

CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE
2022 Dairy Digester Research and Development Program
 Applications Submitted to CDFA

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** Total GHG emission reduction is estimated by the applicant and has not been verified.

#	Project Title	Description*	County	GHG Emission Reduction Over 10 Years (MTCO _{2e})**	Requested Grant Funds	Matching Funds
1	3 Machados Dairy Digester Project	3 Machados Dairy Digester Project is a new covered lagoon digester at 3 Machados Dairy in Merced County, California. The project is owned by 3 Machados Dairy Biogas LLC and will be a part of the Merced Pipeline Cluster. This cluster's initial eight digesters and upgrading facility are operational and delivering biomethane to PG&E via the operational utility pipeline interconnection. The biogas from this new digester will be transported via the cluster's private, low-pressure pipeline to the gas upgrading facility. At the hub facility, the biogas will be upgraded into biomethane and injected into the utility pipeline for delivery to contracted CNG fueling stations in the Central Valley and the state. The project is developed by Maas Energy Works.	Merced	158,441	\$ 1,200,000	\$ 3,527,795
2	Alden Petersen Dairy - AAFK Central Dairy Digester Cluster	The Aemetis Biogas project team will install a covered lagoon digester at the project site. When complete, the proposed digester will produce biogas, which after being processed to remove hydrogen sulfide (H ₂ S), will be conveyed via private pipeline to the Aemetis Advanced Fuels Keyes (AAFK) facility. There, Aemetis will further upgrade the biogas to pipeline-quality, negative-carbon-intensity renewable natural gas (RNG) suitable for use as transportation fuel. Aemetis will sell a portion of the RNG to local fleets via its onsite RNG fueling station and will direct the remainder to sale to larger fleets - such as Trilium and Waste Management - via the Pacific Gas & Electric (PG&E) pipeline, or for use as energy at AAFK to produce renewable ethanol, thus replacing carbon-based natural gas. The project will serve as one of the foundational digesters in the Aemetis Central Dairy Digester Cluster in Stanislaus and Merced Counties, an area with minimal CDFA investment.	Stanislaus	46,810	\$ 1,600,000	\$ 2,420,208
3	Alta Sierra Dairy Biogas	Alta Sierra Dairy is part of the established North Visalia dairy biogas to fuel cluster in Tulare County, CA. The dairy will install a Tier 1 designed manure-only covered lagoon digester with integrated gas storage and pre-treatment. An on-dairy biogas conditioning and compressor will remove hydrogen sulfide and moisture and then meter and move the clean biogas into a gathering line connecting to centralized biogas upgrading and interconnection facility. The biogas conditioning system will be shared with the adjacent South Corner dairy. Biomethane, meeting SoCalGas Rule 30, will be injected into the co-located point of receipt. SoCalGas has previously committed to build & operate the point of receipt & mainline extension to their gas distribution system. The project's biomethane will be delivered as R-CNG to fleets and CNG fueling stations in California. California Bioenergy is the project developer.	Tulare	65,138	\$ 651,380	\$ 4,125,463
4	Bar Mac Dairy Biogas	The project is committed to building a tier 1 double-lined, covered lagoon digester, a biogas conditioning system (iron sponge and activated carbon based H ₂ S scrubber), a biogas to biomethane upgrader (skid mounted and located on-site), and a high-pressure tube trailer truck loading station. The produced RNG will be tube-trailer down to the CalBioGas South Tulare interconnection location, or alternatively other nearby CalBio facilities, for off-loading and metering into the SoCalGas pipeline.	Merced	91,235	\$ 912,352	\$ 6,844,732
5	Bar Vee Dairy - AAFK Central Dairy Digester Cluster	The Aemetis Biogas project team will install a covered lagoon digester at the project site. When complete, the proposed digester will produce biogas, which after being processed to remove hydrogen sulfide (H ₂ S), will be conveyed via private pipeline to the Aemetis Advanced Fuels Keyes (AAFK) facility. There, Aemetis will further upgrade the biogas to pipeline-quality, negative-carbon-intensity renewable natural gas (RNG) suitable for use as transportation fuel. Aemetis will sell a portion of the RNG to local fleets via its onsite RNG fueling station and will direct the remainder to sale to larger fleets - such as Trilium and Waste Management - via the Pacific Gas & Electric (PG&E) pipeline, or for use as energy at AAFK to produce renewable ethanol, thus replacing carbon-based natural gas. The project will serve as one of the foundational digesters in the Aemetis Central Dairy Digester Cluster in Stanislaus and Merced Counties, an area with minimal CDFA investment.	Stanislaus	42,250	\$ 1,600,000	\$ 2,101,878
