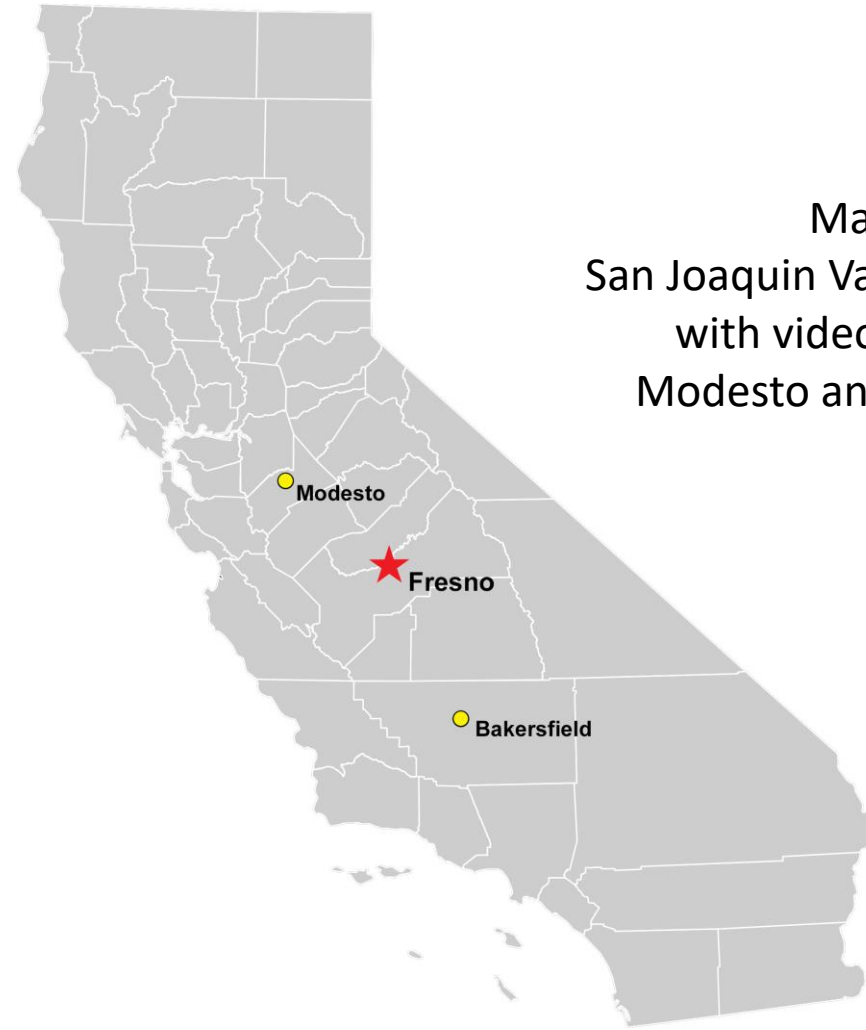# SB 1383 – Dairy & Livestock Greenhouse Gas Reduction Working Group

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 #3:
Research Needs, Including Enteric Fermentation

Oversight Group (Agency Heads)

California Environmental Protection Agency
Air Resources Board
cdfa

Subgroup #1: Non-Digesters

Subgroup #2: Digesters

Subgroup #3: Research

Committee Membership Breakdown

CO-CHAIRS
- Paul Sousa (Western United Dairymen)
- Robert Parkhurst (Environmental Defense Fund)
- Michael FitzGibbon (California Air Resources Board)

12 Subgroup committee members consist of representatives from:
• Dairy industry
• Academia
• Environmental justice
• Conservation groups
• Technology and fabrication industry
• Local, state, and federal agencies

With expertise covering topics such as:
• Water quality
• Air quality and emission impacts
• Chemistry and biology of effluents
• Dairy operation and engineering
• Public policy, health, and advocacy

Overview of Ongoing Dairy Research in California

- **Reduction potential:** Technical evaluation of digester and non-digester technologies

- **Cost-effectiveness:** Economic Assessment of emission mitigation strategies

- **Model performance:** Investigation of GHG emission modeling for dairy operations (enteric fermentation)

- **Manure characterization**: Real-world survey of manure management pathways at dairies

- **Alternative measure:** Examination of animal feed and manure storage lagoon additives

- **Emission quantification:** Estimation of facility-level emission fluxes

Subgroup #3: Research

Research Spotlight: Dr. Francesca Hopkins (UCR)

- Dr. Hopkins (UCR/UCOP) has been leading her team and working with various collaborators on a broad scope of research covering methane emission mapping, leakage surveys, and more specifically, how efforts like these can help with mitigation of dairy methane emissions.

- For the recently-funded project titled "Climate Impact of Manure Management from California Dairies", Dr. Hopkins and her colleagues will measure, model, and estimate the emissions of GHGs and other air pollutants from dairies using a multi-tiered approach including field sampling/survey, on-farm measurements, mobile monitoring, remote sensing, process-based modeling, dispersion models, etc.

Subgroup #3: Research