

COMMERCIAL, INDUSTRIAL &  
AGRICULTURAL ENERGY EFFICIENCY  
PROGRAMS





## Better Businesses Make Brighter Communities. You Make It Happen with CI&A Programs.

Together, trusted Minnesota and Wisconsin cooperative partners, like you, help commercial, industrial and agricultural members maximize the value of their electricity, without sacrificing productivity. Use this guide to find the right opportunities for your members.

### **Qualifying Members**

Commercial, industrial and agricultural members of GRE cooperatives qualify. Eligibility may vary by program.

### **Deadline**

All rebate applications must be submitted to GRE no later than November 30 of the program year.



**NEED  
HELP?**

Call your Key Account Executive or visit the Member Owner website.

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Wellspring

# Introduction

## Qualifying Members

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# Commercial, Industrial & Agricultural Energy Efficiency and Electrification Rebate Programs

## Introduction

The CI&A rebate programs provide incentives to qualified applicants for electric equipment in both new and existing facilities. Prescriptive and custom rebates are available.

Programs include:

- Agricultural
- Building Studies
- Commercial Food Service
- Custom
- Energy Efficiency & Electrification (E3) Loan
- Forklifts and Battery Chargers
- HVAC
- Lighting
- Motors and Drives
- Wellspring

## Prescriptive Rebates

Prescriptive rebate programs are designed to provide cooperatives with pre-approved deemed savings and rebate levels for certain conservation and electrification measures. Prescriptive rebates do not require pre-approval from GRE. Each cooperative is required to enter rebates using the online Conservation Improvement Program (CIP) reporting system, Energy Savings Platform (ESP).

## Custom Rebates

Custom rebates are available for projects with unique applications or technologies that do not fit the methodology of prescriptive rebates. Custom rebates require pre-approval from your GRE Key Account Executive (KAE) prior to implementation.

## Qualifying Members

Program participants and installation must be within the cooperative service territory.

## Incentives

The maximum rebate is 50% of project cost (materials, labor, recycling, etc.) up to \$100,000. Cooperatives reserve the right to limit the maximum rebate to fit individual CIP budgets. Cooperatives also have the flexibility to establish lower rebate program thresholds to fit individual CIP budgets.

## Deadline

CI&A rebate applications must be submitted to GRE by November 30 of the program year. Projects not submitted by November 30 will be considered on a case-by-case basis. Alternatively, projects submitted after November 30 will be considered projects for the next calendar year and funded using the next calendar year's CIP budget.

## General Guidelines

1. Rebates apply to new equipment only. Used or transferred equipment does not qualify unless noted for specific programs (e.g., forklifts).
2. Custom rebates are only available for projects with unique applications or technologies that do not fit the methodology of prescriptive rebates. Contact your KAE for pre-approval and Measurement and Verification (M&V) protocol.
3. Custom Conservation projects exceeding one million kWh savings (1MWh savings) are subject to measurement and verification (M&V) protocol.
4. Backup generators and power factor correction projects are not eligible for rebate incentives.
5. Prescriptive lighting should be DesignLights Consortium® (DLC) or ENERGY STAR® qualified products where available.
6. Projects must be submitted within 12 months of invoice date.
7. All rebate amounts are subject to change and are based on funding availability.



### Application Process

1. Rebates will not be paid until implementation is complete.
2. CI&A forms are available in Excel or pdf format and describe programs and required technical information.
3. Submit rebate projects through ESP for review by your KAE.

### Member Cooperative Responsibilities

Member cooperatives are required to have all documentation with rebate form signatures, invoice(s), and manufacturer specification information necessary to support the rebate program requirements. This documentation is required for a minimum of three years for potential audit and review by the state of Minnesota. Other duties include:

- Assist CI&A member with the rebate application process.
- Prescreen the application form(s).
- Analyze data to determine eligibility and level of funding available.
- Enter project(s) into ESP for review by KAE.

### GRE Responsibilities

GRE staff is available to help train member cooperative representatives or CI&A members with rebate program rules and requirements. In addition, GRE staff can provide assistance to equipment vendors, consultants, engineers and architects. Additional GRE responsibilities include:

- Assist with project information review.
- Approve/deny rebate requests in ESP.

### Tax Incentives

Business tax incentives may be available. CI&A members are responsible for pursuing any available tax incentives.





# Agricultural

## Qualifying Members

Commercial, industrial and agricultural members of GRE cooperatives qualify. Eligibility may vary by program.

## Deadline

All rebate applications must be submitted to GRE no later than November 30 of the program year.



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# Agricultural Programs

## Agricultural Programs Information

Prescriptive and custom rebates are available to members for the installation of energy efficient or electric equipment. The residence on the farm site is not eligible for CI&A rebates but may participate in residential rebate programs. All agricultural business-use applications are eligible for the CI&A rebate programs.

### Prescriptive Programs:

- Agricultural Audit
- Dairy Free Heater
- Dairy Plate Cooler
- Irrigation VFD
- LED Lighting
- Robotic Milking System (RMS)
- Ventilation Fans

### Custom Project Examples:

- Livestock water heaters
- Engine block heater timers
- Diesel to electric motor conversion (electrification)
- Hog farrowing heated mat with growth cycle controls

Custom projects require pre-approval and will follow the custom program rules outlined in the Custom Rebates section.



# Agricultural Audit

## Agricultural Audit

Agricultural audits must be completed by a third party, Certified Energy Manager (CEM) or auditor with similar credentials.

There are two types of audits:

On-site audits - this type of audit is a more basic audit. The auditor conducts an in-person walk through of the site to identify energy efficiency opportunities. A written report is provided upon audit completion.

The second type of audit is more in-depth. The Agriculture Energy Management Plan (AgEMP) audit is targeted toward large sites. Upon completion, you may be eligible for federal, state or local tax credits, as well as grants and loans through USDA's Rural Energy for America Program (REAP), if you choose to implement the measures recommended in the report.

GRE has partnered with GDS Associates to offer a turnkey Agricultural Audit program. Cooperatives can refer members to GDS Associations, and GDS Associates will pursue qualifying members through existing relationships with producers' associations and bring back to the cooperative. Conservation, electrification, and demand response opportunities will be identified and presented in the audit report.

GDS Associates contact info:

Travis Hinck  
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612-916-3052

Bethany Reinholtz  
Bethany.reinholtz@gdsassociates.com  
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## Dairy Free Heater

### Dairy Free Heater

A heat exchanger is installed on the bulk tank refrigeration system. This heat exchanger recovers waste heat from refrigeration compressors which preheats water for cleaning and sanitizing equipment.

#### Benefits:

- Reduces cost of heating water by using waste heat from the refrigeration system.
- Increases water temperature recovery time.



## Dairy Plate Cooler

### Dairy Plate Cooler

Milk cooling accounts for the largest energy expenditure on a dairy farm and is vital to the quality of the milk. A dairy plate cooler precools warm milk before it enters the bulk tank by utilizing a heat exchanger that extracts heat from the milk using cool well water. When the precooled milk enters the bulk tank, the refrigeration compressor finishes cooling the milk.

Alternatively, if a refrigeration compressor is operating near maximum cooling capacity, adding a plate cooler increases cooling capacity and total milk production.

#### Benefits:

- Better quality milk from faster cooling.
- A plate cooler is a more cost-effective alternative to adding compressor cooling capacity.



## Irrigation VFD

### Irrigation VFD

Pivot field irrigators installed with a Variable Frequency Drive (VFD) can provide varying motor horse power based on variable well water tables throughout the season. Higher water tables require less horse power to pump water for irrigation. Rebate is \$10/HP, the lesser of the rated HP of the VFD or motor.