6	CDF Howard Dairy Digester Project	CDF Howard Dairy Digester Project is a new covered lagoon digester at the CDF Howard Dairy in Merced County, California. The project is owned by San Joaquin Valley Energy LLC and will be trucking biomethane to the Merced Pipeline Cluster. This cluster's initial eight digesters and upgrading facility are operational and delivering biomethane to PG&E via the operational utility pipeline interconnect. The biogas from this new digester will be upgraded to biomethane onsite at the dairy and then transported via truck to the Merced upgrading facility and utility interconnection. At the Merced facility, the biomethane will be offloaded and injected into the utility pipeline for delivery to contracted CNG fueling stations in the Central Valley and the state. The project is developed by Maas Energy Works.	Merced	316,585	\$ 1,600,000	\$ 8,102,501
7	Chowchilla RNG	The Chowchilla RNG facility represents an exciting opportunity to produce large volumes (700k MMBtu) of low CI RNG. Renowned for its livestock intensity, there are copious amounts of manures within a 20-30 km radius of the proposed site. This in itself enables a good opportunity for a centralized manure processing facility together with the opportunity to obtain feedstock diversity to prevent dependence on a single source of feedstock or supplier and balance the facility in times of shortages or to provide optimum diets. The centralized facility has the benefit of scale which leans towards other present and future benefits such as carbon capture, improved efficiencies, new technologies, and nutrient management. This plant also allows for a highly skilled team of professionals to execute a management system and process control that's best in class for safety, performance and financial returns. Once the centralized facility is completed, it is planned to use this as and hub and spoke system where by remote farms further away are virtually transported to the centralized facility adding further streams.	Madera	1,833,333	\$ 1,600,000	\$ 23,400,000

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8	Couco Creek Dairy Digester Project	Couco Creek Dairy Digester Project is a new covered lagoon digester at the Couco Creek Dairy in Stanislaus County, California. The project is owned by Couco Creek Dairy Biogas LLC and will be trucking biomethane to the Merced Pipeline Cluster. This cluster's initial eight digesters and upgrading facility are operational and delivering biomethane to PG&E via the operational utility pipeline interconnect. The biogas from this new digester will be upgraded to biomethane onsite at the dairy and then transported via truck to the Merced upgrading facility and utility interconnection. At the Merced facility, the biomethane will be offloaded and injected into the utility pipeline for delivery to contracted CNG fueling stations in the Central Valley and the state. The project is developed by Maas Energy Works.	Stanislaus	190,090	\$ 1,600,000	\$ 4,275,216
9	Edelweiss Dairy - AAFK Central Dairy Digester Cluster	The Aemetis Biogas project team will install a covered lagoon digester at the project site. When complete, the proposed digester will produce biogas, which after being processed to remove hydrogen sulfide (H ₂ S), will be conveyed via private pipeline to the Aemetis Advanced Fuels Keyes (AAFK) facility. There, Aemetis will further upgrade the biogas to pipeline-quality, negative-carbon-intensity renewable natural gas (RNG) suitable for use as transportation fuel. Aemetis will sell a portion of the RNG to local fleets via its onsite RNG fueling station and will direct the remainder to sale to larger fleets - such as Trilium and Waste Management - via the Pacific Gas & Electric (PG&E) pipeline, or for use as energy at AAFK to produce renewable ethanol, thus replacing carbon-based natural gas. The project will serve as one of the foundational digesters in the Aemetis Central Dairy Digester Cluster in Stanislaus and Merced Counties, an area with minimal CDFA investment.	Stanislaus	100,931	\$ 1,600,000	\$ 2,470,725
10	Five Star and Lou-Mar Dairy Biogas LLC	Five Star Dairy and Lou-Mar Dairy are two neighboring dairies within the established South Tulare dairy biogas to fuel cluster in Tulare County, CA. The dairies will install a shared Tier 1 designed manure-only covered lagoon digester with integrated gas storage and pre-treatment. The dairies will also share an on-dairy biogas conditioning and compressor which will remove hydrogen sulfide and moisture and then meter and move the clean biogas from both dairies into a gathering line connecting to centralized biogas upgrading and interconnection facility. Biomethane, meeting SoCalGas Rule 30, will be injected into the co-located point of receipt. The upgrader and interconnect have been operational since April 2021. The project's biomethane will be delivered as R-CNG to fleets and CNG fueling stations in California. California Bioenergy is the project developer.	Tulare	72,439	\$ 724,391	\$ 5,436,675
