in real-time. This project will reduce pumping from the over-drafted Pajaro Basin, relieving pressure on groundwater supplies that have been exacerbated by the current drought.</p>	TULARE	\$50,000
Six K's	<p>Scott Raven Farms will switch its current irrigation system for 127 acres of almonds from flood to micro-irrigation. This project will decrease current water usage substantially. It will also decrease the amount of greenhouse gasses that are currently used for fertilization and herbicide sprays.</p>	BUTTE	\$50,000

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Stone Family Limited Partnership	Six K's existing system uses flood irrigation run by a diesel pump to water 120 acres of prunes. This is highly inefficient as it takes about 3 weeks (watering 5 acres per day), (running the diesel engine 14 hours a day), to get across the entire orchard, with a lot of the water being wasted by runoff. Additionally, the amount of diesel used to run the pump is not cost effective and is using approximately 1600 gallons for each 3 week watering. This project will switch the system from flood irrigation to microjet irrigation and from a diesel run pump to a solar run pump.	TULARE	\$50,000
Stone Ranch	The project will replace a field of onions and tomatoes on 160 acres with pistachio trees on a farm on the western side of the central San Joaquin Valley. The project's primary focus will be to convert an antiquated flood irrigation system to a highly efficient drip irrigation system, which will dramatically reduce the overall water consumption of the property and sustain the farms ability to continue to produce food and jobs for the Central Valley.	TULARE	\$50,000
Stratford Ranch	The Stone Ranch Irrigation Project is located on 149 acres. The proposed will change the flood irrigation system to a low water/low PSI system as alfalfa and wheat are substituted out for tomatoes. The change in the irrigation system will decrease water demand for the area by applying water at a higher efficiency rate as compared to flood irrigation. This change in irrigation systems is indicative of a profound paradigm shift in the perspective of farmers as technology and means are sought out to reduce water consumption while protecting livelihoods.	TULARE	\$50,000
Sun Drenched Farms	The Conserve Our Valley Water Project is located on 145 acres between Stratford and Lemoore Naval Air Station. The Conserve Our Valley Water Project represents area farmers push at improving the water efficiency in order to maintain a stable water supply for the industry and its community members. By further reducing Stratford Ranch's water consumption, they are ensuring that the industry will have the resources in place now and for many years to come.	SAN DIEGO	\$50,000

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Sunny Acre Farming Inc	The primary objective of this project is to reduce water usage in a small farm by 29 ac/in/ac and to reduce greenhouse emissions by 6.8 tonnes/ac. The current surface sprinkler system will be upgraded with ecofriendly technology to include solar pumps, a well, weather based irrigation controllers, soil moisture sensors, micro drip irrigation, and waste water reclamation techniques, including added terracing/grading, sustainable ground crop for nitrogen fixation, and catchment to retain runoff. Sun Drenched Farms will optimize the gravity feed with variable frequency demand motors for low power, high efficiency pumping, and target soil with micro drippers. Greenhouse and ADA vertical hydroponic system will reduce evaporation and recycle valuable resources. The S/E benefit includes preserved valued crops/water in D3/D4 rural community where agriculture is the main economy. The farm will provide education on sustainable and small farm operations. In addition, the farm will service disabled/elderly with ADA adapted/ergonomically upgraded farm.	TULARE	\$42,321
Terranova Ranch, Inc.	Sunny Acre Framing is installing a two line drip system on existing almond orchard that is currently furrow irrigated.	TULARE	\$40,686

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Agricultural Operation	Project Description	County	Grant Award
Theldor Farms	Terranova Ranch will convert flood irrigation to low-pressure drip irrigation on existing walnut orchard.	BUTTE	\$25,000
Tony & Amie Azevedo	Theldor Farms will install and implement full pump and valve automation and environmental monitoring with remote access and alerts to ensure optimum moisture levels for agricultural crop. Three field locations included in project on approximately 115 acres of walnuts. The project's purpose is to more accurately measure proper irrigation and prevent over water use.	TULARE	\$50,000
Trent Jackson Farms	Water for the West Side project is located on 76 acres near Lemoore, California. The project will convert a flood irrigation system to micro-irrigation and transform an alfalfa crop into a pistachio orchard. The project will reduce overall site water usage from both an increase in efficiency and decrease in demand. This project represents a great step forward for Valley Farmers as they work to maximize their irrigation distribution while maintaining their livelihood.	TULARE	\$50,000

