

# ENERGY WISE

for your Business



**Your farm is your business. We treat it that way as well. The commercial programs at [\[your electric coop\]](#) can be applied at your farm just like any other business. The least expensive, quickest, and easiest way to save money on your farm (including the home residence) is by using energy efficiently.**

## AGRICULTURAL

Prescriptive and custom rebates are available to members for the installation of efficient equipment. Please note: Rebates are also available on various dairy equipment. Please see Dairy sheet for detailed information.

Prescriptive rebates are available for, but not limited to:

- Agricultural audit
- Engine Block Heater Timer
- Hog farrowing heated mats
- Irrigation VFD
- LED lighting
- Livestock waterer
- Ventilation Fans

### Agricultural Audit

- Third party in-person walk through of site to identify energy efficiency opportunities; documented in a written report.
- Agriculture Energy Management Plan (AgEMP) – targeted to sites interested in applying for USDA Rural Energy for America Program grant and USDA Equipment grant.
- How does it work? Call 800-441-8525 to verify eligibility and cost. Experts conduct a site visit and complete an energy audit that includes an in-depth analysis and recommendations via a comprehensive written, energy management plan. If you choose to implement energy efficiency upgrades as a result of the audit, contact your cooperative, as rebates may be available.

### Engine Block Heater Timer

Farms and other business operators often use engine block heaters to heat the internal combustion chamber areas of internal combustion engines to suitable temperatures for timely starting. Unfortunately, this business necessity can be costly as many operators run their engine heaters all night long. This plug-in timer controls the operation and prevents engine heaters from using more energy than necessary without sacrificing convenience or reliability.

### Hog Farrowing Heated Mats

New construction barns using electric hog farrowing heated mats, or existing barns replacing heat lamps with heating mats equipped with automated climate controls are eligible. Using heat mats significantly reduces heat lost to ambient air by providing direct heat transfer to the piglets.

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# The least expensive, quickest, and easiest way to save money on your farm is by using energy efficiently

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## Irrigation VFD

Pivot field irrigators installed with a variable frequency drive (VFD) can provide varying motor horse power based on variable well water tables. Higher water tables require less horse power to pump water for irrigation.

- VFDs ramp the motor up and down to optimize horse power requirements for pumping water; saving energy and money. Soft start applications do not qualify for a rebate.
- Additional non-energy saving benefits include soft start motors to prevent start-up voltage spikes and reduce wear and tear on the motor.

## Livestock Waterer

Electrically heated waterers are commonly used to provide clean water for livestock during winter months when temperatures may drop below freezing.

- Energy efficient waterers have at least two inches of insulation, resulting in the use of smaller heating elements (less than 250 watts).
- Energy-free waterers have at least two inches of insulation and no heating element, as they use ground source water to prevent freezing.

## LED lighting

Extended daylighting hours using LED lighting increases milk and livestock output. Manipulating lighting availability to increase production has been used for decades and research consistently reveals favorable results. High efficiency lighting makes this strategy operationally affordable while positively impacting productivity.

- Reduced operating costs – LED lighting reduces energy use and costs with minimal maintenance.
- Increased production – Extended daylighting hours improves heifer growth and milk production, increases hog piglet suckling and food intake in growers/finishers, and poultry growth and egg production resulting in increased revenue.

## Ventilation Fans

Dairy and livestock farms utilize ventilation fans to control air quality and comfort.

- Air quality control improves oxygen levels, moisture, odors, and temperature, while eliminating airborne contaminants and disease.
- Automated ventilation controls optimize fan speeds and run time based on weather conditions to reduce operating costs.

## Custom Projects

Custom projects require pre-approval and will follow the custom project rules. Diesel to electric motor conversion is an example of a custom project.

## How does it work?

Meet with your cooperative's energy expert to set up a plan and they will recommend the best actions to make your farm more energy efficient.

## Rebate Overview

Equipment Type	Rebate Amount
Ag Audit	75% of project cost
Engine Block Heater Timer	\$5/timer
Hog Farrowing Heated Mats	\$50/crate (existing retrofit) \$30/crate (new construction)
Irrigation VFD	\$10/HP
LED lighting	Varies
Livestock Waterer	\$75/Waterer
Ventilation fan	\$15/Exhaust fan, \$25/circulating fan \$400/High volume/ low speed (HVLS)

## CONTACT US

If you have any questions or need assistance in making these savings a reality for your business; please contact your local energy expert at your electric cooperative.

# AGRICULTURAL

## Rebate Application

### Business Member Information:

Business Name \_\_\_\_\_  
Installation Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_  
Contact Name \_\_\_\_\_ Account # \_\_\_\_\_  
Email \_\_\_\_\_ Phone \_\_\_\_\_

### Rebate Recipient:

To release the rebate incentive check to an alternate party other than the cooperative business member, the member must specify an alternative mailing address and authorize with a signature below.

Please Send Rebate to (check one):

Business Member       Alternative Recipient

Recipient Name \_\_\_\_\_  
Mailing Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_  
Contact Name \_\_\_\_\_

### Application Check List:

- Rebate application with signature
- Itemized project invoices (labor & materials)
- Equipment specifications

The undersigned does hereby certify that the undersigned is solely responsible for the accuracy of the information contained in this application. All rules of the program have been followed and the installation is complete. The undersigned acknowledges that nothing contained in the application imposes any liability on the cooperative for the work performed and information presented by the member, member's engineer, contractor, or vendor. The undersigned also authorized payment of incentive directly to the specified rebate recipient.

