Connecticut C2203: Agricultural Market and Baseline Assessment

Kickoff Meeting
December 13, 2022

Agenda

1. Study Objectives and Background
2. Overview of Study Activities
3. Anticipated Challenges and Solutions
4. Timeline & Budget

Study Objectives

- Provide a market assessment of energy efficiency opportunities within the whole CT agricultural sector
- Forecast economic growth and energy requirements by market type and indoor/outdoor class.
- Assess current EE participation and future potential

Study Outcomes

- Estimates of baseline and forecast economic size and energy use for the major agriculture markets in Connecticut
- Characteristics of energy-using equipment and technical requirements for agricultural production
- Recommended EE and DR measures and associated savings estimates
- Recommended program delivery strategies focusing on specific markets or equipment

Overview of Study Activities

- Segmentation and Sample Development
- Data Collection
  - Surveys
  - Site Visits
  - Market Actor Interviews

- Analysis and Reporting
  - Market Characterization
  - Economic and Energy Forecasts Development
  - Efficiency Measures and Program Strategies Development

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Segmentation

- Merged master data set for segmentation and sampling
  - Tax records – includes segment, building SF, and acreage
  - CT Open Data portal – includes farm category, contact information
  - Utility data – includes segment, contact information, rate class, and historic consumption

- Memo deliverable
  - Provides utilities with more accurate picture of agriculture segment
    - Facility counts and usage by subsegment
  - Will be delivered before May deadline
    - Can be used in utility filings

Anticipated Segments

- Indoor agriculture
  - Commercial plants / nursery
  - Fruit & vegetable production
  - Fruit & vegetable storage
  - Cannabis
- Poultry and egg production
- Dairy cattle and milk production
- Outdoor agriculture
  - Fruit, vegetable, sod, tobacco, nurseries, ornamentals, crops
- Outdoor animal farming
  - Beef cattle, sheep, goats
- Others, e.g., aquaculture

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Data Collection

Surveys
- Interest for site visit
- Verify segment
- Basic site information
  - Type of products
  - Production levels
- Respondent role in operation
- Efficient equipment adoption questions
- Basic equipment information
- Leads for market actor interviews

Site Visits
- Detailed information on:
  - Equipment
  - Systems
  - Operations
  - Production

Market Actor Interviews
- Industry standard practices for new equipment, systems, and facilities
- Expected trends

Data Collection, Cont'd

- Stratified random sample, stratified by segment and size
- Also set soft quotas geographic or subtypes where needed

Segment	Estimated Farm Population	Target Number of Surveys	Target Number of Site Visits	Target Number of Market Actor Interviews
Indoor Agriculture	850	70	15	10
Poultry & Egg Production	220	30	8	6
Dairy Cattle & Milk Production	130	20	7	6
Outdoor Agriculture	2,200	70	15	6
Outdoor Animal Farming	1,070	70	15	6
Other	1,130	70	15	6
Total	5,600	330	75	40

Analysis and Reporting

- Data Cleaning and Weighting
- Market Characterization
  - Facility characteristics
  - Penetration, saturation, and characteristics of key energy-using equipment
  - Market drivers and barriers
- Economic and Energy Forecast
  - Total loads and market size by segment
  - Market trends with time

- Efficiency Measures and Program Strategy Recommendations
  - Leverage algorithms from other TRMs
  - Develop program concepts based on collected data and challenges not met by current go-to-market strategy
- User-friendly Database

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Timeline and Budget

Task	Budget	Timeline
Segmentation and Sample Design	$50,000	Jan-Mar 2023
Data Collection	$233,000	Mar-Aug 2023
Analysis and Reporting	$117,000	Sep-Dec 2023
Total	**$400,000**	

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Questions?

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