#### Benefits:

- VFDs ramp the motor up and down to optimize horse power requirements for pumping water; saving energy and money.
- VFDs can be used to soft start motors which prevents start-up voltage spikes and reduces wear and tear on the motor.
- VFDs can be used for phase conversion in areas without three-phase power.



## LED Lighting

### LED lighting

Extended daylighting controls and LED fixtures reduce not only operating costs but also increase productivity in dairy, poultry and hog barns.

#### Benefits:

- Reduced operating costs – High efficiency LED lighting reduces energy use and costs while also being a low maintenance option.
- Increased production – Extended daylighting hours improves heifer growth and milk production, increases hog piglet suckling and food intake in growers/finishers, and increases poultry growth and egg production resulting in increasing production and revenue.



## Robotic Milking System (RMS)

### Robotic Milking System (RMS)

Robotic milking integrates a milking stall, computerized milking machine, robotic arm assembly, milking pump, teat identification and cleaning equipment, and a feed dispenser all in one stall. A central processing unit tracks data from each milking session to interface with herd management and provides updates or alerts to the farmer. One stall can milk an average of 55–65 cows per day.

#### Benefits:

- Increased milk production – Cows are able to choose when to milk based on comfort levels and feeding patterns which optimize milk production.
- Efficient labor management – The cost and time associated with managing employees can be cumbersome. With robotic milking, farmers can reduce milking labor by up to 70%.
- Information and connectivity – An RMS offers the most advanced data monitoring and communication capabilities to keep farmers informed on each cow's health, feeding and milk production status.
- Improved quality of life – With RMS, workers have less stress on the back, knees, wrists, and hands.

Rebate: \$5,000/stall



# Ventilation Fans

## Ventilation Fans

Dairy and livestock farms utilize ventilation fans to control air quality and comfort. A circulation or exhaust fan combined with a variable speed drive (VSD) varies fan speed based on air quality and comfort requirements as weather changes throughout the year.

Benefits:

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

There are three types of agricultural ventilation fans:

**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.

Circulation	CFM/watt
24-35 in.	11.9
36-47 in.	15.5
48-64 in.	17.7

Rebate \$25/fan

**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.

Minimum efficiencies

Exhaust	CFM/watt
16-23 in.	10.5
24-35 in.	11.5
36-47 in.	15.5
48-51 in.	20.3
52-59 in.	20.8
60-72 in.	21.1

Rebate \$15/fan

**High-Volume, Low-Speed (HVLS)** - these fans move large volumes of air over a large area. They are available in a range of sizes, 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.

Rebate for 20 ft, 22 ft, and 24 ft fan sizes

Rebate \$400/fan



# Building Studies

## Qualifying Members

Commercial, industrial and agricultural members of GRE cooperatives qualify. Eligibility may vary by program.

## Deadline

All rebate applications must be submitted to GRE no later than November 30 of the program year.



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## Building Studies

### Building Studies Information

Rebates are available to help member cooperatives with a cost share of a variety of professional energy services including:

- Agricultural Audits
- Building Certification
- Commissioning (RCx)
- Compressed Air Study
- Energy Audits
- Energy & Design Assistance (EDA)

### Program Rules

All programs must utilize a third-party auditor that has Professional Engineer (PE) or Certified Energy Manager (CEM) credential(s). Member must implement all low-cost (less than one-year payback)/no-cost measures to be eligible for study rebate. Payment of the rebate will only be made after the building study and report have been completed.

### Incentives

The maximum rebate is 50% of project cost, up to \$20,000. All low-cost/no-cost (less than one-year payback) measures must be implemented to qualify for the Building Studies rebate. Rebate will be awarded post audit, implementation or certification.



## Agricultural Audits

### Agricultural Audits

See program information under Agricultural Programs section.



## Building Certification

### Building Certification

This is a one-time certification rebate which encompasses all electric conservation activities required to obtain certification. Other rebates cannot be combined with this program.

Rebate is 50% of cost, up to \$20,000. Building Certification examples include but are not limited to:

- ENERGY STAR
- LEED
- ISO 50001





## Commissioning

### Commissioning

Commissioning projects include retrocommissioning and recommissioning of existing buildings. Commissioning rebates are available once every five years for projects

10,000 square feet and larger. Please see the rebate application for a list of items that must be documented in the final report to qualify for the rebate. Rebate is 50% of cost, up to \$20,000.



## Compressed Air Study

### Compressed Air Study

Rebates are available for the evaluation of compressed air systems and for equipment upgrades or system improvements. Compressed Air Studies require a leak detection report detailing the equipment, system uses and leaks. A minimum of 50HP compressor and 2,000 operating hours per year are required for this rebate.

GRE offers an ultrasonic leak detector which can be checked out by cooperatives to help end-use members identify leaks. This device is able to record the intensity of air leaks to determine energy savings associated with fixing the leak. Custom Conservation implementation rebates do apply for fixed leaks.

Compressor HP	Rebate
50-74	50% up to \$2,000
75-99	50% up to \$2,500
100+	50% up to \$15,000



## Energy Audits

### Energy Audits

Energy audits may be conducted for existing commercial and industrial projects to identify energy efficiency opportunities. Please see the rebate application for a list of items that must

be documented in a final report to qualify for the rebate. All low cost/no cost (less than one-year payback) projects require implementation to obtain the rebate. Rebate is 50% of cost, up to \$20,000.



# Energy & Design Assistance (EDA)

## Energy & Design Assistance (EDA)

This program is for new construction or major renovation projects targeting 5,000 square feet or larger. EDA is a comprehensive approach to energy savings modeling above and beyond code requirements. A third-party engineering firm models energy savings based on specked building equipment and materials. A pre-construction design meeting and final report are required.

End-use members must obtain pre-approval qualification to participate. Members interested in participating should be approved for the program before breaking ground.

An engineering fee is paid by the cooperative to the third-party engineering firm to render the services free to the end-use member. Energy savings above and beyond energy code are then rebated using the Custom Conservation. Alternatively, the end-use member may provide a third-party energy model from their contracted design firm.

The Weidt Group has become an industry leader in EDA utility programs with support from the Minnesota Department of Commerce, Division of Energy Resources on their MNNeo energy model. Their services include vetting projects with energy and demand savings opportunities, organizing energy design meetings with the developer and utility to review and maximize energy efficient design. Based on discussions with the developer, the Weidt Group models, verifies implementation, and provides a report of findings which includes a detailed breakdown of total energy and demand savings based on design choices and implementation. The Weidt Group can also help coordinate program cost share and rebate incentives with members' gas company (specifically, but not limited to, Xcel Energy and CenterPoint Energy).

The Weidt Group contact info:

Kris Leaf, Program Manager

952-938-1588

[krisl@twgi.com](mailto:krisl@twgi.com)

<http://theweidtgroup.com/energy-design-assistance/>

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# Commercial Food Service

## Qualifying Members

Commercial, industrial and agricultural members of GRE cooperatives qualify. Eligibility may vary by program.

## Deadline

All rebate applications must be submitted to GRE no later than November 30 of the program year.



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## Commercial Food Service

### Commercial Food Service

Electric food service equipment often provides a competitive advantage over gas by improving the cooking process, increasing production and food quality, improving indoor air quality, and reducing kitchen safety hazards. Rebates are available for retrofit or new food service equipment with ENERGY STAR ratings and must operate a minimum of 250 days/year.

Benefits of electric:

- Faster preheating and recovery times.
- Wider range of operating temperatures.
- Precise heat control allows for better and more consistent food quality.
- Lower maintenance due to uniform heat and fewer parts.
- Eliminates open flames, increasing worker safety.
- Reduced heat loss which keeps the kitchen area cooler.