**Rebate applications due no later than the third Thursday in November.**

### Member Signature:

Member Signature \_\_\_\_\_ Date \_\_\_\_\_

### Warranty Information:

Rebate qualifications do not imply any representation or warranty of such equipment, design or installation by the cooperative. The cooperative shall not be responsible or liable for any personal injury or property damage caused by this equipment. The cooperative does not guarantee that a specific level of energy or cost savings will result from the implementation of energy conservation measures or the use of products funded under this program. In no event shall the cooperative be liable for any incidental or consequential damages.

### Additional Program Rules:

1. Evaluation must be complete before funds will be issued for the rebate.
2. Members and vendors must submit itemized equipment invoices, along with rebate application and worksheet, to the cooperative. To ensure that the equipment installed meets the cooperative's performance standards, these invoices must itemize labor charges, quantity and price of the equipment installed, as well as information regarding the manufacturer and model numbers for all equipment included in the rebate.
3. Rebates must be applied for within 12 months of invoice date.
4. The cooperative reserves the right to conduct random inspections of installations.
5. Project must comply with all program specific rules and qualifications.
6. The member is responsible for checking with the cooperative to determine funding availability and to verify program parameters.

# AGRICULTURAL

## Equipment & Rebate Information

### Agricultural Ventilation

#### Exhaust Fans \$15/each

Fan Size (in.)	Rated CFM	Actual CFM/watt	Quantity	Rebate

\*Actual CFM/watt > minimum CFM/watt (found on "Rules & Information" tab)

#### Circulation Fans \$25/ea

Fan Size (in.)	Rated CFM	Actual CFM/watt	Quantity	Rebate

#### High Volume, Low Speed (HVLS) Fans \$400/each

Old fan size (in)	Old quantity	HVLS fan size	New quantity	Rebate

### Rebate Information

Project Cost	<input type="text"/>
Rebate	<input type="text"/>

### Minimum Efficiencies

**Circulation Fans** – generally used to regulate airflow and temperature. As the diameter of fan increases, so should the efficiency. These fans work best in free stall barns with two, four, or six rows and are generally located in 30-40 foot intervals over the feed alley and free stall area.

**Exhaust Fans** – generally used for ventilation. To achieve cross ventilation, fans are installed on one wall to pull air from one side of the barn to the other. Exhaust fans also can be designed for tunnel ventilation where fans are installed on one end of the barn and move air across to the rest of the barn. generally thermostatically controlled to turn on banks of fans when the temperature hits the set point. Exhaust fans should be installed away from prevailing winds. Similar with circulation fans, when exhaust fan diameter increases, efficiency should also increase.

**High-Volume, Low-Speed (HVLS)** – these fans move large volumes of air over a large area. They are available in a range of sizes, typically from starting around four feet and ranging up to 24 feet in diameter. Energy savings is achieved through use of fewer fans to move the same CFM with a more efficient design.

Exhaust	CFM/watt	Circulation	CFM/watt
16-23 in.	10.5	24-35 in.	11.9
24-35 in.	11.5	36-47 in.	15.5
36-47 in.	15.5	48-64 in.	17.7
48-51 in.	20.2		
52-59 in.	20.8		
60-72 in.	21.1		

#### HVLS

HVLS fans should be fewer in quantity that the old fans

Through the wall & tunnel ventilation static pressure 0.10

panel, box, and cage fans static pressure 0.10

# AGRICULTURAL

## Equipment & Rebate Information

### Hog Farrowing Mats

For the new construction barn using electric hog farrowing heated mats or replacement of heat lamps with heated mats with automated climate controls in an existing barn. Using heat mats significantly reduces heat lost to ambient air by providing direct heat transfer to the piglets. Replacement of heat mat to heat mat does not qualify for this rebate.

#### Equipment Information

- Existing barn retrofit  
**Rebate: \$50/crate**
- New construction barn  
**Rebate: \$30/crate**

#### Existing Lamp Information (if retrofitting existing barn)

	lamp watts	quantity
Type 1		
Type 2		
Type 3		
Example	175	60

#### Mat Information

(required for both retrofit and new construction)

	mat watts	quantity
Type 1		
Type 2		
Type 3		

total number of crates

#### Rebate Information

Project Cost   
Rebate

### Engine Block Timer

This rebate is for the installation of a plug-in timer that controls the operation of an engine block heater timer to modulate operation

#### Equipment Information

Quantity of timers

#### Rebate Information – \$5/timer

Project Cost   
Rebate

### Livestock Waterer

This rebate is for the installation of insulated or energy free livestock waterers in place of standard electric waterers

#### Equipment Information

- New Construction
- Electric Heat Replacement

Quantity of waterers

\*quantity based on insulated or energy free waterers

#### Rebate Information – \$75/waterer

Project Cost   
\$75 / Waterer

### Irrigator VFD

Installing a variable frequency drive (VFD) allows the pump to speed up or slow down to provide uniform application of water and maintain correct pressures throughout the irrigations system. Typically, a VFD will be most beneficial for a system that has end guns or swing arms, precision application packages or one pump supplying water to multiple irrigation systems.

#### Irrigator Information

Motor HP   
Annual Hours of Operation\*

\*typically 600-900 hrs/year

#### Rebate Information – \$10 / HP

Project Cost   
\$10 per Horsepower