FARM ENERGY AUDITS

An energy audit consists of a set of actions aimed at identifying and evaluating energy management opportunities within a farm operation, or a specified portion of a farm operation.

An audit should yield a good deal of information you can work with. It will identify:

- where energy improvements should be made
- potential cost-saving measures
- parts of the management system to monitor more closely
- maintenance and other preventative measures that will reduce downtime.

An audit will also specify and compare capital improvements – including changing energy sources – to reduce energy use and/or cost.

Note that energy *audits* are conducted by engineers. Energy *assessments* are less detailed, and can be done by trained specialists.

An energy audit or assessment identifies energy savings and alternative opportunities.

The farm energy audit helps producers make informed decisions about farm energy use.

An audit conducted by a professional engineer will thoroughly examine all aspects of energy consumption, system improvements, costs, and management.

THE ENERGY AUDIT PROCESS

This 10-step process involves the auditor working closely with the farm manager to get a clear picture of energy use and opportunities.

1. Plan the audit

- discuss which parts of the farm operation and management systems are to be included

2. Organize records

- organize files for energy bills, maintenance and repair work

3. Perform an inventory

- look at the cost and consumption rate of electricity, natural gas, gasoline, diesel, and other energy sources
- determine amount of production for a given time interval, e.g. amount of grain dried, amount of milk produced, rate of gain of animals
- walk through operation looking at energy sources and technologies, insulation, ventilation, and energy-consuming devices and appliances – especially lighting, heating and motors

4. Make a preliminary analysis (benchmarking)

- develop a base-cost assessment and compare with industry standards as supplied by experienced professional auditors

5. Identify energy management opportunities

- look for quick wins – changes in practices, timing and scheduling, maintenance and repair
- identify high-cost areas requiring further auditing

6. Perform diagnostic audits

- measure efficiencies and effectiveness of current energy technologies and systems
- discuss next steps

A qualified auditor will look at all your energy sources and uses – especially for lighting, heating and motors.

7. Analyze energy management options

- identify management and technology options for energy areas
- analyze energy efficiency, potential cost-savings, suitability, costs, and return on investment

8. Make recommendations and decisions

- discuss recommendations – highlight where monitoring and control systems would help further energy savings
- make decisions

9. Implement plan

- select reputable service providers
- schedule projects and other improvements

10. Monitor and target activities

- track changes in energy consumption after implementation
- fine-tune operating systems to improve savings
- follow recommended equipment and system maintenance schedules to maintain savings