## Combination Oven

### Combination Oven

Used as both a traditional convection oven and a steamer because it preheats quickly and does not need to stay on like traditional equipment.

Combination Oven		
Rebate/Unit	ENERGY STAR Deemed kWh Savings	kWh Sales
\$500	4,679	12,480



## Convection Oven

### Convection Oven

Cooks food faster due to increased hot air circulation inside oven cavity to save up to 15% on energy.

Convection Oven		
Rebate/Unit	ENERGY STAR Deemed kWh Savings	kWh Sales
\$200	1,266	1,639



## Dishwasher

### Dishwasher

Dishwashers are one of the most expensive pieces of equipment to operate in a commercial kitchen. ENERGY STAR units save up to 40% on energy and water through advanced controls and diagnostics, improved nozzles and rinse arm design.

Dishwasher		
Equipment	Rebate/Unit	ENERGY STAR Deemed kWh Savings
Dishwasher, High Temp, Electric Booster	\$100	7,054
Dishwasher, Low Temp	\$100	16,186



## Electric Fryers

### Electric Fryers

Energy efficient fryers that have earned the ENERGY STAR, offer shorter cook times and higher production rates through advanced burner and heat exchanger designs. Standard sized fryers that have earned the ENERGY STAR are approximately 14% more energy efficient than standard models.

Electric Fryers			
Equipment	Rebate/Unit	ENERGY STAR Deemed kWh Savings	kWh Sales
Standard Open Deep	\$200	1,092	15,556
Large Vat Open Deep	\$300	1,092	15,556



## Electric Griddle

### Griddle

Found on most cook lines, ENERGY STAR models are approximately 10% more efficient than standard griddles. ENERGY STAR models use thermostatic control with improved temperature uniformity to increase production capacity.

Griddle		
Rebate/Unit	ENERGY STAR Deemed kWh Savings	kWh Sales
\$200	2,192	8,081





# Electric Hot Food Holding Cabinet (HFHC)

## Electric Hot Food Holding Cabinet (HFHC)

With better insulated cabinets, this piece of equipment can save up to 70% on energy over standard units. Rebate is based on size - \$500 - \$750.

Electric Hot Food Holding Cabinets (HFHC)				
Size	Volume (cubic ft)	Rebate/Unit	ENERGY STAR Deemed kWh Savings	kWh Sales
Full Size	20	\$750	9,340	1,610
3/4 Size	12	\$625	5,157	1,413
Half Size	8	\$500	3,438	942



# Electric Steamers

## Electric Steamers

Available in 3, 4, 5 and 6 pan models, electric steamers reduce energy through shorter cook times, high-production rates, reduced heat loss and increased steam delivery.

Electric Steamers			
Equipment	Rebate/Unit	ENERGY STAR Deemed kWh Savings	kWh Sales
3 Pan Steamer	\$500	14,300	4,840
4 Pan Steamer	\$500	15,877	6,119
5 Pan Steamer	\$1,000	17,616	7,524
6 Pan Steamer	\$1,000	17,094	8,219



## Flash Bake Oven

### Flash Bake Oven

Uses a combination of intense visible lighting and infrared energy to cook food rapidly. Microprocessor controls help produce superior quality food. Eliminates idle energy usage over a standard oven that must maintain or hold operating conditions.

Flash Bake Oven		
Rebate/Unit	ENERGY STAR Deemed kWh Savings	kWh Sales
\$200	1,161	1,865



## Ice Machine

### Ice Machine

Harvest-assist devices, high-efficiency compressors, fan motors and water pumps help make ENERGY STAR ice machines 12% more efficient than standard units.

Ice Machine	
Rebate/Unit	ENERGY STAR Deemed kWh Savings
\$100	1,618



## Induction Cooktop

### Induction Cooktop

This type of cooktop is 15% more efficient than a standard range.

Induction Cooktop		
Rebate/Unit	ENERGY STAR Deemed kWh Savings	kWh Sales
\$200	2,026	8,483

Induction Range		
Rebate/Unit	ENERGY STAR Deemed kWh Savings	kWh Sales
\$750	7,809	16,679



## Refrigerator & Freezer

### Refrigerator & Freezer

Stand-alone solid or glass door, vertical or case reach-in Energy Star units, use high-efficiency compressors, improved coil design and efficient interior lighting to save up to 40% over standard units.

Refrigerator & Freezer		
Equipment	Rebate/Unit	ENERGY STAR Deemed kWh Savings
Freezer	\$100	1,672
Refrigerator	\$100	181



## Vending Controls

### Vending Controls

Passive infrared occupancy sensor to shut off lighting and compressors. Vending controls can save over 40% on electricity and have additional maintenance savings resulting from reduced run time on vending components.

Vending Controls*	
Rebate/Unit	ENERGY STAR Deemed kWh Savings
\$50	1,296

\*ENERGY STAR rating does not apply.

# Custom Energy Rebates

## Qualifying Members

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# Custom Rebates

## Custom Rebates Information

Custom rebates are available for projects with unique applications or technologies that do not fit the methodology of prescriptive rebate deemed savings. Custom rebates require pre-approval from your GRE KAE prior to implementation.

### Custom Electrification

Consideration will be given to high-efficiency technologies with net carbon emissions reduction. This can be a result of delivered fuel equipment being replaced with electric or in new construction applications choosing an electric technology over alternatives. M&V is not applicable to Custom Electrification projects.

#### Project Examples:

- Converting diesel motors to electric.
- Replacing a propane pool heater with an air-source heat pump with electric backup.
- Using robotics in place of human labor.

### Custom Lighting

See details in the Lighting section.

## Custom Conservation

Custom equipment or system information must describe the before and after scenarios in terms of demand and energy (kWh), operating hours, number of units and other baseline data pertinent to the efficiency characteristics of the equipment or system.

Custom Conservation projects estimated to exceed one million kWh savings (1MWh savings) are subject to measurement and verification (M&V) protocol. Contact your KAE for pre-approval and to predetermine which M&V protocol option to utilize.

Formerly prescriptive programs that may be applied for under Custom Conservation:

- Motors
- Hog farrowing lamp or mat heat controls

## Measurement and Verification Guidelines

### Option 1 – Third-Party Engineering Review

Appropriate for projects where the conservation measure affects the energy use of components that cannot be sub-metered and the expected savings are small compared to the consumption of the entire facility.

A third-party engineering firm designs and supervises an evaluation of the energy savings realized by the conservation measures undertaken. The energy savings are derived by calculations using these measurements. The evaluation will likely involve measuring variables for several components that have a known effect on facility energy use. In some cases, effects on energy use of components will be readily identified, and in other cases, the correlation may involve multivariable regression analysis. The objective of Option 1 is to derive an estimate of energy saved that is accurate, repeatable and with known precision and bias.

#### Requirements:

- Required measurement frequencies and durations will be determined by the engineering analysis.
- A licensed Professional Engineer (PE) must perform an on-site investigation and certify that the technical assumptions and engineering calculations are reasonable and accurate to the best of his/her knowledge.

### Option 2 – Equipment Sub-Metering

Intended to be used whenever direct metering of pre- and post-retrofit equipment is feasible and there are no significant interactive effects on non-project equipment. Electricity usage is monitored pre- and post-project over appropriate time frames to capture actual operating conditions. With the utility's confirmation that the pre- and post-project metering periods provide accurate representations of predicted operational patterns, the collected data may then be used to extrapolate to baseline and post-project annual energy use.

Sampling may be used for projects with large numbers of measure-affected equipment (for example, a lighting upgrade in a large office building). By convention, sampling designs should strive to obtain 90/10 accuracy, or 90% confidence with  $\pm 10\%$  precision, though M&V cost considerations (see section VI) may lower the achievable accuracy.

