

# Opportunities and Risks of Carbon Markets for Dairies

Boise & Burley

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University of Idaho Extension



REGENIS

# ANAEROBIC DIGESTION – QUICK REVIEW

- ✓ Natural process, using bacteria already in manure
- ✓ Convert some manure solids/carbon into biogas and collect for beneficial use
- ✓ Use biogas to make (1) renewable electricity or (2) pipeline renewable natural gas (RNG)
- ✓ Improves: (1) odor; (2) pathogens; (3) partially stabilizes the waste; and (4) fiber product for bedding
- ✓ **Won't (1) reduce wastewater volume; (2) nutrient loading – Note – higher ratio ammonia-N/organic-N**



# WHY INTEREST IN INLAND EMPIRE/IDAHO

- ✓ US, regulators, milk product marketers, corporations are becoming more and more interested in environmental footprint, including climate change.
- ✓ Anaerobic digesters and/or alternative manure management techniques can help reduce methane emissions on dairies
- ✓ Anaerobic digesters hold *potential* for doing this while turning a profit and providing *some* return to dairies.
- ✓ Federal and state governments all *working on* providing grants, programs, credits, etc. to make this a viable solution



# Key Facts to Know

- ✓ Digesters are expensive to construct and operate as well as complex accounting for credits, grants, etc.
- ✓ As such, many projects now developed by 3<sup>rd</sup> party financiers to cover and manage costs/complexity
  - ✓ We are seeing some dairies buck this trend and develop/monetize the project themselves
- ✓ Such projects require lease agreements, manure handling agreements, 10+ year future commitments in those agreements, and team-work to be successful
- ✓ Degree of profit sharing, payback timing, concerns with fluctuating market pricing, underwriting, who takes the financial burden, etc. are all points of negotiation.



# Conclusion

- ✓ Some negative trends are presently occurring in the digester space – Depressed LCFS pricing due to oversupply; more difficult LCFS rules impinging on projects; increasing equipment costs; no passing of federal eRINs.
- ✓ These concerns are only exacerbated for smaller projects like in Boise Area, due to economies of scale.
- ✓ The outlook for Idaho digesters, either electricity or RNG, are presently difficult, but in this industry pricing/regulation changes almost quarterly – requiring checking in regularly.
- ✓ Programs like federal ITC and REAP have grants/credit programs and other incentives to try to push these projects to greater economic viability.
- ✓ **Lesson – Continue to watch, listen, ask questions, and consider.**

