Efficiency Vermont

ACEEE Forum
On Energy Efficiency in Agriculture

Exemplary Agricultural
Energy Efficiency Programs

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Efficiency Vermont

Nation’s first energy efficiency utility

Established by Vermont Legislature and Vermont Public Service Board in 2000

Full set of services to address all market segments

Same services available statewide

Funded by Vermont electric ratepayers through a system benefits charge on all electric bills

Serving Vermont’s Dairy Farm Market

View of the Market
Primary Obstacles
Results
Technical Services
Financial Services
Cost-Effective Improvements
Non-Energy Benefits
Why are we successful?

View of the Market

In 2005, there were roughly 1,300 dairy farms in Vermont

The number of farms is declining approximately 5% per year

Electricity consumption in the Vermont agriculture sector is estimated at 67,000 MWh per year

Primary Obstacles

Cost/lack of capital to make improvements
Insufficient time to complete improvements on his/her own
Lack of information
Hesitation to try unfamiliar approaches/technology
Uncertain view of farming’s economic future

Results

HISTORICAL DATA	2000 thru 2004
Project Participants	404
Project Costs for Improvements	$ 1,756,323
MWh Saved	4,182
Customer Savings	$ 409,267
Efficiency Vermont Financial Incentives	$ 923,844

Technical Services

One dairy farm project manager
Site visits to farms
Preliminary analysis, cost-effectiveness screening
Equipment recommendations
Contract management

- Conduit for information
- Cost quote
- Final screening
- Incentive agreement
- Inspection and payment

Financial Services

Incentives

- Rebate form
- Custom, typically 50 - 60% of cost

Loan program

Fossil fuel grant from VT Dept. of Public Service

Cost-Effective Improvements

EQUIPMENT	COST	ENERGY SAVINGS	INCENTIVES
Milk Pre-Cooling	$2,800 - $5,000	50%	50 - 60%
Variable Frequency Drive on Vacuum Pump Motor	$4,000 - $5,000	50%	$2,500
Heat Recovery for Hot Water	$2,400 - $3,200	50%	50 - 60%
Variable Speed Milk Transfer Systems	$2,500 - $3,500	Varies	$1,250
Hot Water Heater Fuel Switch	$2,000 - $3,000	Varies	50 - 60%
Lighting	Varies	Varies	$25 - $70 / fixture

Non-Energy Benefits

Improved milk quality and quantity
Adequately lit work areas
Decreased noise level
Reduced milking time

Why are we successful?

Approach to the market
Strong customer service/contract management
Education and communication
Comprehensive analysis
Financial incentives
Marketing
Repeat business