#### Requirements:

Required measurement frequencies and durations are dependent on the nature of the measure-affected equipment.

### Option 3 – Facility Metering

Option No. 3 is appropriate for projects in which two or more measures will be interacting, projects involving changes to occupant behavior, and where ambient weather conditions affect facility energy use. The option is most appropriate for building performance improvements, where weather-normalized monthly energy use data for at least one year before project implementation is compared to data for a similar period of time following project implementation.

It is also appropriate for commercial and industrial projects in which analysis of the main facility metering data can provide an accurate estimate of savings. This application would be most appropriate if the non-project loads are relatively constant compared to the measured-affected loads.

The guidelines caution against using facility metering if the estimated annual savings are expected to be less than 10% of the baseline facility annual energy use. If this condition applies, then Option 1 or 2 should be used instead.

#### Requirements:

- For building performance improvement projects, at least one year of monthly energy use data collected pre- and post-project.
- For other commercial or industrial projects, metering frequencies and durations are dependent on the nature of the measure-affected equipment and will be determined by the utility.

# Energy Efficiency & Electrification (E3) Loan

## Qualifying Members

Commercial, industrial and agricultural members of GRE cooperatives qualify. Eligibility may vary by program.

## Deadline

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# Energy Efficiency & Electrification (E3) Loan

## Energy Efficiency & Electrification (E3) Loan

The E3 Loan is available to all-requirement members to help facilitate the installation of high-efficiency equipment and to support beneficial electrification projects for CI&A members. Projects that would qualify for this loan should consider net carbon emissions reduction and new energy sales. Equipment financed through the loan program does not qualify for CIP rebates.

E3 Loan	Min Loan	Max Loan	Equity	Interest Rate	Max Term	Notes
Conservation Project	\$50,000 & 100,000 kWh Savings	\$350,000	20%	0%–3%	10 years	Existing equipment used as baseline for energy savings, deemed savings used as needed
Electrification Project	\$50,000	\$350,000	10%	0%–3%	10 years	Targeting electric equipment with benefits such as net carbon reduction, increase in productivity or strategic energy sales

### Eligible Uses (examples):

#### Conservation

Custom  
Energy & Design Assistance  
HVAC  
Lighting  
Manufacturing Equipment

#### Electrification

Custom Electrification  
Forklifts  
Heat Pumps  
Manufacturing Equipment  
Robotic Milking

### Ineligible Uses:

Debt financing, working capital

### Terms:

Loans will be structured as a pass-through loan to the member cooperative. The loan is limited to 80% of the total project cost up to \$350,000. Interest rates on the GRE loan will not exceed 3% but could be as low as 0% based on the level of conservation savings or electrification project sales.

Interest rate and repayment terms to the end-use member shall be the same as GRE's with the option to charge up to 1% annually for loan servicing.

Maximum loan term of 10 years.

[illegible]

# Forklifts and Battery Chargers

## Qualifying Members

Commercial, industrial and agricultural members of GRE cooperatives qualify. Eligibility may vary by program.

## Deadline

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# Electric Forklift

## Electric Forklift

Electric forklifts offer lower operating and maintenance costs than diesel or propane and offer improved health and safety conditions, particularly with indoor use applications.

Rebates are available for conversion, new construction, fleet retention and refurbished fleet addition. Lifts must operate a minimum of 40 hours per week. ETS rates can be applied to forklifts but are not required to qualify for the rebate.

Resources:

- EPRI produced a cost/benefit application with customizable inputs that can be found at [http://et.epri.com/calculators\\_lift-truck-comparison.html](http://et.epri.com/calculators_lift-truck-comparison.html)

Rebates:

Type	Rebate
Conversion (fuel replaced with electric)	\$2,000
Fleet Addition or New Construction (new equipment)	\$2,000
Retention (electric to electric) or Refurbished Fleet Addition	\$500



# High Frequency Battery Charging

## High Frequency Battery Charging

Technology advancements such as high frequency battery charging bolster electric forklift performance and effectiveness, and therefore industry acceptance. A forklift is typically in operation 50% of the time, so most electric forklifts can operate for two 8-hour shifts on a single battery and charger.

Ferroresonant and silicon controlled rectifier (SCR) has been the dominate forklift battery charging technology for decades. Two newer technologies, hybrid (controlled ferroresonant) and high frequency (switch mode) chargers, generally have more sophisticated charge controls and improved power conversion efficiency than the two dominate technologies.

High frequency battery chargers are composed of a switching circuit that utilizes an insulated-gate bipolar transistor (IGBT), which switches at much higher frequencies than other charger types. High switching frequencies improve power conversion efficiency. IGBTs also enable better voltage and current control, because of their ability to be switched on and off precisely and can improve charge return, reduce maintenance and battery power.

### Benefits:

- Faster, more efficient battery charging.
- Operational energy cost savings.
- Better voltage and current control to increase battery life.

Rebate: \$200/charger

### Please note:

Rebates available for conversion from Ferroresonant and SCR to High Frequency. Hybrid controlled to High Frequency conversions do not qualify for rebates.



# HVAC

## Qualifying Members

Commercial, industrial and agricultural members of GRE cooperatives qualify. Eligibility may vary by program.

## Deadline

All rebate applications must be submitted to GRE no later than November 30 of the program year.



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# HVAC

## Heating, Ventilation and Air Conditioning (HVAC)

Rebates are available for qualifying commercial equipment. Only new equipment qualifies for HVAC rebates.

- Air-Source Heat Pumps
- Chillers
- Condensers & Split Systems
- Economizers
- Ground Source Heat Pumps
- Mini Splits
- Packaged Terminal Air Conditioners
- Rebate is based on tonnage and EER above code
- Rooftop Units
- Variable Air Volume Box



## Air-Source Heat Pumps

### Air-Source Heat Pumps

Air-Source heat pumps use a compressor and condenser to absorb heat at one point and release the heat at another point. Cold climate heat pumps are maturing in technology and offer nearly year-round high-efficiency heating and all summer long cooling.

Rebates are based on tonnage, and incremental rebates are based on SEER or EER, HSPF and iEER above baseline.



## Chillers

### Chillers

The basis for the rebate efficiency level is design conditions and chiller efficiency data as compared to ASHRAE 90.1 building code. Chillers used in process applications will be treated as custom. Chiller rebates are available based on size, type and efficiency of the chilled water system. Rebate is based on tonnage and EER above code. Backup systems are not eligible for rebates.



## Economizers

### Economizers

Economizers are used to save energy in buildings by using cool outside air to cool indoor air. When outside air is sufficient in both temperature and humidity, the amount of enthalpy in the air is acceptable as fresh air intake without additional mechanical conditioning.

Enthalpy controls are required to qualify for this rebate. CO2 controls are optional, but recommended. Rebates are \$10/ton and must be enthalpy controlled.



## Ground Source Heat Pumps (GSHP)

### Ground Source Heat Pumps (GSHP)

Rebates are available for new construction and refurbished ground source heat pump systems. GSHPs are electric systems that utilize stable ground temperatures to provide space and/or water heating and cooling. Using loop fields, heat is transferred out of the house and into the ground in the summer and transferred from the ground into the home in the winter.

Federal tax incentives may be available. More information is available at:

[https://energy.gov/sites/prod/files/2013/12/f5/bt\\_comm\\_tax\\_credit.pdf](https://energy.gov/sites/prod/files/2013/12/f5/bt_comm_tax_credit.pdf)

Rebates are \$400/ton on a new unit and \$200/ton for a replacement unit.



