

CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE
2017 Dairy Digester Research and Development Program
Projects Selected for Award of Funds

Updated: January 31, 2018

#	Organization Name	Project Title	CDFA Funding Award	Total Project Cost	Project Description	Location	GHG Emissions Reductions (10 years)*
1	Wreden Ranch Dairy Biogas	Wreden Ranch Dairy Biogas	\$3,000,000	\$7,735,860	Wreden Ranch, a General Order dairy in Hanford, CA proposes to build a Tier 1 designed manure only covered lagoon digester with enhanced gas storage, gas pre-treatment and effluent distribution. The project will add sand lane and screens for solid separation pre-digester. Blowers will deliver biogas to an adjacent centralized upgrading facility where CO2, N2, O2, and further H2S removal produces biomethane meeting Socal Gas Rule 30 specifications. A gas compressor lifts the gas pressure to Socal's Point of Receipt acceptance specification. Gas marketing, dairy processor and hauler commitments guarantee 100% delivery of the projects biomethane as R-CNG for vehicle fuel use in California. California Bioenergy, 4 Creeks Engineering, Anaergia, 4C Global and SoCalGas comprise the project team. A 1MW generator has been permitted for with an emissions mitigation plan in the event an alternate methane destruction device is required.	Hanford, Kings, Co.	393,915
2	Trilogy Dairy Biogas	Trilogy Dairy Biogas	\$2,250,000	\$6,450,840	Trilogy, a General Order dairy in Bakersfield, CA proposes to build a Tier 1 designed manure only covered lagoon with enhanced gas storage, gas pre-treatment and effluent distribution. Blowers will deliver biogas to an adjacent centralized upgrading facility where CO2, N2, O2, and further H2S removal produces biomethane meeting Socal Gas Rule 30 specifications. A gas compressor lifts the gas pressure to Socal's Point of Receipt acceptance specification. Gas marketing, dairy processor and hauler commitments guarantee 100% delivery of the projects biomethane as R-CNG for vehicle fuel use in California. California Bioenergy, 4 Creeks Engineering, Anaergia, 4C Global and SoCalGas comprise the project team. A 1MW generator has been permitted for with an emissions mitigation plan in the event an alternate methane destruction device is required.	Bakersfield, Kern Co.	254,577
3	Cloverdale Dairy Biogas	Cloverdale Dairy Biogas	\$3,000,000	\$7,836,793	Cloverdale, a General Order dairy in Hanford, CA proposes to build a Tier 1 designed manure only covered lagoon digester with enhanced gas storage, gas pre-treatment and effluent distribution. The project will add sand lane and screens for solid separation pre-digester. Blowers will deliver biogas to an adjacent centralized upgrading facility where CO2, N2, O2, and further H2S removal produces biomethane meeting Socal Gas Rule 30 specifications. A gas compressor lifts the gas pressure to Socal's Point of Receipt acceptance specification. Gas marketing, dairy processor and hauler commitments guarantee 100% delivery of the projects biomethane as R-CNG for vehicle fuel use in California. California Bioenergy, 4 Creeks Engineering, Anaergia, 4C Global and SoCalGas comprise the project team. A 1MW generator has been permitted for with an emissions mitigation plan in the event an alternate methane destruction device is required.	Hanford, Kings, Co.	360,851
4	T & W Dairy Biogas	T & W Dairy Biogas	\$2,600,000	\$7,295,759	T & W Farms, a General Order dairy in Bakersfield, CA proposes to build a Tier 1 designed manure only covered lagoon with enhanced gas storage, gas pre-treatment and effluent distribution. The project will add sand lane and screens for solid separation pre-digester. Blowers will deliver biogas to an adjacent centralized upgrading facility where CO2, N2, O2, and further H2S removal produces biomethane meeting Socal Gas Rule 30 specifications. A gas compressor lifts the gas pressure to Socal's Point of Receipt acceptance specification. Gas marketing, dairy processor and hauler commitments guarantee 100% delivery of the projects biomethane as R-CNG for vehicle fuel use in California. California Bioenergy, 4 Creeks Engineering, Anaergia, 4C Global and SoCalGas comprise the project team. A 1MW generator has been permitted for with an emissions mitigation plan in the event an alternate methane destruction device is required.	Bakersfield, Kern Co.	294,982

*Initial greenhouse gas (GHG) reductions calculated using the CARB Quantification Methodology tool (<https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/quantification.htm>). Actual GHG reductions may differ. MTCO₂e: Metric tonnes of carbon dioxide equivalent.

CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE
2017 Dairy Digester Research and Development Program
Projects Selected for Award of Funds

#	Organization Name	Project Title	CDFA Funding Award	Total Project Cost	Project Description	Location	GHG Emissions Reductions (10 years)*
5	Aligned Digester Cooperative LLC	Red Top Madera Dairy Digester Project	\$3,000,000	\$6,046,875	Aligned Digester Co., LLC (dba Aligned Digester Cooperative LLC) has partnered with Red Top Jerseys Dairy to develop an anaerobic digester that will produce up to 63,000 MMBtu of renewable natural gas (RNG) to expand the market for near-zero emission natural gas vehicles in the San Joaquin Valley. Aligned Digesters will construct a new 21 million gallon anaerobic lagoon to treat the manure and flushwater that is produced by the dairy which is today stored and periodically land applied. The resulting gas, which is approximately 60% methane, will be further cleaned to remove most of the carbon dioxide, water and other impurities to produce biomethane for the NGV market. The RNG will be compressed and sold to compressed natural gas fueling stations for local use. The Aligned Digester team is a collaboration of local developers specializing in dairy biogas that have joined forces to leverage the success of the Verwey digesters and expand the renewables market in the region.	Madera, Madera Co.	282,475
6	Calgren Dairy Fuels LLC	Williams Family Dairy Digester Fuel Pipeline	\$1,500,000	\$4,024,659	The Williams Family Dairy Digester Fuel Pipeline Project is a covered lagoon anaerobic digester processing manure in Tulare County. The project is owned by Calgren Dairy Fuels, which will construct it at no cost to the dairy and will make guaranteed payments to the dairy. The project is part of the Calgren Dairy Fuels Cluster. The methane-rich biogas from the digester will be supplied via private pipeline to fuel two 5MW gas turbines that power the Calgren ethanol refinery creating low carbon transportation fuels. The project will offset existing natural gas use and will result in a net decrease in NOx and criteria pollutants. The cluster will install a RCNG station and later connect to the utility pipeline to supply more RCNG stations. The project has secured 100% of the necessary pipeline easements, an air permit, and the water board says its application is "substantially complete." Tulare County has issued a Notice of Exemption from CEQA.	Pixley, Tulare Co.	201,208
7	Calgren Dairy Fuels LLC	K&M Visser Dairy Digester Fuel Pipeline Project	\$1,500,000	\$3,293,975	The K&M Visser Dairy Digester Fuel Pipeline Project is a covered lagoon anaerobic digester processing manure in Tulare County. The project is owned by Calgren Dairy Fuels, which will construct it at no cost to the dairy and will make guaranteed payments to the dairy. The project is part of the Calgren Dairy Fuels Cluster. The methane-rich biogas from the digester will be supplied via private pipeline to fuel two 5MW gas turbines that power the Calgren ethanol refinery creating low carbon transportation fuels. The project will offset existing natural gas use and will result in a net decrease in NOx and criteria pollutants. The cluster will install a RCNG station and later connect to the utility pipeline to supply more RCNG stations. The project has secured 100% of the necessary pipeline easements, an air permit, and the water board acknowledges its application as "substantially complete." Tulare County has issued a Notice of Exemption from CEQA.	Pixley, Tulare Co.	203,416
8	Maple Dairy Biogas	Maple Dairy Biogas	\$3,000,000	\$8,331,773	Maple Dairy, a General Order dairy in Bakersfield, CA proposes to build a Tier 1 designed manure only covered lagoon with enhanced gas storage, gas pre-treatment and effluent distribution. The project will add sand lane and screens for solid separation pre-digester. Blowers will deliver biogas to an adjacent centralized upgrading facility where CO2, N2, O2, and further H2S removal produces biomethane meeting Social Gas Rule 30 specifications. A gas compressor lifts the gas pressure to Social's Point of Receipt acceptance specification. Gas marketing, dairy processor and hauler commitments guarantee 100% delivery of the projects biomethane as R-CNG for vehicle fuel use in California. California Bioenergy, 4 Creeks Engineering, Anaergia, 4C Global and SoCalGas comprise the project team. A 1MW generator has been permitted for with an emissions mitigation plan in the event an alternate methane destruction device is required.	Bakersfield, Kern Co.	348,171

*Initial greenhouse gas (GHG) reductions calculated using the CARB Quantification Methodology tool (<https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/quantification.htm>). Actual GHG reductions may differ. MTCO₂e: Metric tonnes of carbon dioxide equivalent.

**CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE
2017 Dairy Digester Research and Development Program
Projects Selected for Award of Funds**

#	Organization Name	Project Title	CDFA Funding Award	Total Project Cost	Project Description	Location	GHG Emissions Reductions (10 years)*
9	S&S Dairy Biogas	S&S Dairy Biogas	\$1,600,000	\$6,687,926	S&S Dairy, a General Order dairy in Visalia, CA proposes to build a Tier 1 designed manure only covered lagoon with enhanced gas storage, gas pre-treatment and effluent distribution. The project will add sand lane and screens for solid separation pre-digester. Blowers will deliver biogas to an adjacent centralized upgrading facility where CO2, N2, O2, and further H2S removal produces biomethane meeting Socal Gas Rule 30 specifications. A gas compressor lifts the gas pressure to Socal's Point of Receipt acceptance specification. Gas marketing, dairy processor and hauler commitments guarantee 100% delivery of the projects biomethane as R-CNG for vehicle fuel use in California. California Bioenergy, 4 Creeks Engineering, Anaergia, 4C Global and SoCalGas comprise the project team. A 1MW generator has been permitted for with an emissions mitigation plan in the event an alternate methane destruction device is required.	Visalia, Tulare Co.	167,417
10	Calgren Dairy Fuels-LLC	Bosman Dairy Digester Fuel Pipeline Project	\$2,015,496	\$4,030,992	The Bosman Dairy Digester Fuel Pipeline Project is a covered lagoon anaerobic digester processing manure in Tulare County. The project is owned by Calgren Dairy Fuels, which will construct it at no cost to the dairy and will make guaranteed payments to the dairy. The project is part of the Calgren Dairy Fuels Cluster. The methane-rich biogas from the digester will be supplied via private pipeline to fuel two 5MW gas turbines that power the Calgren ethanol refinery creating low carbon transportation fuels. The project will offset existing natural gas combustion and will result in a net decrease in NOx and criteria pollutants. The cluster will install a RCNG station and later connect to the utility pipeline to supply more RCNG stations. The project has secured 100% of the necessary pipeline easements, an air permit, and the water board acknowledges its application as "substantially complete." Tulare County has issued a Notice of Exemption from CEQA.	Pixley, Tulare Co.	
10	Calgren Dairy Fuels LLC	Pixley Dairy Digester Fuel Pipeline Project	\$1,600,000	\$3,447,237	The Pixley Dairy Digester Fuel Pipeline Project is a covered lagoon anaerobic digester processing manure in Tulare County. The project is owned by Calgren Dairy Fuels, which will construct it at no cost to the dairy and will make guaranteed payments to the dairy. The project is part of the Calgren Dairy Fuels Cluster. The methane-rich biogas from the digester will be supplied via private pipeline to fuel two 5MW gas turbines that power the Calgren ethanol refinery creating low carbon transportation fuels. The project will offset existing natural gas use and will result in a net decrease in NOx and criteria pollutants. The cluster will install a RCNG station and later connect to the utility pipeline to supply more RCNG stations. The project has secured 100% of the necessary pipeline easements, an air permit, and the water board acknowledges its application as "substantially complete." Tulare County has issued a Notice of Exemption from CEQA.	Pixley, Tulare Co.	212,622
11	Calgren Dairy Fuels LLC	Legacy Dairy Digester Fuel Pipeline	\$1,550,000	\$3,281,327	The Legacy Dairy Digester Fuel Pipeline Project is a covered lagoon anaerobic digester processing manure in Tulare County. The project is owned by Calgren Dairy Fuels, which will construct it at no cost to the dairy and will make guaranteed payments to the dairy. The project is part of the Calgren Dairy Fuels Cluster. The methane-rich biogas from the digester will be supplied via private pipeline to fuel two 5MW gas turbines that power the Calgren ethanol refinery creating low carbon transportation fuels. The project will offset existing natural gas use and will result in a net decrease in NOx and criteria pollutants. The cluster will install a RCNG station and later connect to the utility pipeline to supply more RCNG stations. The project has secured 100% of the necessary pipeline easements, an air permit, and the water board acknowledges its application as "substantially complete." A CEQA application has been submitted to Tulare County.	Pixley, Tulare Co.	207,209

*Initial greenhouse gas (GHG) reductions calculated using the CARB Quantification Methodology tool (<https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/quantification.htm>). Actual GHG reductions may differ. MTCO₂e: Metric tonnes of carbon dioxide equivalent.

**CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE
2017 Dairy Digester Research and Development Program
Projects Selected for Award of Funds**

#	Organization Name	Project Title	CDFR Funding Award	Total Project Cost	Project Description	Location	GHG Emissions Reductions (10 years)*
12	Moonlight Dairy Biogas	Moonlight Dairy Biogas	\$1,500,000	\$6,355,146	Moonlight Dairy, a General Order dairy in Visalia, CA proposes to build a Tier 1 designed manure only covered lagoon with enhanced gas storage, gas pre-treatment and effluent distribution. The project will add sand lane and screens for solid separation pre-digester. Blowers will deliver biogas to an adjacent centralized upgrading facility where CO ₂ , N ₂ , O ₂ , and further H ₂ S removal produces biomethane meeting Socal Gas Rule 30 specifications A gas compressor lifts the gas pressure to Socal's Point of Receipt acceptance specification. Gas marketing, dairy processor and hauler commitments guarantee 100% delivery of the projects biomethane as R-CNG for vehicle fuel use in California. California Bioenergy, 4 Creeks Engineering, Anaergia, 4C Global and SoCalGas comprise the project team. A 1MW generator has been permitted for with an emissions mitigation plan in the event an alternate methane destruction device is required.	Visalia, Tulare Co.	154,834
13	Calgren Dairy Fuels LLC	R Vander Eyk Dairy Digester Fuel Pipeline Project	\$1,000,000	\$2,498,381	The Robert Vander Eyk Dairy Digester Fuel Pipeline Project is a covered lagoon anaerobic digester processing manure in Tulare County. The project is owned by Calgren Dairy Fuels, which will construct it at no cost to the dairy and will make guaranteed payments to the dairy. The project is part of the Calgren Dairy Fuels Cluster. The methane-rich biogas from the digester will be supplied via private pipeline to fuel two 5MW gas turbines that power the Calgren ethanol refinery creating low carbon transportation fuels. The project will offset existing natural gas use and will result in a net decrease in NO _x and criteria pollutants. The cluster will install a RCNG station and later connect to the utility pipeline to supply more RCNG stations. The project has secured 100% of the necessary pipeline easements, an air permit, and the water board says its application is "substantially complete." Tulare County has issued a Notice of Exemption from CEQA.	Pixley, Tulare Co.	132,586
14	Calgren Dairy Fuels LLC	Circle A Dairy Digester Fuel Pipeline Project	\$1,050,000	\$2,351,228	The Circle A Dairy Digester Fuel Pipeline Project is a covered lagoon anaerobic digester processing manure in Tulare County. The project is owned by Calgren Dairy Fuels, which will construct it at no cost to the dairy and will make guaranteed payments to the dairy. The project is part of the Calgren Dairy Fuels Cluster. The methane-rich biogas from the digester will be supplied via private pipeline to fuel two 5MW gas turbines that power the Calgren ethanol refinery creating low carbon transportation fuels. The project will offset existing natural gas use and will result in a net decrease in NO _x and criteria pollutants. The cluster will install a RCNG station and later connect to the utility pipeline to supply more RCNG stations. The project has secured 100% of the necessary pipeline easements, an air permit, and the water board acknowledges its application as "substantially complete." Tulare County has issued a Notice of Exemption from CEQA.	Pixley, Tulare Co.	138,745
15	Bos Farms Dairy Biogas	Bos Farms Dairy Biogas	\$1,500,000	\$12,834,030	Bos Farms, a General Order dairy in Tulare, CA proposes to build a Tier 1 designed manure only covered lagoon with enhanced gas storage, gas pre-treatment and effluent distribution. The project will add sand lane and screens for solid separation pre-digester. Blowers will deliver low pressure biogas to a nearby centralized upgrading facility where CO ₂ , N ₂ , O ₂ , and further H ₂ S removal produces biomethane meeting Socal Gas Rule 30 specifications. A gas compressor lifts the gas pressure to Socal's Point of Receipt acceptance specification. Gas marketing, dairy processor and hauler commitments guarantee 100% delivery of the projects biomethane as R-CNG for vehicle fuel use in California. California Bioenergy, 4 Creeks Engineering, Anaergia, 4C Global, and SoCalGas comprise the project team. A 1MW generator has been permitted for with an emissions mitigation plan in the event an alternate methane destruction device is required.	Tulare, Tulare Co.	168,398

*Initial greenhouse gas (GHG) reductions calculated using the CARB Quantification Methodology tool (<https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/quantification.htm>). Actual GHG reductions may differ. MTCO_{2e}: Metric tonnes of carbon dioxide equivalent.

**CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE
2017 Dairy Digester Research and Development Program
Projects Selected for Award of Funds**

#	Organization Name	Project Title	CFDA Funding Award	Total Project Cost	Project Description	Location	GHG Emissions Reductions (10 years)*
16	Hamstra Dairy Biogas	Hamstra Dairy Biogas	\$2,000,000	\$6,580,840	Hamstra Dairy, a General Order dairy in Tulare, CA with approximately 2,760 milk cows plus support stock proposes to build a Tier 1 designed manure only covered lagoon with enhanced gas storage, gas pre-treatment and effluent distribution. The project will add sand lane and screens for solid separation pre-digester. Blowers will deliver biogas to an adjacent centralized upgrading facility where CO ₂ , N ₂ , O ₂ , and further H ₂ S removal produces biomethane meeting Socal Gas Rule 30 specifications. A gas compressor lifts the gas pressure to Socal's Point of Receipt acceptance specification. Gas marketing, dairy processor and hauler commitments guarantee 100% delivery of the projects biomethane as R-CNG for vehicle fuel use in California. California Bioenergy, 4 Creeks Engineering, Anaergia, 4C Global and SoCalGas comprise the project team. A 1MW generator has been permitted for with an emissions mitigation plan in the event an alternate methane destruction device is required.	Tulare, Tulare Co.	205,115
17	Hollandia Farms Dairy Biogas	Hollandia Farms Dairy Biogas	\$1,500,000	\$7,316,291	Hollandia Farms, a General Order dairy in Hanford, CA with approximately 2,300 milk cows plus support stock proposes to build a Tier 1 designed manure only covered lagoon digester with enhanced gas storage, gas pre-treatment and effluent distribution. The project will add sand lane and screens for solid separation pre-digester. Blowers will deliver biogas to an adjacent centralized upgrading facility where CO ₂ , N ₂ , O ₂ , and further H ₂ S removal produces biomethane meeting Socal Gas Rule 30 specifications. A gas compressor lifts the gas pressure to Socal's Point of Receipt acceptance specification. Gas marketing, dairy processor and hauler commitments guarantee 100% delivery of the projects biomethane as R-CNG for vehicle fuel use in California. California Bioenergy, 4 Creeks Engineering, Anaergia, 4C Global and SoCalGas comprise the project team. A 1MW generator has been permitted for with an emissions mitigation plan in the event an alternate methane destruction device is required.	Hanford, Kings, Co.	178,426
18	Rancho Teresita Dairy Biogas	Rancho Teresita Dairy Biogas	\$2,100,000	\$10,400,558	Rancho Teresita, a General Order dairy in Tulare, CA will build a Tier 1 designed manure only covered lagoon with enhanced gas storage, gas pre-treatment and effluent distribution. The project will add sand lane and screens for solid separation pre-digester. Blowers will deliver low pressure biogas to a nearby centralized upgrading facility where CO ₂ , N ₂ , O ₂ , and further H ₂ S removal produces biomethane meeting Socal Gas Rule 30 specifications. A gas compressor lifts the gas pressure to Socal's Point of Receipt acceptance specification. Gas marketing, dairy processor and hauler commitments guarantee 100% delivery of the projects biomethane as R-CNG for vehicle fuel use in California. California Bioenergy, 4 Creeks Engineering, Anaergia, 4C Global, and SoCalGas comprise the project team. A 1MW generator has been permitted with an emissions mitigation plan in the event an alternate methane destruction device is required.	Tulare, Tulare Co.	236,251
TOTAL \$			\$35,250,000	\$112,769,498			

*Initial greenhouse gas (GHG) reductions calculated using the CARB Quantification Methodology tool (<https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/quantification.htm>). Actual GHG reductions may differ. MTCO₂e: Metric tonnes of carbon dioxide equivalent.