11	Grand View Dairy Digester Project	Grand View Dairy Digester Project is a new covered lagoon digester at the Grand View Dairy in Merced County, California. The project is owned by Grand View Dairy and will be trucking biomethane to the Merced Pipeline Cluster. This cluster's initial eight digesters and upgrading facility are operational and delivering biomethane to PG&E via the operational utility pipeline interconnect. The biogas from this new digester will be upgraded to biomethane onsite at the dairy and then transported via truck to the Merced upgrading facility and utility interconnection. At the Merced facility, the biomethane will be offloaded and injected into the utility pipeline for delivery to contracted CNG fueling stations in the Central Valley and the state. The project is developed by Maas Energy Works.	Merced	132,195	\$ 1,600,000	\$ 4,414,535
12	Hidden Valley Dairy Biogas	The project is committed to building a tier 1 double-lined, covered lagoon digester, a biogas conditioning system (iron sponge and activated carbon based H ₂ S scrubber), a biogas to biomethane upgrader (skid mounted and located on-site) and a high-pressure tube trailer truck loading station. The produced RNG will be tube-trailer down to the CalBioGas South Tulare interconnection location, or alternatively other nearby CalBio facilities, for off-loading and metering into the SoCalGas pipeline.	Merced	97,646	\$ 976,463	\$ 7,085,569
13	Humboldt Ag-Grid Community Digester	Ag-Grid Energy, a dairy digester developer, and Miranda Dairy, a leading member of the coop called Western Organic Family Farms, have formed a business partnership called Humboldt Ag-Grid LLC. This partnership plans to implement a multi-farm community anaerobic digester located at Miranda Dairy in Ferndale, California. The facility will process dairy manure from a total of 7 dairies and food waste diverted from the local landfill, creamery and other food processors. The digesters will accept manure and food waste in a ratio of 80:20 manure:food waste. The manure from the feeder dairies will be trucked to the central digester location via an EV tanker truck that will be charged by the project. An equivalent amount of digestate will be trucked back to each of the dairies to be used as fertilizer on their land. The biogas generated from manure and food waste will be routed to a CHP system, where it will be converted into renewable electricity, which is to be sold into California's EV market via the Low Carbon Fuel Standard (LCFS). The waste heat from the CHP system will be reused to maintain the digester temperature at 100°F, thereby eliminating reliance on outside energy.	Humboldt	106,388	\$ 1,600,000	\$ 13,639,534
14	Koolhaas Dairy Biogas	The project is committed to building a tier 1 double-lined, covered lagoon digester, a biogas conditioning system (iron sponge and activated carbon based H ₂ S scrubber), a biogas to biomethane upgrader (skid mounted and located on-site) and a high-pressure tube trailer truck loading station. The produced RNG will be tube-trailer down to the CalBioGas South Tulare interconnection location, or alternatively other nearby CalBio facilities, for off-loading and metering into the SoCalGas pipeline.	San Joaquin	45,886	\$ 504,744	\$ 7,097,868

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15	Lakeshore Dairy Digester	Lakeshore Dairy Digester Project is a new covered lagoon digester at the Lakeshore Dairy in Kings County, California. The project is owned by Lakeshore Dairy and will be trucking biomethane to the Merced Pipeline Cluster. This cluster's initial eight digesters and upgrading facility are operational and delivering biomethane to PG&E via the operational utility pipeline interconnect. The biogas from this new digester will be upgraded to biomethane onsite at the dairy and then transported via truck to the Merced upgrading facility and utility interconnection. At the Merced facility, the biomethane will be offloaded and injected into the utility pipeline for delivery to contracted CNG fueling stations in the Central Valley and the state. The project is developed by Maas Energy Works.	Kings	159,612	\$ 1,600,000	\$ 3,972,072