## Packaged Terminal Air Conditioner (PTAC)

### Packaged Terminal Air Conditioner (PTAC)

Rebates are available for PTAC units in heat pump or standard air conditioning models with electric resistance heating or heat pump heating with a minimum EER = 10.0. PTAC units are often used in hospitality and multifamily facilities. Rebates are based on tonnage and EER.



## Rooftop Unit (RTU)

### Rooftop Unit (RTU)

Rebates for RTUs vary based on tonnage, EER and iEER ratings. The rebate is a base rebate per ton, an incremental rebate for EER ratings above baseline and an incremental rebate for iEER ratings above baseline. The RTU must meet at least one of the EER or iEER minimum baselines to qualify for the tonnage rebate.

### Condensers & Split Systems

Condensers and split systems have a base rebate per ton in addition to an incremental rebate for the SEER or EER above baseline. The SEER or EER must be greater than baseline to qualify for the tonnage rebate.

For split systems, both the condenser and A-coil must be installed. Rebates are based on tonnage, SEER/EER/iEER.

### Mini Splits

Mini splits are heating and cooling systems that have two primary components, an outdoor compressor/condenser and an indoor evaporator. This equipment is often used without ductwork ("ductless mini split").

Mini splits with electric resistance heating or heat pumps and a minimum EER = 13.0 qualify for rebates. Rebates range from \$200 - \$300.



## Variable Air Volume (VAV) Box

### Variable Air Volume (VAV) Box

VAV is a type of HVAC system that varies the airflow to maintain a constant temperature. Benefits of these systems include more accurate temperature control, reduced compressor wear and lower energy use by fans. Rebates are \$70/box.

[illegible]

# Lighting

## Qualifying Members

Commercial, industrial and agricultural members of GRE cooperatives qualify. Eligibility may vary by program.

## Deadline

All rebate applications must be submitted to GRE no later than November 30 of the program year.



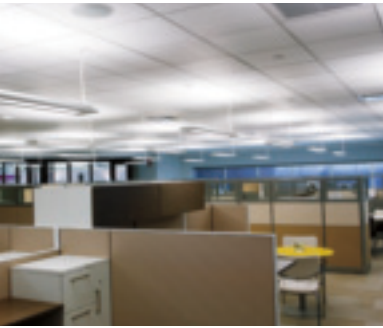
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# Lighting

## Lighting

Rebates are available for new and existing facilities.

Cooperatives can choose between offering a maximum rebate of 50% of material costs only, OR 50% of total projects costs. Lighting rebates shall not exceed \$50,000 per member per year. Illuminating Engineering Society (IES) light levels are recommended. A project falling below recommended levels may be denied a rebate. Rebates offered should be based on budget and funding available at the cooperative.



# New Construction & Retrofit Prescriptive Programs

## New Construction & Retrofit Prescriptive Programs

All prescriptive lighting rebates require DLC or ENERGY STAR ratings that match the application of installation. Equipment that does not meet this requirement can use the Custom Lighting program.

Prescriptive retrofit rebates are based on a 1:1 retrofit. If the project is primarily a retrofit but adds some additional lighting in a specific area, that 1:1 retrofit can be rebated prescriptively with the few additional lights rebated through new construction. If area lighting has been completely redesigned, lighting changes should be applied through the Custom Lighting program.

## LED Linear Tubes

The following lamp types all qualify for the “4' LED tube” rebate:

- UL Type A “plug and play”
- UL Type B internal-driver/line voltage
- UL Type C external driver

It is at the discretion of the installer and end-use member to determine which type of lamp is the best fit for their project.



# Custom Lighting

## Custom Lighting

Lighting fixtures and lamps without DLC or ENERGY STAR ratings or not installed based on their rated application should be applied for under the Custom Lighting program. Lighting redesigns should also be applied for under the Custom Lighting program.

HID and T12 retrofits to T8 can be rebated through the Custom Lighting program.

Rebates are based on both capacity and energy savings.





# Wattage Guide

## Wattage Guide

Please use these wattages when calculating estimated wattage savings for Lighting Efficiency rebates. These estimates figure electricity drawn by the system in an enclosed fixture and are taken from existing test data or calculated for similar lamp/ballast combinations. Use actual wattage information when available for lamp/fixture ballast combinations.

This wattage guide is provided to estimate energy savings. Energy savings calculations are estimates and may vary from actual results. Fixture wattages may vary slightly between different model numbers and manufacturers. The type of fixture and method of installation will affect the actual system wattage.

## T12 Fluorescent Lamps

Fluorescent Lamp Description	Fixture Input Watts (for normal power ballasts)			
	Number of Lamps	Standard Magnetic Ballast*	Energy Saving Magnetic Ballast	Electronic Ballast
F15T12 1.5' 15W	1		21	
F15T12 1.5' 15W	2		41	
F15T12 1.5' 15W	3		63	
F20T12 2' 20W	1		20.6	
F20T12 2' 20W	2		53.4	
F20T12 2' 20W	3		64	
F20T12 2' 20W	4		91	
F24T12 3' 24W	1		44.8	
F24T12 3' 24W	2		65.4	
F25T12 3' 25W	1			35
F25T12 3' 25W	2			71
F25T12 3' 25W	3			69.7
F25T12 3' 25W	4			88.4
F30T12 3' 30W	1		39.7	30
F30T12 3' 30W	2		75	60
F30T12 3' 30W	3		113	90
F30T12 3' 30W	4		138	
F30T12 3' 25W	1		39.6	28
F30T12 3' 25W	2		64.8	50
F30T12 3' 25W	3		103	80

Fluorescent Lamp Description	Fixture Input Watts (for normal power ballasts)			
	Number of Lamps	Standard Magnetic Ballast*	Energy Saving Magnetic Ballast	Electronic Ballast
F30T12 3' 25W	4		125	
F40T12 4' 40W	1	51	40.6	38
F40T12 4' 40W	2	97	86.5	71
F40T12 4' 40W	3	135	141	107
F40T12 4' 40W	4	175	172	134
F40T12 4' 34W	1	45.1	42	31
F40T12 4' 34W	2	84.2	67	60
F40T12 4' 34W	3	127	104	91
F40T12 4' 34W	4	156	144	119
F36T12 3' 30W SLIM	1		57.1	
F36T12 3' 30W SLIM	2		82.7	
F42T12 3.5' 35W SLIM	1		57.3	48
F42T12 3.5' 35W SLIM	2		86.9	73
F48T12 4' 30W ES SLIM	1		49	39
F48T12 4' 30W ES SLIM	2		79.8	64
F48T12 4' 40W SLIM	1		61.8	53
F48T12 4' 40W SLIM	2		98.2	82
F60T12 5' 50W SLIM	1		72.2	64
F60T12 5' 50W SLIM	2		111	103
F72T12 6' 57W SLIM	1		80.1	67
F72T12 6' 57W SLIM	2		122	106
F84T12 7' 65W SLIM	1		88.6	75
F84T12 7' 65W SLIM	2		143	120
F96T12 8' 60W ES SLIM	1		74	67
F96T12 8' 60W ES SLIM	2		113	105
F96T12 8' 75W SLIM	1		94.1	84
F96T12 8' 75W SLIM	2		145	133
F24T12 HO 2' 35W	1		64	
F24T12 HO 2' 35W	2		94.8	
F24T12 HO 2' 35W	3		148	
F24T12 HO 2' 35W	4		183.4	
F30T12 HO 2.5' 42W	1		67	
F30T12 HO 2.5' 42W	2		95	

