

Farm Business Management I: Rural Energy for America Program (REAP) and Other Energy Efficiency Programs and Grants

Thursday morning 9:00 am

Where: River Overlook (upper level) Room F

Energy requirements can constitute as much as 34 percent of a farmer's total costs. This presentation will help farmers understand the role of an energy audit in reducing energy use. Information on securing USDA grant and low interest loans and utility rebates to implement renewable energy projects and energy efficiency practices on their farms will be provided.

Moderator: Curtis Talley Jr., Farm Management Educator, MSU Extension, Hart, MI

9:00 am Rural Energy for America Program (REAP) and Other Energy Efficiency Programs and Grants

- Charles Gould, Ottawa County MSUE, West Olive, MI

9:55 am Session Ends

Michigan Farm Energy Program

From 2010 - 2014 the Program completed 260 audits with a potential savings of 59.5 million kWh valued at \$3.76 million and 122 renewable energy assessments with a generation potential of 23.9 million kWh equivalent to \$1.69 million.

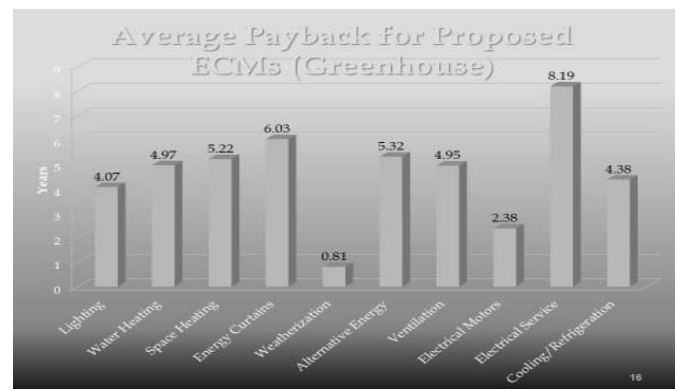
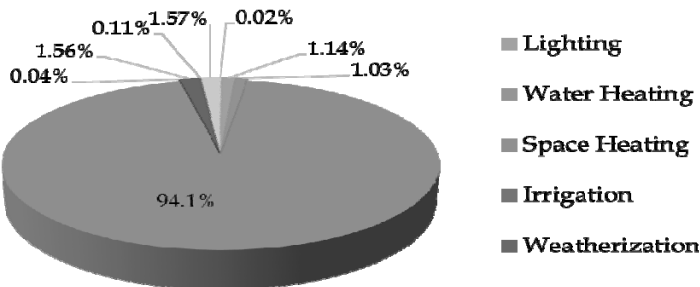
Potential energy savings of 38% or \$32,941 annually for Greenhouses.

Average Potential Energy Efficiency Saving (Michigan Farm Energy Program)

Table I. Michigan Summary of 260 Energy Audits and 122 Renewable Energy Assessments (2010-2014)

No	Operation	Savings (kWh)	% Savings	Savings (\$)	Owner Cost to Implement (\$)	Payback (years)	Potential Average Annual Savings
116	Dairy Farms	8,735,859	41%	\$971,088	\$2,461,226	2.5	\$8,371
35	Grain Drying	8,445,708	33%	\$553,932	\$4,411,078	8.0	\$15,827
26	Greenhouse	22,546,985	38%	\$856,453	\$3,214,469	3.8	\$32,941
25	Food/Fruit Process	2,342,481	39%	\$334,153	\$1,326,464	4.0	\$13,366
13	Irrigation	2,921,180	68%	\$263,247	\$1,049,256	4.0	\$20,250
7	Crops	128,819	40%	\$43,344	\$93,519	2.2	\$6,192
4	Beef	55,736	16%	\$7,454	\$14,996	2.0	\$1,864
3	Hogs	161,135	23%	\$14,235	\$48,623	3.4	\$4,745
2	Poultry	1,316,502	89%	\$40,525	\$231,879	5.7	\$20,263
29	Rural Business	12,784,576	38%	\$672,411	\$1,621,241	2.4	\$23,187
260	Audit Total	59,438,980	39%	\$3,756,842	\$14,472,749	3.9	\$14,449
122	Renewable Energy	23,900,992	74%	\$1,692,634	\$14,745,947	8.7	\$13,874
382	Grand Total	83,339,972	45%	\$5,449,476	\$29,218,696		

Energy Use in MI Greenhouses



The top six categories represented 99% of all energy consumed on the audited greenhouses. They are space heating, electrical motors, weatherization, lighting, and water heating. Over half of the farms audited had recommendations to conserve energy in space heating and energy curtains.

USDA-REAP Funding Options

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USDA-EQIP Funding Options

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Michigan Saves (Consumers, DTE, BWL)

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An Energy Management Plan (Energy Audit)

- Identify areas for reducing energy costs and energy use.
- Prioritize implementation projects based on energy efficiency improvements, payback period, return on investment, capital outlay or implementation duration and complexity in-line with your management strategy.
- How to improve operational efficiency as well as identify potential areas for renewable energy application.
- Identify funding and assistance options from State, Federal, University and Utility energy efficiency programs/sources.

Key Aspects of Michigan Farm Program Audits

Auditor certification and operational knowledge, type 2 level category audits based on the ASABE/ANSI S612 standards with technical support and training from Michigan State University.

Operator involvement and integration of management's operational or situational uniqueness into the audit is important. Uses a "whole enterprise" approach in developing ECM's or operational options.

An energy audit conducted "with eyes on-site" by the certified auditor. Allows for improving operational options as well as identifying potential areas for renewable energy application.

Based on real numbers and 3 year energy use history without "energy audit padding".

Auditor understanding of Federal, State and Utility funding options.
Auditor and farmer feedback.

What Can I Do Now?

Request a Rate Analysis (Utilities, Energy Provider)

- Residential vs. Commercial rates
- Sales tax exemption
- Time of day or other use options
- Check for discounts (volume, type, etc.)

Revisit line upgrade or expansion estimates

- Three Phase, natural gas, line extension

Call funding sources (USDA, Utilities, State, Local)

Call for an energy audit

Ask your fellow farmer, farm org., MSUE