16	LegenDairy Digester Project	LegenDairy Digester Project is a new covered lagoon digester at LegenDairy Farms in Tulare County, California. The project is owned by Calgren Dairy Fuels and will be a part of the Calgren Dairy Fuels Cluster. This cluster is operational, producing biogas from nineteen connected (via physical and virtual pipeline) digesters and injecting renewable natural gas into the SoCalGas pipeline. The biogas from this new digester will be transported via the cluster's private, low-pressure pipeline to the gas upgrading hub. At the upgrading facility, the biogas will be upgraded to biomethane and injected into the SoCalGas pipeline for delivery to contracted CNG fueling stations in the Central Valley and the state. The project is developed by Maas Energy Works.	Tulare	113,934	\$ 1,200,000	\$ 3,940,407
17	Lerda-Goni Farms Biogas	Lerda-Goni Farms is part of the established South Tulare dairy biogas to fuel cluster in Tulare County, CA. The dairy will install a Tier 1 designed manure-only covered lagoon digester with integrated gas storage and pre-treatment. An on-dairy biogas conditioning and compressor will remove hydrogen sulfide and moisture and then meter and move the clean biogas into a gathering line connecting to centralized biogas upgrading and interconnection facility. Biomethane, meeting SoCalGas Rule 30, will be injected into the co-located point of receipt. The upgrader and interconnect have been operational since April 2021. The project's biomethane will be delivered as R-CNG to fleets and CNG fueling stations in California. California Bioenergy is the project developer.	Tulare	45,677	\$ 502,447	\$ 3,988,935
18	Marlins View Jersey Dairy Biogas	The project is committed to building a tier 1 double-lined, covered lagoon digester, a biogas conditioning system (iron sponge and activated carbon based H ₂ S scrubber), a biogas to biomethane upgrader (skid mounted and located on-site) and a high-pressure tube trailer truck loading station. The produced RNG will be tube-trailer down to the CalBioGas South Tulare interconnection location, or alternatively other nearby CalBio facilities, for off-loading and metering into the SoCalGas pipeline.	Merced	81,822	\$ 818,215	\$ 5,905,782
19	Mattos Bros Dairy Digester Project	Mattos Bros Dairy Digester Project is a new covered lagoon digester at the Mattos Bros Dairy in Kings County, California. The project is owned by Mattos Bros Dairy L.P. and will be a part of the Lakeside Pipeline Cluster. This cluster's initial six digesters and upgrading facility are operational and are delivering gas to the SoCalGas (SCG) pipeline via the operational utility pipeline interconnect. The biogas from this new digester will be transported via the cluster's private, low-pressure pipeline to the gas upgrading facility. At the hub facility, the biogas will be upgraded into biomethane and injected into the SCG pipeline for delivery to contracted CNG fueling stations in the Central Valley and the state. The project is developed by Maas Energy Works.	Kings	119,017	\$ 1,600,000	\$ 2,732,819
20	Meirinho West Dairy Digester Project	Meirinho West Dairy Digester Project is a new covered lagoon digester at the Meirinho West Dairy in Stanislaus County, California. The project is owned by Meirinho West Dairy Biogas LLC and will be trucking biomethane to the Merced Pipeline Cluster. This cluster's initial eight digesters and upgrading facility are operational and delivering biomethane to PG&E via the operational utility pipeline interconnect. The biogas from this new digester will be upgraded to biomethane onsite at the dairy and then transported via truck to the Merced upgrading facility and utility interconnection. At the Merced facility, the biomethane will be offloaded and injected into the utility pipeline for delivery to contracted CNG fueling stations in the Central Valley and the state. The project is developed by Maas Energy Works.	Stanislaus	166,952	\$ 1,600,000	\$ 3,816,266
21	P&M Dairy and VP Farms Biogas	P&M Dairy and VP Farms are two neighboring dairies within the established South Tulare dairy biogas to fuel cluster in Tulare County, CA. The dairies will install a shared Tier 1 designed manure-only covered lagoon digester with integrated gas storage and pre-treatment. The dairies will also share an on-dairy biogas conditioning and compressor which will remove hydrogen sulfide and moisture and then meter and move the clean biogas from both dairies into a gathering line connecting to centralized biogas upgrading and interconnection facility. Biomethane, meeting SoCalGas Rule 30, will be injected into the co-located point of receipt. The upgrader and interconnect have been operational since April 2021. The project's biomethane will be delivered as R-CNG to fleets and CNG fueling stations in California. California Bioenergy is the project developer.	Tulare	154,656	\$ 1,546,564	\$ 4,626,524