Fluorescent Lamp Description	Fixture Input Watts (for normal power ballasts)			
	Number of Lamps	Standard Magnetic Ballast*	Energy Saving Magnetic Ballast	Electronic Ballast
F36T12 HO 3' 50W	1		72	
F36T12 HO 3' 50W	2		110	
F36T12 HO 3' 50W	3		165.9	
F36T12 HO 3' 50W	4		211.7	
F42T12 HO 3.5' 50W	1		72	
F42T12 HO 3.5' 50W	2		125.7	
F48T12 HO 4' 60W	1		81.9	62
F48T12 HO 4' 60W	2		132.8	125
F48T12 HO 4' 60W	3		203.6	
F48T12 HO 4' 60W	4		262.6	
F48T12 VHO 4' 116W	1		130	
F48T12 VHO 4' 116W	2		230	
F48T12 VHO 4' 116W	3		329	
F60T12 HO 5' 75W	1		97.5	
F60T12 HO 5' 75W	2		163	145
F60T12 HO 5' 75W	3		223	
F60T12 HO 5' 75W	4		278	243
F60T12 VHO 5' 138W	1		140	
F60T12 VHO 5' 138W	2		241	
F64T12 HO 64" 80W	1		104	
F64T12 HO 64" 80W	2		177.9	141
F64T12 HO 64" 80W	3		246	
F64T12 HO 64" 80W	4		312	
F72T12 HO 6' 85W	1		106	
F72T12 HO 6' 85W	2		189.7	164
F72T12 HO 6' 85W	3		291.2	225
F72T12 HO 6' 85W	4		323	
F72T12 VHO 6' 168W	1		168.4	
F72T12 VHO 6' 168W	2		314	
F72T12 VHO 6' 168W	3		424	
F84T12 HO 7' 100W	1		113	
F84T12 HO 7' 100W	2		209.3	190
F84T12 HO 7' 100W	3		278	
F96T12 HO 8' 110W	1	140.1	120.6	119
F96T12 HO 8' 110W	2	257.6	237.6	205
F96T12 HO 8' 95W ES	1	125	120	
F96T12 HO 8' 95W ES	2	216	202.8	170
F96T12 VHO 8' 215W	1		213	
F96T12 VHO 8' 215W	2		320	
F96T12 VHO 8' 215W	3		517.5	
F96T12 VHO 8' 185W ES	1		198	
F96T12 VHO 8' 185W ES	2		398.3	
F96T12 VHO 8' 185W ES	3		550	

## T10 Fluorescent Lamps

Fluorescent Lamp Description	Fixture Input Watts (for normal power ballasts)		
	Number of Lamps	Energy Saving Magnetic Ballast	Electronic Ballast
F40T10 4' 40W	1	53.6	41.3
F40T10 4' 40W	2	88	72
F40T10 4' 40W	3	141	112

\*Standard magnetic ballasts that don't comply with Public Law 100-357 of 1988. These ballasts were no longer manufactured after January 1, 1990.

## T8 Fluorescent Lamps

Fluorescent Lamp Description	Fixture Input Watts (for normal power ballasts)		
	Number of Lamps	Energy Saving Magnetic Ballast	Electronic Ballast
F13TB 1' 13W	1	16.7	
F13TB 1' 13W	2	35.6	
F15TB 1.5' 15W	1	20.2	
F15TB 1.5' 15W	2	40.5	
F17TB 2' 17W	1	24.3	18.3
F17TB 2' 17W	2	45	31
F17TB 2' 17W	3	64	45
F17TB 2' 17W	4	83	57
F25TB 3' 25W	1	30.2	24
F25TB 3' 25W	2	61.5	43
F25TB 3' 25W	3	87	63
F25TB 3' 25W	4	116	85
F32TB 4' 25W	1		26
F32TB 4' 25W	2		43
F32TB 4' 25W	3		63
F32TB 4' 25W	4		85
F32TB 4' 28W	1		25
F32TB 4' 28W	2		48
F32TB 4' 28W	3		72
F32TB 4' 28W	4		97
F32T8 4' 30W ES	1	39.6	31
F32T8 4' 30W ES	2	82.1	54
F32T8 4' 30W ES	3		77
F32T8 4' 30W ES	4		104
F32T8 4' 32W	1	35.1	32
F32T8 4' 32W	2	68.2	58
F32T8 4' 32W	3	100	85
F32T8 4' 32W	4	131	110
F36T8 4' 36W	2		74
F40T8 5' 40W	1	50.2	39
F40T8 5' 40W	2	86.2	75
F40T8 5' 40W	3	131	107
F40T8 5' 40W	4	171	116
F48T8 HO 4' 44W	1		59



Fluorescent Lamp Description	Fixture Input Watts (for normal power ballasts)		
	Number of Lamps	Energy Saving Magnetic Ballast	Electronic Ballast
F48T8 HO 4' 44W	2	120	98
F60T8 HO 5' 55W	1		70
F60T8 HO 5' 55W	2	126	118
F72T8 6' 46W	1	51.7	50
F72T8 6' 46W	2	97	88
F72T8 HO 6' 66W	1		81
F72T8 HO 6' 66W	2	150	135
F96T8 8' 59W	1	65.3	58
F96T8 8' 59W	2	120	111
F96T8 8' 59W ES	1		64
F96T8 8' 59W ES	2		104
F96T8 HO 8' 86W	1		100
F96T8 HO 8' 86W	2		160

## T8 U-Shape Fluorescent Lamps

Fluorescent Lamp Description	Fixture Input Watts (for normal power ballasts)		
	Number of Lamps	Energy Saving Magnetic Ballast	Electronic Ballast
F16T8 U	1	23.4	17
F16T8 U	2	45.8	29.3
F16T8 U	3		45.6
F16T8 U	4		55.8
F24T8 U	1	32.1	24.3
F24T8 U	2	61.7	45.7
F24T8 U	3		65
F24T8 U	4		81.5
F25T8 U	1	33.9	26
F25T8 U	2	59.8	48
F25T8 U	3		70
F31T8 U	1	34	34.1
F31T8 U	2	73	63.6
F31T8 U	3		90.1
F31T8 U	4		105.5
F32T8 U	1	37	31
F32T8 U	2	74	58
F32T8 U	3		86
F32T8 U	4		112

## Super T8 System Input Wattage

	Instant Start Ballast			Rapid Start Ballast		
	Low ballast factor (0.77)	Normal ballast factor (0.87)	High ballast factor (1.15)	Low ballast factor (0.71)	Low ballast factor (0.77)	High ballast factor (0.88)
1 lamp	25	28	38	25		31
2 lamps	48	55	74	47	48	60
3 lamps	71	82.1	110	73	74	88
4 lamps	95	108	144	93	97.5	118

## T5 Fluorescent Lamps

Fluorescent Lamp Description	Fixture Input Watts (for normal power ballasts)		
	Number of Lamps	Energy Saving Magnetic Ballast	Electronic Ballast
F4T5 6" 4W	1	9.2	
F4T5 6" 4W	2	19.5	
F4T5 9" 6W	1	9.7	
F4T5 9" 6W	2	21.2	
F8T5 1" 8W	1	14.4	10
F8T5 1" 8W	2	22.7	21
F13T5 2' 13W	1	13.2	14
F13T5 2' 13W	2	26.4	27
F14T5 2' 14W	1		14
F14T5 2' 14W	2		28
F21T5 3' 21W	1		25.2
F21T5 3' 21W	2		48.9
F28T5 4' 28W	1		32.3
F28T5 4' 28W	2		64
F35T5 5' 35W	1		40.3
F35T5 5' 35W	2		77
F24T5 HO 2' 24W	1		27
F24T5 HO 2' 24W	2		54.4
F39T5HO 3' 39W	1		42.4
F39T5HO 3' 39W	2		85
F54T5HO 4' 54W	1		62
F54T5HO 4' 54W	2		120
F54T5HO 4' 54W	4		234
F80T5HO 5' 80W	1		89

