



Minnesota Fact Sheet 374/670/672 Energy Practice Implementation

Purpose

The purpose of this practice is to implement components of a current energy audit which has been reviewed and accepted by NRCS. The energy audit can either be an NRCS Conservation Activity Plan Agricultural Energy Management Plan (CAP 128) or it can be an independent audit that meets the standards of a Type 2 ASABE S612 energy audit.

Standards

The core NRCS Practice Standards related to energy improvement practices are PS374 Farmstead Energy Improvement, PS670 Lighting System Improvement and PS672 Building Envelope Improvement.

Replacement or retrofit system and related components or devices must meet or exceed currently applicable federal, state, and local standards and guidelines. Installations shall meet the appropriate NRCS or industry standard, such as:

Ventilation

Ventilation fans must meet the requirements of ASABE EP 566.1, Guidelines for Selection of Energy Efficient Agricultural Ventilation Fans.

Independent performance testing of fans is provided by the Bioenvironmental and Structural Systems (BESS) Laboratory at the University of Illinois. The website is <http://bess.illinois.edu>.

Motor efficiency per National Electrical Manufacturers Association MG 1-2009, Rev. 2010

Building Envelope

U-Values, insulation materials, vapor retarders, and ignition or thermal barrier requirements per ASABE ANSI/ASAE S401.2, Guidelines for Use of Thermal Insulation in Agricultural Buildings.

Sealants as per ASHRAE Handbook – Fundamentals.

Lighting

Light level and quality as per ASAE EP344.4 Lighting Systems for Agricultural Facilities. A copy of the standard can be purchased from the American Society of Agricultural and Biological Engineers website at <http://elibrary.asabe.org/>

Greenhouses

Greenhouse HVAC per ASABE EP406.4

Implementation Process

The following is a brief summary of the energy practice implementation process which is outlined in greater detail in Minnesota Practice Job Sheets under the applicable Practice Standard (374/670/672).

1. Have a CAP 128 or energy audit meeting the criteria of an ASABE S612 Type 2 audit performed.
2. Develop plans and specifications for energy improvements recommended in the audit. More details on this step can be found in the Design and Preconstruction Requirements job sheets.
3. Provide plans and specifications to NRCS for review and complete the preconstruction certification.
4. Install improvements to meet applicable NRCS practice standards. Follow all applicable state or local laws and permitting requirements.
5. Submit certification statements to NRCS for improvements installed. Provide NRCS with receipts, invoices, photos and other documentation necessary to support certification of completed installations. More details on this step can be found in the Practice Certification and Checkout Requirements job sheets.
6. NRCS will review submitted documentation and provide verification that submittals meet the requirements of the practice.

Plans and Specifications

Plans and specifications shall describe the requirements for properly installing all components to achieve their intended uses. Plans and specifications shall be developed by the participant or the participant's supplier prior to submitting an application to NRCS for EQIP funding. NRCS shall not be tasked with or responsible for completing designs related to the installation of energy improvement practices.

Prior to installation, the participant shall provide the following deliverables to NRCS:

- Written specifications that describe the site specific details of installation
- Description of the existing system/components and replacement/retrofit components
- Plans or diagrams showing location of existing system/components and replacement/retrofit components

The deliverables listed above shall be submitted to NRCS for a general concurrence review for conformance with this standard.

Preconstruction Certification

The preconstruction Certification is used by the participant to certify that the deliverables provided to NRCS meet the requirements of the appropriate conservation practice standard and waives NRCS from responsibility for any damages that may result from their installation. The participant also certifies that all improvement that will be made as part of this practice have been coordinated with and approved by their integrator (when applicable)

Operation and Maintenance

All components shall be operated in accordance with all manufacturers' recommendations. In addition, all warnings and cautions shall be observed. Repair or replace items, as needed, to maintain the system in good operating order for the expected life of the practice.

Installation records, including certifications and all manufacturers' installation, operation, maintenance and users guides shall be retained and a copy provided to NRCS. Documentation of maintenance

conducted on any components shall be retained.

Maintain records to document energy improvements for a minimum of 5 years from the beginning of operation. Records shall include monthly utility bills and fuel purchases.

Practice Certification

The following documentation is required prior to practice certification:

- Proof of final inspection (when applicable)
- Copies of all receipts and invoices
- Photographs (either hardcopy or digital files) of completed work. As a minimum, include a wide-angle exterior view of the structure where improvements are installed and a picture of each installed component from a distance that is appropriate for the component to be readily identified.
- Certifications, as required. Appendix A to the Minnesota Practice Job Sheets summarizes certification requirements for the payment scenarios under each practice. Appendix C for each job sheet contains a template of an installation certification statement.

The participant certifies that the receipts, invoices, pictures, and certifications presented as documentation represent the materials and workmanship necessary for the equipment to fully function and he or she does not hold the NRCS responsible for any damages associated with the installation, operation and maintenance of such components.