

**SB 1383 –
Dairy & Livestock
Greenhouse Gas Reduction
Working Group**

Joint Subgroup Meeting

July 26, 2018

10:00 am to 4:00 pm



Main Meeting at
San Joaquin Valley APCD Office - Fresno
with video teleconferencing at
Modesto and Bakersfield branches

Dairy Subgroup #2: Fostering Markets for Digester Projects

Oversight Group
(Agency Heads)



Subgroup #1:
Non-Digesters



Subgroup #2:
Digesters



Subgroup #3:
Research



Committee Membership Breakdown

CO-CHAIRS

- Michael Boccadoro (West Coast Advisors)
- Jim Lucas (SoCalGas)
- Ryan Schuchard (CALSTART)

25 Subgroup committee members consists of representatives from...

- dairy industry
- utilities
- project development
- environmental justice
- transportation and fuel industries
- non-governmental organizations
- local government
- financial consulting
- advocacy groups
- health organizations

Tremendous Progress

- ▶ Dairy Digester Research and Development Program (DDRDP)
 - ▶ 6 new projects came online in 2017
 - ▶ 18 more projects in various stages of development
 - ▶ 40 additional projects recently awarded grants by CDFA
 - ▶ New round of funding available in "18-'19 fiscal year
 - ▶ Conceivable to have 100-120 projects funded and operating in next 4-5 years



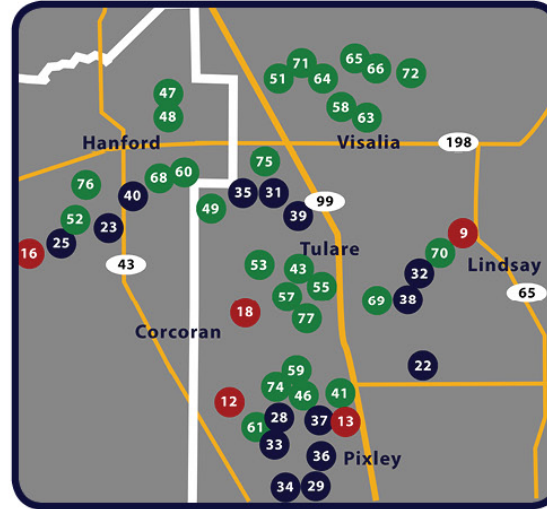
California Dairy Digester Development



Kern County (11)



Kings & Tulare Counties (48)



Merced, Madera & Fresno Counties (12)