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22	Pete Postma and Sons Dairy - AAFK Central Dairy Digester Cluster	The Aemetis Biogas project team will install a covered lagoon digester at the project site. When complete, the proposed digester will produce biogas, which after being processed to remove hydrogen sulfide (H ₂ S), will be conveyed via private pipeline to the Aemetis Advanced Fuels Keyes (AAFK) facility. There, Aemetis will further upgrade the biogas to pipeline-quality, negative-carbon-intensity renewable natural gas (RNG) suitable for use as transportation fuel. Aemetis will sell a portion of the RNG to local fleets via its onsite RNG fueling station and will direct the remainder to sale to larger fleets - such as Trilium and Waste Management - via the Pacific Gas & Electric (PG&E) pipeline, or for use as energy at AAFK to produce renewable ethanol, thus replacing carbon-based natural gas. The project will serve as one of the foundational digesters in the Aemetis Central Dairy Digester Cluster in Stanislaus and Merced Counties, an area with minimal CDFA investment.	Stanislaus	142,701	\$ 1,600,000	\$ 2,598,702
23	Pires Dairy Farms Biogas	The project is committed to build a tier 1 double-lined, covered lagoon digester, a biogas conditioning system (iron sponge and activated carbon based H ₂ S scrubber), a biogas to biomethane upgrader (skid mounted and located on-site) and a high pressure tube trailer truck loading station. The produced RNG will be tube-trailer down to the CalBioGas South Tulare interconnection location, or alternatively other nearby CalBio facilities, for off-loading and metering into the SoCalGas pipeline.	Merced	138,338	\$ 1,383,383	\$ 7,748,403
24	River Rock Dairy Digester Project	River Rock Dairy Digester Project is a new covered lagoon digester at the River Rock Dairy in Stanislaus County, California. The project is owned by Second Street Energy LLC and will and will be trucking biomethane to the Merced Pipeline Cluster. This cluster's initial eight digesters and upgrading facility are operational and delivering biomethane to PG&E via the operational utility pipeline interconnect. The biogas from this new digester will be upgraded to biomethane onsite at the dairy and then transported via truck to the Merced upgrading facility and utility interconnection. At the Merced facility, the biomethane will be offloaded and injected into the utility pipeline for delivery to contracted CNG fueling stations in the Central Valley and the state. The project is developed by Maas Energy Works.	Stanislaus	104,835	\$ 1,600,000	\$ 4,115,962
25	Temple Creek Dairy Biogas	The project is committed to build a tier 1 double-lined, covered lagoon digester, a biogas conditioning system (iron sponge and activated carbon based H ₂ S scrubber), a biogas to biomethane upgrader (skid mounted and located on-site) and a high pressure tube trailer truck loading station. The produced RNG will be tube-trailer down to the CalBioGas South Tulare interconnection location, or alternatively other nearby CalBio facilities, for off-loading and metering into the SoCalGas pipeline.	San Joaquin	122,286	\$ 1,222,864	\$ 6,152,801
26	Top O' The Morn Farms Biogas	Top O' The Morn Farms is part of the established South Tulare dairy biogas to fuel cluster in Tulare County, CA. The dairy will install a Tier 1 designed manure-only covered lagoon digester with integrated gas storage and pre-treatment. An on-dairy biogas conditioning and compressor will remove hydrogen sulfide and moisture and then meter and move the clean biogas into a gathering line connecting to centralized biogas upgrading and interconnection facility. Biomethane, meeting SoCalGas Rule 30, will be injected into the co-located point of receipt. The upgrader and interconnect have been operational since April 2021. The project's biomethane will be delivered as R-CNG to fleets and CNG fueling stations in California. California Bioenergy is the project developer.	Tulare	133,225	\$ 1,332,251	\$ 3,923,771
27	Vanderham West Dairy Digester	Vanderham West Digester Project is a new covered lagoon digester at Vandherham West Dairy in Tulare County, California. The project is owned by Calgren Dairy Fuels and will be a part of the Calgren Dairy Fuels Cluster. This cluster is operational, producing biogas from nineteen connected (via physical and virtual pipeline) digesters and injecting renewable natural gas into the SoCalGas pipeline. The biogas from this new digester will be transported via the cluster's private, low-pressure pipeline to the gas upgrading hub. At the upgrading facility, the biogas will be upgraded to biomethane and injected into the SoCalGas pipeline for delivery to contracted CNG fueling stations in the Central Valley and the state. The project is developed by Maas Energy Works.	Tulare	107,442	\$ 1,600,000	\$ 4,372,930
Total				4,889,864	\$ 35,375,055	\$ 152,838,073