



The Power of Human Connections



**Guthrie County REC**  
A Touchstone Energy® Cooperative

cost-effective

energy-efficient

environmentally responsible

## Ventilation and Circulation

**Farm animals require ventilation and air movement to be comfortable and productive year round. Incentives are available for high efficiency systems that could help save energy costs of up to 30 percent a year.**

### Ventilation and Circulation Fans

The operating costs of a ventilation system will depend on the efficiency of the equipment, configuration of the fans, and the proper installation and control over the amount of airflow.

Ventilation Fans (fan blade diameter)	\$3/in.
Ventilation Thermostat Controller with Humidistat	\$25 each
Circulation Fans (fan blade diameter)	\$1/in.

### Ventilation Fan Efficiency Requirements (must be BESS Labs rated at 0.10 in. static pressure)

- 14-23 inch - min. 10.5 CFM/Watt
- 24-35 inch - min. 13.0 CFM/Watt
- 36-47 inch - min. 16.5 CFM/Watt
- 48-49 inch - min. 18.5 CFM/Watt
- ≥ 50 inch - min. 19.5 CFM/Watt

### Circulation Fan Efficiency Requirements (must be BESS Labs rated)

- 12-23 inch - min. 11.0 lbs thrust/kW
- 24-35 inch - min. 15.0 lbs thrust/kW
- 36-47 inch - min. 18.5 lbs thrust/kW
- 48-52 inch - min. 23.0 lbs thrust/kW

*Incentives are limited to \$5,000 per account for all ventilation and circulation equipment.*

## High Volume Low Speed Fans

One 24-foot HVLS fan can move the same amount of air as six 48-inch high-speed box fans and uses significantly less energy.

High Volume Low Speed Fans (minimum 10' diameter)	\$35/ft. (fan blade diameter)
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**Contact your cooperative for the complete list of incentive programs and qualifications. All programs subject to change at any time, without prior notice.**

## Dairy Operations

**Energy-efficient equipment and technologies can go a long way in helping to reduce energy expenses and improve productivity.**

### Heat Reclaimers

Heat reclaimers can reduce water-heating energy usage by 60 to 80 percent by recovering the heat discharged from dairy refrigeration equipment.

Heat Reclaimers \$4 per milking cow



### Milk Pre-Coolers

Reducing the temperature of milk before it enters the bulk tank with "pre-coolers" helps to reduce the refrigeration system energy costs by 20 to 30 percent.

Milk Pre-coolers \$3 per milking cow

### Variable Speed Dairy Vacuum Pumps

Standard motors and pumps often only have two speeds, full power or completely off. Variable speed drives (VSDs) used with dairy vacuum systems can save considerable energy on farms. Utilizing VSDs can reduce electricity use by as much as 60 percent.

VSD Vacuum Pumps \$40/horsepower

### Dairy Scroll Compressor

Refrigeration systems with scroll compressors are 15 to 20 percent more efficient than traditional reciprocating compressor systems.

Scroll Compressors \$250 each  
(must replace reciprocating compressor)

## Livestock Equipment

### Livestock Waterers

Most of the energy used by a heated livestock waterer is used to keep the water from freezing. Incentives are available for efficient waterers with tanks constructed of plastic, a minimum of 2" of insulation and lid covers.

Electric Heated Livestock Waterers \$50 each  
(≤ 175W per trough opening)



### Farrowing Equipment

Efficient heating lamps, pads and controllers help reduce energy use and improve animal health, both of which contribute to your bottom line.

Heat Lamps \$3/lamp  
(≤ 175W, replacement of 250W lamp)

Single Crate Heating Pads (≤ 85W) \$25/single pad

Double Crate Heating Pads (≤ 170W) \$50/double pad

Heat Lamp or Pad Controller \$50/controller

## Lighting

Energy-efficient lighting technologies are available that can reduce operating costs and provide lower fixed costs through fewer replacements.



## All Buildings

### Indoor Lighting

T8 /T5 Fixtures with Electronic Ballasts  
(new or change out of lamp and ballasts)

U-bend, 2' with 2 Lamps \$10

2' Fixtures \$4/lamp

4' Fixtures \$5/lamp

8' Fixtures \$7/lamp

8' Fixtures with High Output Ballasts \$9/lamp

ENERGY STAR LED Lighting (≥ 10W) \$30/lamp or fixture

LED Strip/Refrigerated Case Lighting \$2/linear ft.

Occupancy Sensors \$15 each  
(wall/ceiling or high bay mount)

ENERGY STAR CFL Fixture (hard-wired) \$10

### Outdoor Security Lighting

Outdoor Compact Fluorescent (cold-start ballast) \$10/fixture

## Existing Buildings

(fixture replacements or complete ballast and lamp retrofit)

### Indoor Lighting

High Bay Fluorescent Fixtures  
(4' T8 or 46" T5, 15' mount height)

Replacement of HID fixtures \$15/lamp

Replacement of T12 or incandescent fixtures \$8/lamp

Pulse Start Metal Halide Fixtures (100-249W) \$10

Pulse Start Metal Halide Fixtures (≥ 250W) \$20

ENERGY STAR Screw-in CFL (≥ 9W) \$2/lamp

Metal Halide Lamps (320-360W replacing 400W) \$6/lamp

### Outdoor Security Lighting

HPS Fixtures (50-99W) \$15

HPS Fixtures (≥ 100W) \$30

Pulse Start Metal Halide Fixtures (70-249W) \$20

Pulse Start Metal Halide Fixtures (≥ 250W) \$30

## New Buildings or Additions

### Indoor Lighting

High Bay Fluorescent Fixtures (4' T8 or 46" T5, 15' mount height) \$8/lamp

ENERGY STAR Screw-in CFLs (≥ 9W) \$1/lamp

## Incentive Details

- Maximum incentive is 50% of installed costs.
- Custom incentives may be available, contact your cooperative for further details.
- New lighting fixtures must be more energy efficient (lower wattage) than original installed fixtures.