

## WHY CONDUCT AN ENERGY AUDIT?



*Figure 2. 30 watt compact fluorescent*

- **Increase profits through energy savings.** Operations in Table 1 saw a 35% reduction in electricity consumption and a 19% reduction in fuel consumption. Energy audits conducted on 20 Michigan dairy farms in 2012 showed an annual energy savings of \$13,048 per farm.
- **Identify operational alternatives.** Practical solutions with projected costs savings and payback information will help you make the best use of available energy options.
- **Opens up funding options.** Rebates, refunds and state/federal grants/loans are contingent on completing a certified energy audit.
- **Environmental contribution.** Reducing personal energy use contributes to the worldwide effort to reduce global warming.

## WHO TO CONTACT

A farm audit should be completed by a certified energy auditor. Farmers or rural businesses needing a certified energy audit for state and/or federal grant/loan applications pertaining to energy efficiency and conservation are required to use a certified energy auditor. A list of certified energy auditors can be found at the [Michigan Farm Energy Program](#) web site.

## FOR MORE INFORMATION

### General Questions

Aluel (Al) Go  
MSU Dept. of Biosystems and Agricultural Engineering  
email: [goaluel@egr.msu.edu](mailto:goaluel@egr.msu.edu)  
Phone: 517-214-6128

Michigan State University Extension  
Web: <http://msue.anr.msu.edu/>  
Phone: 888-678-3464 Toll free

### USDA-REAP Funding Questions

Rick Vanderbeek | Business Program Specialist  
USDA Rural Development  
Email: [rick.vanderbeek@mi.usda.gov](mailto:rick.vanderbeek@mi.usda.gov)  
Phone: 517-324-5218

### USDA-NRCS Funding Options

Sally Van Lieu | Resource Conservationist, TSP Coordinator  
USDA Natural Resources Conservation Service  
Email: [sally.vanlieu@mi.usda.gov](mailto:sally.vanlieu@mi.usda.gov)  
Phone: 517-324-5279

### Consumer's Energy Ag. Optimization Funding

Steve Salter | Energy Advisor  
Consumers Energy Business Solutions  
Email: [ssalter@franklinenergy.com](mailto:ssalter@franklinenergy.com)  
Phone: 877-607-0737 Toll free

Michigan State University (MSU) is an affirmative-action/equal opportunity employer. Michigan State University Extension programs and materials are open to all without regard to race, color, national origin, gender, gender identity, religion, age, height, weight, disability, political beliefs, sexual orientation, marital status, family status or veteran status.

Issued in furtherance of MSU Extension work, acts of May and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Thomas G. Coon, Director, MSU Extension, East Lansing, MI 48824.

Information contained within this brochure is for educational purposes only.

Reference to commercial products or trade names does not imply endorsement by Michigan State University Extension or bias against those not mentioned.

## The Michigan Farm Energy Program: Energy Audits



MICHIGAN STATE UNIVERSITY | Extension

*Bringing Knowledge to Life*

PURE MICHIGAN  
Michigan Economic Development Corporation

# Michigan Farm Energy Program

## WHAT IS AN ENERGY AUDIT?

An audit consists of a careful analysis of your farm's energy use, combined with scientific

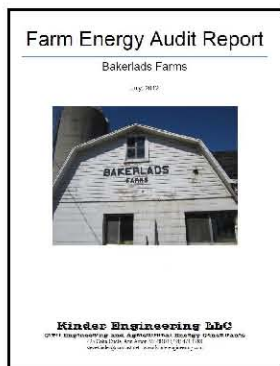


Figure 1. Farm energy audit report.

analysis of possible energy use in a cost effective manner. The energy audit will include an easy-to-understand report that lists recommended ways to improve energy efficiency on your farm, plus information on possible funding for installing energy

efficient equipment. It will be up to you to decide what to do with this information.

Assistance will be available to help you understand your options and see how you can upgrade your farm's energy performance. An energy audit is a required first step for many funding programs, so this is an important first step for taking advantage of a variety of energy installation programs.

## FARM ENERGY SAVINGS

Energy audits conducted in 2012 on 20 Michigan dairy farms showed an annual energy efficiency savings of \$13,048 per farm (Table 1). Even larger savings were realized for greenhouses and farms with diesel irrigation or grain drying operations. Additional savings can

No	Operation	Savings (kWh)	Savings (MMBTU)	Dollar Equivalent	Cost to Implement	Payback (years)	Annual Average Savings (\$/operation)
20	Dairy Farms	1,732,724	5,216	\$260,971	\$856,277	3.28	13,048
2	Greenhouse	162,817	14,672	\$140,134	\$443,814	3.17	70,067
7	Grain Drying	121,498	6,581	\$137,801	\$1,029,724	7.47	19,685
4	Miscellaneous	43,294	0	\$5,579	\$37,578	6.74	1,394
4	Rural Business	494,263	0	\$47,803	\$272,046	5.69	11,950
22	Renewable Energy	2,705,387	272	\$220,008	\$2,158,396	9.81	10,000
59	<b>Total</b>	<b>5,259,983</b>	<b>26,741</b>	<b>\$812,296</b>	<b>\$4,797,835</b>	<b>5.94 (ave.)</b>	<b>\$126,144</b>
	<b>Percent Savings</b>	<b>34.6%</b>	<b>18.8%</b>				

be achieved with the incorporation of [alternative energy options](#).

## ENERGY AUDIT REQUIREMENTS FOR THE FARM

- Your time and cooperation (approximately 4-8 hours per audit depending on farm size).
- Allow the audit team access to 12 months of farm energy bills and energy usage data.
- Allow the audit team access to sites on the farm that consume energy.
- Be ready to provide equipment and facility technical as well as operational information.
- There is a \$500 fee for an energy audit. However, refund or rebate options may be available from your utility company.

## REBATES AND REFUNDS

The Energy Optimization program provides rebates to eligible farmers across Michigan to offset the cost of implementing Energy Conservation Practices (ECMs). ECMs save you money by helping you manage energy use. ECMs are straightforward and rebates are plentiful. Rebate availability depends on participating utilities and are updated/modified annually. To see a list of ECMs and determine your eligibility, go to <http://bit.ly/MlRebateOptions>.

The ECM items and rebates offered are usually the same for all utility companies, however you need to go to your utility company web page and verify this. For agriculture, most utility companies will allow farms on a "residential" utility rate to avail themselves of the commercial rebates as well. However, farmers need to verify this with their utility company.