## Circular and Compact Fluorescent Lamps

Fixture Description	Number of Lamps	Energy Saving Magnetic Ballast	Electronic Ballast
FC9T5, 22W Circular Fluorescent Lamp	1		25
FC9T5, 22W Circular Fluorescent Lamp	2		52
FC12T5, 40W Circular Fluorescent Lamp	1		43.5
FC12T5, 40W Circular Fluorescent Lamp	2		83.5
FC12T5HO, 55W Circular Fluorescent Lamp	1		58.5
FC12T5HO, 55W Circular Fluorescent Lamp	2		113
FC6T9, 20W Circular Fluorescent Lamp	1	21	21
FC8T9, 22W Circular Fluorescent Lamp	1	22.3	22
FC8T9, 22W Circular Fluorescent Lamp	2	46	
FC12T9, 32W Circular Fluorescent Lamp	1	39.8	
FC12T9, 32W Circular Fluorescent Lamp	2	75.5	
FC16T9, 40W Circular Fluorescent Lamp	1	38.9	
FC16T9, 40W Circular Fluorescent Lamp	2	96.2	
3W Cold Cathode	1		3
5W Cold Cathode	1		5
8W Cold Cathode	1		8
13W Cold Cathode	1		13
15W Cold Cathode	1		15
7W Compact Fluorescent - Hardwired	1		7
11 W Compact Fluorescent - Hardwired	1		11
13W Compact Fluorescent - Hardwired	1		13
15W Compact Fluorescent - Hardwired	1		15
18W Compact Fluorescent - Hardwired	1		18
23W Compact Fluorescent - Hardwired	1		23
26W Compact Fluorescent - Hardwired	1		26
30W Compact Fluorescent- Hardwired	1		30
42W Compact Fluorescent- Hardwired	1		48
55W Compact Fluorescent - Hardwired	1		55
5W Compact Fluorescent - Screw-in	1		5
7W Compact Fluorescent - Screw-in	1		7
9W Compact Fluorescent - Screw-in	1		9
11W Compact Fluorescent- Screw-in	1		11
13W Compact Fluorescent - Screw-in	1		13
15W Compact Fluorescent - Screw-in	1		15
18W Compact Fluorescent - Screw-in	1		18
23W Compact Fluorescent- Screw-in	1		23
26W Compact Fluorescent - Screw-in	1		26
28W Compact Fluorescent - Screw-in	1		28
60W Compact Fluorescent - Screw-in	1		60
105W Compact Fluorescent - Screw-in	1		105
36W Compact Fluorescent Hardwired Lamp	1		36

16W Compact Fluorescent - Screw-in Dimmable with Ref	1		16
24W Compact Fluorescent- Screw-in Dimmable	1		24
40/30W Biax with 1 ballast	1		46

## T5 Twin Tube Fluorescent Lamps

Fluorescent Lamp Description	Fixture Input Watts (for normal power ballasts)		
	Number of Lamps	Energy Saving Magnetic Ballast	Electronic Ballast
FT18W TT5	1	22.9	19
FT18W TT5	2	43.9	42
FT18W TT5	3	62	50
FT24W TT5	1	30.1	27
FT24W TT5	2	67.4	52
FT27W TT5	1	31.7	
FT27W TT5	2	65.67	40
FT27W TT5	3		60
FT36W TT5	1	51.2	37
FT36W TT5	2	83	70
FT39W TT5	1	53.3	48
FT39W TT5	2	87.1	75
FT39W TT5	3	82	106
FT40W TT5	1	47.5	44
FT40W TT5	2	77	73.5
FT40W TT5	3		98
FT50W TT5	1		57.5
FT50W TT5	2		115
FT55W TT5	1		58
FT55W TT5	2		113
FT80W TT5	1		89

## T2 Miniature Fluorescent Lamps

Fluorescent Lamp Description	Fixture Input Watts (for normal power ballasts)		
	Number of Lamps	Energy Saving Magnetic Ballast	Electronic Ballast
FM6T2	2		15
FM8T2	1		11
FM8T2	2		20
FM11T2	1		14
FM11T2	2		28
FM13T2	1		17
FM13T2	2		33

## T4 Compact Fluorescent Lamps

Fluorescent Lamp Description	Fixture Input Watts (for normal power ballasts)		
	Number of Lamps	Energy Saving Magnetic Ballast	Electronic Ballast

CFT5W/G23	1	9.9	
CFT7W/G23	1	10.2	
CFT7W/G23	2	16.3	16
CFT9W/G23	1	10.7	10
CFT9W/G23	2	26.4	20
CFQ9W/G23	1	10.2	
CFQ9W/G23	2	27.8	
CFQ10W/G24D	1	16.1	
CFQ13W/G24D	1	17.6	
CFQ13W/GX23	1	16	14
CFQ13W/GX23	2	31	30
CFT13W/GX23	1	15.8	
CFT13W/GX23	2		25
CFTR13W	1		14
CFTR13W	2		25
CFTR18W	1		16
CFQ18W	1		16
CFQ18W/G24D	1	22.9	19
CFQ18W/G24D	2	43	
CFQ20W/GX32D	1	25.3	
CF24T5DF	1		28
CF24T5DF	2		54
CFTR26W	1		28
CFQ26W/G24D	1	30.5	26
CFQ26W/G24D	2	52.4	
CFQ27W/GX32D	1	31.7	
CF36T5DF	1		35
CF36T5DF	2		70
CFS38W	1		31

## Mercury Vapor Lamp

Mercury Vapor Lamp Description	Number of Lamps	Magnetic Ballast
40W Med. Base	1	50
50W Med. Base	1	75
75W Med. Base	1	95
100W Med. Base	1	122
175W Med. Base	1	205
175W Mogul Base	1	205
250W Mogul Base	1	285
400W Mogul Base	1	454
400W Mogul Base	2	880
700W Mogul Base	1	780
1000W Mogul Base	1	1080

## High Pressure Sodium Lamp

High Pressure Sodium Lamp Description	Number of Lamps	Magnetic Ballast
35W Med. Base	1	43
50W Med. Base	1	64
70W Med. Base	1	86
100W Med. Base	1	126
150W Med. Base	1	188
100W Mogul Base	1	130
150W Mogul Base	1	188
200W Mogul Base	1	240
250W Mogul Base	1	295
310W Mogul Base	1	365
400W Mogul Base	1	457
600W Mogul Base	1	665
750W Mogul Base	1	840
1000W Mogul Base	1	1100

## Halogen

Fixture Description	Number of Lamps	Magnetic Ballast
40 Watt PAR Halogen	1	40
60 Watt PAR Halogen	1	60
75 Watt PAR Halogen	1	75
90 Watt PAR Halogen	1	90
100 Watt PAR Halogen	1	100
150 Watt PAR Halogen	1	150
200 Watt PAR Halogen	1	200
300 Watt PAR Halogen	1	300
500 Watt PAR Halogen	1	500
1000 Watt PAR Halogen	1	1000
1500 Watt PAR Halogen	1	1500

## Metal Halide Lamp

Metal Halide Lamp Description	Number of Lamps	Magnetic Ballast
32W Med. Base	1	38
35W/39W Med. Base	1	48
50W Med. Base	1	62
70W Med. Base	1	93
75W Med Base	1	95
100W Med. Base	1	125
150W Med. Base	1	173
70W Double Ended	1	94
100W Double Ended	1	130
150W Double Ended	1	185
175W Mogul Base	1	210

250W Mogul Base	1	295
300W Mogul Base	1	342
325W Mogul Base	1	375
360W Mogul Base	1	430
400W Mogul Base	1	454
400W Mogul Base	2	890
750W Mogul Base	1	850
1000W Mogul Base	1	1080
1500W Mogul Base	1	1610
1650W Mogul Base	1	1765
2000W Mogul Base	1	2140