Explore the interactive map, and learn more at DairyCares.com/dairy-digesters

- | | | | | |
|---|------------------------------|------------------------------|-----------------------------------|-------------------------|
| 1. Bidart- Old River | 16. Verwey Dairy- Hanford | 33. Pixley Dairy | 50. Double DJ Dairy (South) | 67. Red Rock Dairy |
| 2. Bidart- Stockdale | 17. Verwey Dairy- Madera | 34. Legacy Ranch | 51. Double J Dairy | 68. River Ranch Dairy |
| 3. Blakes Landing Farms/ Straus Family Creamery | 18. GJ TeVelde Ranch | 35. Moonlight Dairy | 52. Double L Dairy | 69. Riverbend Dairy |
| 4. Castelanelli Brothers Dairy | 19. Carlos Echeverria & Sons | 36. Robert Vander Eyk Dairy | 53. Dykstra Dairy | 70. Riverview Dairy |
| 5. Cottonwood Dairy/ Joseph Gallo Farms | 20. Lakeview Dairy | 37. Circle A Dairy | 54. 5H Dairy | 71. Rob Van Grouw Dairy |
| 6. Denier Dairy* | 21. West Star Dairy | 38. Bos Farms | 55. FM Jerseys Dairy | 72. Rocking Horse Dairy |
| 7. Fiscalini Farms | 22. Van Beek Dairy | 39. Hamstra Dairy | 56. Hoogendam Dairy | 73. Rockshar Dairy |
| 8. Giacomini Dairy | 23. Wreden Ranch | 40. Hollandia Farms | 57. Horizon Jersey Dairy | 74. Sousa & Sousa Dairy |
| 9. Hilarides Dairy | 24. Trilogy Dairy | 41. 4k Dairy | 58. Jacobus De Groot #2 Dairy | 75. Udder Dairy |
| 10. New Hope Dairy* | 25. Cloverdale Dairy | 42. Ackerman Dairy | 59. Little Rock Centralized Dairy | 76. Valadao Dairy |
| 11. Open Sky Ranch | 26. T & W Farms | 43. Aukeman Farms | 60. Lone Oak #1 Dairy | 77. Vander Poel Dairy |
| 12. Pacific Rim Dairy | 27. Red Top Jerseys Dairy | 44. Belonave Dairy | 61. Meadowlake Dairy | 78. Vander Woude Dairy |
| 13. Pixley Biogas | 28. Williams Family Dairy | 45. BV Dairy | 62. Meirinho Dairy | 79. Vista Verde Dairy |
| 14. Van Steyn Dairy | 29. K & M Visser | 46. Cornerstone Dairy | 63. Mellema Dairy | 80. Western Sky Dairy |
| 15. Van Warmerdam Dairy | 30. Maple Dairy | 47. De Groot Dairy (North) | 64. Milky Way Dairy | |
| | 31. S & S Dairy | 48. De Groot Dairy (South) | 65. Mineral King Dairy | |
| | 32. Rancho Teresita Dairy | 49. Decade Centralized Dairy | 66. Rancho Sierra Vista Dairy | |

*Temporarily Offline

Updated July 11, 2018



Digester Program Summary

- 24 projects funded to date achieving estimated reductions of 5.7 million MTCO₂e over 10 years
- Average cost of reduction is \$27.12/MTCO₂e
- Average cost to state is just \$8.15/MTCO₂e
- #3 most cost effective GHG investment program in state portfolio
- #1 most effective program in achieving total GHG reductions in state climate investment portfolio
- 40 new projects expected to achieve 7.3 million MTCO₂e over 10 years
- All total digesters are achieving over 1.5 million MTCO₂e reduction annually or about 15% of manure methane by 2022

Methane Reduction Summary

Tremendous momentum

- California recently became the nation's leader in dairy methane reduction
- Critical piece of California Climate Investment Program
- Just getting started in showing the entire world how dairy can be part of a global sustainable food system
- On path to achieve 40% state manure management goal



Dairy digester barriers and challenges

- 1) Absence of long-term market certainty to ensure ongoing project success
 - Availability of on-going incentives to encourage continuing digester development
 - Availability of on-going incentives for commercially available heavy-duty near-zero emission vehicles
 - LCFS and RFS credit markets uncertainty
 - Biomethane Interconnection Incentive Program ends in 2021
 - BioMAT Tariff program currently under program review
 - Lack of long-term biomethane contracts
- 2) Understanding and addressing cross-media environmental impacts and benefits and environmental justice concerns



**Subgroup #2:
Digesters**

Overarching goals as we consider recommendations

1. Maximize dairy manure methane reductions
2. Understand and achieve environmental co-benefits
 - a) Criteria/toxic air pollutants
 - b) Water quality
3. Maximize benefits and minimize impacts on disadvantaged communities
4. Utilize available resources efficiently
5. Provide long-term market certainty and stability



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Digesters**

Broad recommendations

- 1) Continue to allocate incentive funding to encourage and incentivize all dairy methane reduction efforts
- 2) Understand environmental justice concerns and conduct necessary outreach and engagement to ensure environmental benefits accrue and impacts are avoided in local communities
- 3) Ensure availability of long-term markets for digester energy production
 - a) Electricity
 - b) Biomethane/RNG transportation fuels
 - c) Near-zero emission heavy duty CNG vehicles are commercially available today
 - d) EV's and other emerging clean fuel technologies and pathways

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Questions?

Subgroup #2:
Digesters