



California Department of Food and Agriculture

# **Dairy Digester Research and Development Program (DDRDP)**

## **Environmental Justice Community Conversation**

*Tulare, CA*

*Nov 9, 2016*

# DAIRY DIGESTERS & METHANE REDUCTION

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- Digesters are one of several key strategies to reduce methane emissions from dairies in California.
- CDFA digester projects provide among the highest estimated lifetime Greenhouse Gas (GHG) reductions among California Climate Investments-funded programs.
- Can build in components to that ensure low environmental impacts.

# ANAEROBIC DIGESTION

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Digester inputs – manure, organic substrates, etc.

Anaerobic  
Digester



Products

Fertilizer (NPK)



Compost  
Soil Amendment



Bedding

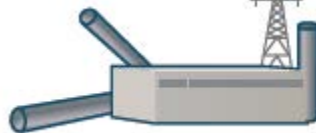


Fertilizer for field or  
greenhouse crops, flush water

Solid and liquid by-products



Electricity (on-farm use and/or grid)



Pipeline injection or  
transportation fuel



# CDFA DDRDP AWARDED PROJECTS

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IN 2014-15 – CDFA:

- Funded six dairy digester projects - \$11.1 million and \$29 million in matching funds
- Total GHG emissions reduction estimated at 1.6 MMTCO<sub>2</sub>e over 10 years.
- Projects will generate renewable electricity
- Proactively included several components of program that covered and minimized environmental impacts

# COVERED LAGOON DIGESTER

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# PROGRAM REQUIREMENTS:

## AIR QUALITY

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### Dairy digesters and NO<sub>x</sub> pollution

- NO<sub>x</sub> standards vary by region, with the San Joaquin Valley Air District having the most stringent standards.
- CDFA required projects to use Best Available Control Technology (BACT) to meet the most stringent regulatory threshold for NO<sub>x</sub> in California, regardless of location.
- Total NO<sub>x</sub> emissions no greater than ***0.50 lb/MW-hr.***

# PROGRAM REQUIREMENTS:

## WATER QUALITY

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- To prevent lagoon seepage and nitrate leaching, CDFA requires a double-lined lagoon, concrete-lined above-ground tank, or steel above-ground tank, regardless of location in the state.
- Double lining of lagoons is required on new dairies in some regions of the state (e.g. Central Valley) while not in others.

# ADDITIONAL BENEFITS

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## □ **Odor/Insect reduction**

- Odors arise due to the production of volatile organic compounds and gaseous ammonia.
- The closed-system reduces odors by containing volatile compounds, and also reduces insects, e.g. flies.

## □ **Pathogen reduction/ Nutrient stabilization**

- Digesters reduce pathogens and stabilize the organics in the manure, providing opportunities for ease of nutrient management.



# 2016 LEGISLATION

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## □ **AB 1613**

- CDFA appropriated \$50 million for methane emission reductions from dairy & livestock operations

## □ **SB 859, Section 6**

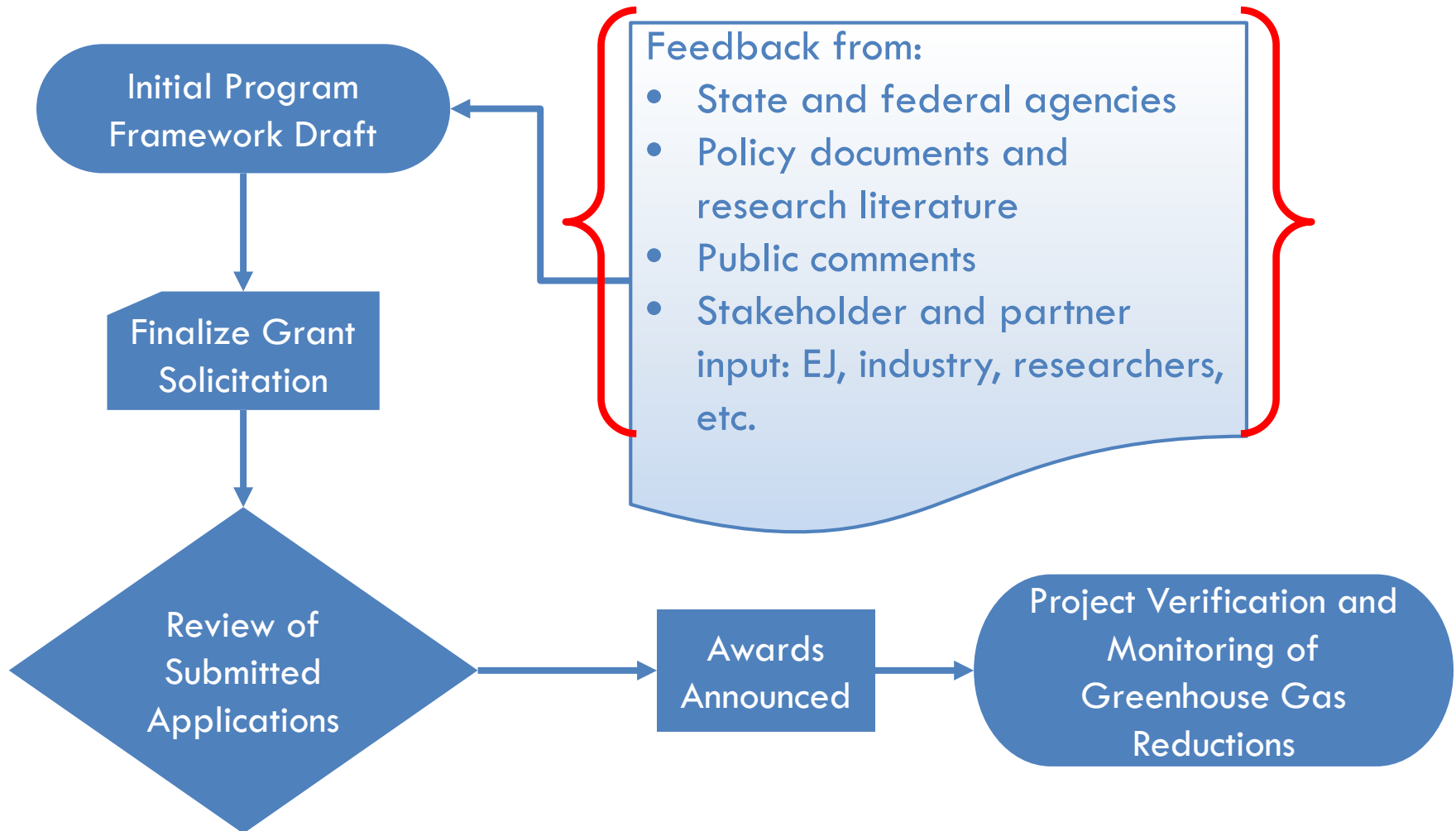
- Prioritize criteria air pollutants reductions.

