



# Cooperative Approaches to Facilitate the Use of Anaerobic Digesters on Dairy Farms

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## Cooperative Approaches to Facilitate the Use of Anaerobic Digesters on Dairy Farms

- Cooperative Programs—“...*promote the understanding and use of the cooperative form of business for agricultural producers...*”
- User owned – user controlled – user benefitted



# Obstacles to adoption of anaerobic digesters for dairy manure

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- **Anaerobic digester**
  - Capital cost
  - Limited number of providers
  - Lack of information
  - Adapting digester to existing manure system
  - Additional demands on operator time and skill



# Obstacles to adoption of anaerobic digesters for dairy manure

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## ■ Capturing value

- low rates paid by utilities
- interconnection issues
- inability to utilize effluent on farm
  - Bedding, fertilizer
- inability to market products from effluent
  - Bedding, fertilizer, soil amendment, carbon credits, gas



## Possible Cooperative Roles

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**Address one or more obstacles to AD adoption**

Existing cooperatives ← - - - → Form new ones

Limited functions - - - → Multiple functions



## Possible Cooperative Roles

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- Group effort more effective/efficient than each farmer facing AD challenges alone?
- Cooperative effort could—
  - Lower costs
  - Increase returns
  - Allow producers to focus on milk production



# Possible Cooperative Roles

- **Negotiation**

- Prices and terms with utilities
- Digester providers
- Firms with organic waste



# Possible Cooperative Roles

## ■ Services

- Technical assistance
- Digester management
- Back-up equipment
- Manure hauling to IOF facility
- Financial



# Possible Cooperative Roles

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- **Carbon Credit trading**
  - Inform members of the opportunity
  - Engage brokers or act as broker
  - Engage aggregators or act as an aggregator (pooling)
  - Joint venture with other co-ops for aggregator services
  - Engage or have verifiers on staff



## Possible Cooperative Roles

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- **Marketing**
  - Energy, Digested solids; Liquid effluent
  - R&D, marketing materials, packaging
- **Centralized digester**
- **Centralized gas plant**



## Summary

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- Cooperation *may*—
  - Lower costs/improve returns
  - Increase bargaining power
  - Improve service quality
- Benefits of acting cooperatively > costs?



## Questions/Comments?

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## Summary of possible cooperative benefits:

### ■ **Energy**

- Improved compensation for electricity produced
- Favorable terms for connecting to the electrical grid
- Natural gas marketing

### ■ **Byproducts**

- Technical guidance on utilizing digested solids and effluent on farm
- Marketing research & development for byproduct sales

### ■ **System Design**

- Technical guidance for design/installation
- Negotiated prices for digester components/installation
- Provider screening

### ■ **Management**

- Technical guidance to boost biogas production
- Management assistance to reduce operating costs

### ■ **Carbon Credits**

- Aggregation and trading
- Reduced fees