## Pulse Start Metal Halide Lamp

Pulse Start Metal Halide Lamp Description	Fixture Input Watts (for normal power ballasts)		
	Number of Lamps	Magnetic Ballast	Energy Saving Magnetic Ballast
50W Med. Base	1	72	62
70W Med/Mogul Base	1	90	85
100W Med/Mogul Base	1	128	118
125W Med/Mogul Base	1	150	141
150W Med/Mogul Base	1	189	173
175W Med/Mogul Base	1	208	189
200W Med/Mogul Base	1	232	218
250W Med/Mogul Base	1	290	272
320W Med/Mogul Base	1	370	342
350W Med/Mogul Base	1	410	375
400W Med/Mogul Base	1	465	425
450W Med/Mogul Base	1	506	480
750W Med/Mogul Base	1	812	
1000W Med/Mogul Base	1	1080	

## T5 High-Bay Fluorescent Systems

Fluorescent Lamp Description	Number of Lamps	Energy Saving Magnetic Ballast	Electronic Ballast
F54T5HO 4'	2		117
F54T5HO 4'	3		179
F54T5HO 4'	4		234
F54T5HO 4'	6		358
F54T5HO 4'	8		468
F54T5HO 4'	10		585

## T8 High-Bay Fluorescent Systems

Fluorescent Lamp Description	Number of Lamps	Energy Saving Magnetic Ballast	Electronic Ballast
F32T8 4'	4	146.76	112
F32T8 4'	6	210.30	168
F32T8 4'	8	268.40	220
F32T8 4'	12	440.38	336
F32T8 4'	16	587.04	448
F32T8 4'	18	660.42	511
F32T8 4'	20	773.80	560
F32T8VHO 4'	3		279
F32T8VHO 4'	6		555
F32T8VHO 4'	8		740

## T8 Low-Wattage Systems

Fluorescent Lamp Description	Fixture Input Watts (for normal power ballasts)		
	Number of Lamps	Energy Saving Magnetic Ballast	Electronic Ballast
F32T8 4' 25W	1		26
F32T8 4' 25W	2		43
F32T8 4' 25W	3		63
F32T8 4' 25W	4		85
F32T8 4' 28W	1		25
F32T8 4' 28W	2		48
F32T8 4' 28W	3		72
F32T8 4' 28W	4		97
F32T8 4' 30W	1	39.6	31
F32T8 4' 30W	2	82.1	54
F32T8 4' 30W	3		77
F32T8 4' 30W	4		104

## Incandescent

Fixture Description	Number of Lamps	Magnetic Ballast
20 Watt Incandescent Lamp	1	20
40 Watt Incandescent Lamp	1	40
75 Watt Incandescent Lamp	1	75
200 Watt Incandescent Lamp	1	200
250 Watt Incandescent Lamp	1	250
60 Watt Incandescent Fixture	1	60
100 Watt Incandescent Fixture	1	100
150 Watt Incandescent Fixture	1	150
180 Watt Incandescent Fixture	1	180
225 Watt Incandescent Fixture	1	225
350 Watt Incandescent Fixture	1	350
500 Watt Incandescent Fixture	1	500
1000 Watt Incandescent Fixture	1	1000
65 Watt PAR Incandescent	1	65
300 Watt Incandescent	1	300

# Motors and Drives

## Qualifying Members

Commercial, industrial and agricultural members of GRE cooperatives qualify. Eligibility may vary by program.

## Deadline

All rebate applications must be submitted to GRE no later than November 30 of the program year.



**NEED  
HELP?**

Call your Key Account  
Executive or visit the  
Member Owner website.









# Variable Frequency Drive (VFD) & Variable Speed Drive (VSD)

## Variable Frequency Drive (VFD) & Variable Speed Drive (VSD)

Prescriptive rebates are available for VFDs from 1–200 HP with true power factor of 0.90 or higher and are tied into an automatic control system. The HP rebate is based on the lesser rating of the VFD/VSD or motor.

Approved prescriptive applications include HVAC fans, pumps, cooling towers, process equipment and industrial fans. Custom program applications include, but are not limited to, chillers and refrigeration compressors.

Irrigator VFDs are rebated separately under the Irrigation VFD program (see Agricultural Programs).

### **Rebate Incentive:**

\$30/HP



# Fractional Horse Power Motors

## Fractional Horse Power Motors

Rebates are available to new and retrofit Electronically Commutated Motors (ECMs) and Direct Current (DC) motors from 1/64 to 3/4 HP where traditional AC motors are used. Replacement of existing ECMs or DC motors do not qualify. Rewound or repaired motors do not qualify.

Motors controlled to vary speed based on load conditions can be rebated based on cumulative HP under the VSD program.

### **Rebate Incentive:**

\$5/motors – 1/64–1/16 HP

\$10/motor – 1/15–1/6 HP

\$15/motors – 1/5–3/4 HP

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# Wellspring

## Qualifying Members

Commercial, industrial and agricultural members of GRE cooperatives qualify. Eligibility may vary by program.

## Deadline

All rebate applications must be submitted to GRE no later than November 30 of the program year.



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Member Owner website.











# Wellspring C&I

## Wellspring C&I

The Wellspring program provides CI&A members with an easy, affordable and meaningful way to support sustainable energy efforts. End-use members are able to offset conventional energy use and support renewable energy development.

The electricity generated by the wind turbines is fed into the region's electric grid. Renewable Energy Credits (RECs) provide a tracking mechanism for the purchase of renewable energy that is added to and pulled from the electric grid. An REC embodies all of the environmental attributes of renewable generation.

All-Requirements cooperative offices may participate, disregarding minimum qualification standard. Fixed cooperatives can offer this program; however, they must procure RECs independent from GRE.

As opportunities arise for Corporate Aggregation, GRE can help communicate across cooperatives.

Contract Term	5–10 years	<ul style="list-style-type: none"> <li>Full calendar year terms only (Jan 1–Dec 31)</li> <li>Cooperative/member to define term</li> </ul>
Pricing (through August 31 of calendar year)	\$1/REC = \$1/MWh	<ul style="list-style-type: none"> <li>Wholesale rate set annually but locked in for length of contract term</li> <li>Enrollment by August 31 for current year pricing, if price changes the change would take effect Sept 1</li> <li>If members enroll after Jan, true-up quantity billed in first month</li> </ul>
Minimum Qualification	Individual Participant: 1,500,000 kWh (1,500 MWh) annually Corporate Aggregation: 5,000,000 kWh (5,000 MWh) annually	<ul style="list-style-type: none"> <li>Available to a single member meeting minimum qualifications</li> <li>Available to aggregated-related members meeting minimum qualifications</li> </ul>
Maximum REC Offering	100% of energy usage	<ul style="list-style-type: none"> <li>Will not sell more RECs than what offsets participant or aggregation energy usage</li> </ul>
Large Capacity RECs	Individual participant exceeding 10,000,000 kWh (10,000 MWh = 10,000 RECs) annually	<ul style="list-style-type: none"> <li>Requires approval to ensure REC supply planning and budgeting</li> </ul>
Early Termination	Involuntary Termination: no penalty Voluntary Termination: 1-year penalty payment based on previous 12 months energy usage	<ul style="list-style-type: none"> <li>Cannot re-enroll in Wellspring until after original contract termination date</li> <li>Involuntary Termination: facility closure, ownership transfer, bankruptcy, etc.</li> </ul>

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*A partner in energy efficiency, Great River Energy provides wholesale electricity and related services to distribution cooperatives in Minnesota and Wisconsin. Together, GRE and its cooperative partners bring you Energy Wise MN.*

Great River Energy  
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