## □ **SB 1383** (Lara) Short Lived Climate Pollutants - ARB to develop comprehensive strategy no later than Jan. 1, 2018:

- Target: to reduce dairy manure methane emissions to 40% below 2013 levels by 2030
- Will regulate methane emissions from livestock and dairy manure management.

# CDFA PROGRAM DEVELOPMENT PROCESS

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# DAIRY DIGESTERS: PROJECT ELIGIBILITY

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- Existing milk producers in CA.
- Projects must be located in CA and:
  - ▣ Achieve permanent, measurable GHG reductions
  - ▣ Maximize protection of water and air quality.
- Program for 2016-17 under development.

# SB 859, SECTION 6

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- CDFA to review the applicant's analysis identifying potential adverse impacts.
- Applicants are to:
  - ▣ Conduct outreach in potentially impacted areas,
  - ▣ Determine potential adverse impacts of the project,
  - ▣ Commit to measures to mitigate impacts.
- CDFA to prioritize projects based on criteria pollutant emission benefits.
- A project that results in localized impacts in DACs not considered to provide a benefit to DACs for the purposes of Section 39713 of the Health and Safety Code.

# TIMELINE

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Item	Estimated Dates*
Public/Stakeholder Meetings	November 2016
Notice of Funding availability released	February 2017
Grant Application Workshops	Feb – Apr 2017
Applications proposals due	April 2017
Proposal evaluation period	Apr – Jun 2017
Announce grant awardees	June 2017
Project Implementation begins	July 1, 2017

*\*Subject to change*

# PUBLIC MEETINGS

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- **Thursday, November 17, 2016 – 2:00 pm – 4:00 pm**  
California Center for International Trade Development,  
ROOM 308, Building B  
State Center Community College District  
390 W. Fir Ave., Ste. 303, Clovis, CA
- **Monday, November 21, 2016 – 1:30 pm – 3:30 pm**  
California Department of Food and Agriculture  
1220 N Street, Auditorium  
Sacramento, CA
- **Tuesday, November 22, 2016 – 10:00 am – 12:00 pm**  
University of California  
Cooperative Extension Stanislaus County  
3800 Cornucopia Way, Room: HI  
Modesto, CA
- **Wednesday, November 30, 2016 – 10:00 am – 12:00 pm**  
WEBINAR  
Registration information will be posted to  
[www.cdfa.ca.gov/go/DD](http://www.cdfa.ca.gov/go/DD)

# NEXT STEPS FOR CDFA

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- CDFA workshops to share draft program framework and address legislative requirements.
- Update program for dairy digesters.
- Develop program for non-digester practices, or Alternative Manure Management Practices (AMMPs) that reduce methane emissions on their operations.

We are here to listen and look forward to your feedback.

**Submit comments in writing to: [cdfa.oefi@cdfa.ca.gov](mailto:cdfa.oefi@cdfa.ca.gov) by  
December 1, 2016**

# PROGRAM CONTACTS

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