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Triple K Orchards, LLC	Trent Jackson Farms will 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 farm to irrigate more accurately and have electronic records to review past irrigation and make any changes for the upcoming seasons. These will be the first units installed with future expansions including all of planted acres, well depth monitoring, remote camera, EC sensors, and on site weather stations. With all of these sensors, the hope is to set the trend for the stone fruit industry, on not only the conversation of water, but also of the land.	TULARE	\$50,000
Troy Jackson Farms		TULARE	\$50,000
Ty Muxlow Farms	This project will 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 for more accuracy when	TULARE	\$50,000
Wade Jackson Farms	Project includes installation of a new system to monitor soil moisture through sensors with electronic data output and flow meters to ensure efficient irrigation scheduling. This will allow the Ty Muxlow Farms to irrigate more accurately and have electronic records that will allow review of past irrigation and make any changes for the upcoming seasons. These will be the first units that will be installed with future expansions including all planted acres, well depth monitoring, remote camera, EC sensors, and on site weather stations. With all of these sensors, the hope is to set the trend for the stone fruit industry on not only the conversation of water but also of the land	TULARE	\$50,000

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William Pruitt	The project will install a new system to monitor soil moisture through sensors with electronic data output and flow meters to ensure efficient irrigation scheduling. This will allow Wade Jackson Farms to irrigate more accurately and have electronic records that will allow review of past irrigation and make any changes for the upcoming seasons. These will be the first units that will be installed with future expansions including all planted acres, well depth monitoring, remote camera, EC sensors, and on site weather stations. With all of these sensors, the hope is to set the trend for the stone fruit industry, on not only the conversation of water, but also of the land.	MERCED	\$50,000
Wilson Ranch	William Pruitt's Farm currently has 245 acres of row crops that are flood irrigated and drains into the San Joaquin River. In the past, roughly 60 inches/acre/year of water was used to irrigate the crops. This project will convert the flood irrigation system to a subsurface drip irrigation system to reduce the amount of water used to produce the row crops, apply the water and fertilizer more efficiently, and eliminate the drain water from the property.	TULARE	\$50,000
Wm. Bolthouse Farms, Inc.	This project will remove flood irrigation on an alfalfa plot and replace it with a highly efficient drip irrigation system, which will significantly reduce the total water use for the parcel while serving as a model for irrigation efficiency to surrounding farmers. If the current irrigation system remains, the ranch will be made fallow for the foreseeable future. By reducing water use and serving as an example for the region, Wilson Ranch is working towards a long term goal of improved efficiency and a sustainable water supply.	KERN	\$50,000

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WYSIWYG Farms	Bolthouse Farms will convert a diesel engine to electric motor at one water well site. Also, Variable Frequency Drive (VFD) will be installed on the irrigation well in Lancaster, California. The project will convert 500 HP tier 2 caterpillar diesel engine powering as agriculture irrigation water well to electricity. A 400 HP premium efficiency electric motor and a 400 HP VFD will be installed to maximize efficiency and performance.	SANTA CRUZ	\$7,329
Yamamoto Brothers Farms	This project will install irrigation monitoring equipment developed by Hortau to help WYSIWYG Farms reduce over application of irrigation water, reduce the amount of energy used in pumping irrigation water, and reduce demand on ground water in the Pajaro Valley Basin. This project will install Hortau monitoring system devices on all of our ranches, leveraging the training and experience developed by Hortau to our irrigators. The project will also leverage the network of data transfer towers Hortau has established in partnership with the Santa Cruz County RCD and the Community Water Dialog. These towers relay data from the units in the field to an online database where growers can track water use and needs in a given field. This system improves irrigation	STANISLAUS	\$47,477
Yangs Capital, LLC	Yamamoto Brothers Farms (Yamamoto Farms) will convert a tomato flood/furrow irrigated parcel to low pressure sub surface drip. There will be 66" bed spacing with 13mm thick tape with a 0.22pgh emitter every 12". In addition, the project will convert from diesel to electric pumping. This system will have 92% distribution uniformity (DU) and is capable of meeting evapotranspiration (ET) in 12 hour irrigation. Finally, the project will incorporate soil moisture monitoring and weather data in order to calculate crop demand based on CIMIS ET data.	EMA	\$8,774