ENERGY wise

FOR YOUR BUSINESS

Premium Efficiency Motors:

Invest in Premium Efficiency Motors And watch the savings add up.

Have you every wished for a capital investment that could repay many times its original value over the next 20 years? Well, here it is – and at the same time, this investment can improve equipment reliability, reduce downtime and repair costs, and result in lower releases of carbon dioxide to the atmosphere.

The investment is straightforward: electric motors with the highest electrical energy efficiency based on your needs. Energy-efficient motors pay for themselves in a few years or sometimes even a few months, after which they will continue to pile up savings worth many times their purchase cost for as long as they remain in service. That's another way of saying that operating costs, not just first cost, are what you should look at when buying a new motor.

Value For Your Business

Energy and cost savings available when replacing serviceable standard efficiency motor with an EPAct-level or NEMA premium motor.

	Standard Efficiency Motors, Average Efficiency		Replace with EPAct Motors				
HP	Efficiency at 75% load	Annual Energy Use (kWh), cost	Purchase Price (35% discount)	% Efficiency at 75% load	Annual Energy Use (kWh), cost	Annual Savings kWh, $	Payback Period (years)
5	84.0%	26,644	$ 233	88.2%	25,374	1,270	2.44
		$ 1,998			$ 1,903	$ 95	
10	86.75%	51,653	$ 375	90.0%	49,773	1,919	2.60
		$ 3,874			$ 3,730	$ 144	
15	87.55%	76,771	$ 562	91.0%	73,780	2,991	2.50
		$ 5,758			$ 5,534	$ 224	
20	89.3%	100,206	$ 666	92.6%	96,626	3,579	2.48
		$ 7,515			$ 7,247	$ 268	
25	89.9%	124,457	$ 800	93.1%	119,952	4,505	2.36
		$ 9,334			$ 8,996	$ 338	
50	91.6%	244,211	$ 1617	93.9%	238,027	6,185	3.48
		$ 18,316			$ 17,852	$ 464	

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CO-OP Agralite Electric Cooperative

Invest in Premium Efficiency Motors *And watch the savings add up*

Who can participate?

- Any commercial building or business – if you have questions, contact Agralite Electric Cooperative.

What you'll receive

Rebates will apply only to new premium efficiency motors, not rewound or repaired motors, for new installations. Rebates apply to motors from 1 hp to 200 hp when they meet or exceed premium efficiency standards and offer the following features:

- AC polyphase induction motor
- Squirrel cage rotor design
- NEMA design B torque characteristics
- Synchronous speeds of 3600, 1800, 1200 rpm

The nameplate of the new motor must clearly state the National Electrical Manufacturers Association (NEMA) premium efficiency in order to qualify for rebates.

What you need to do

- You are responsible for checking with Agralite Electric Cooperative to verify funding availability and program parameters.
- Installation must be complete before funds will be issued.
- Itemized invoices from equipment vendors must accompany rebate application.
- Invoices must itemize labor charges, quantity and price of the equipment installed.
- Invoices must include manufacturer and model numbers for the installed equipment.
- Agralite reserves the right to conduct inspections.
- The maximum rebate amount is limited to 50% of the project costs, and $100,000 annually per member.

Source: Premium-Efficiency Motors and Transformers, CDA, 2008

Contact us

For any questions, please contact your electric cooperative for more information and assistance in getting these rebates and incentives *to help improve your bottom line – today!*

Anderson Printing replaced an old, 75-hp standard efficiency boiler forced-draft fan motor with a NEMA Premium efficiency motor. The existing motor operates at a 75% load for 8,000 hours per year with an efficiency (n std) of 91.0%. Determine the annual energy savings if the replacement motor has an efficiency (n PE) of 95.4% and electricity is priced at $0.09/kWh.

Energy Savings = hp x load x 0.746 x hours x (100/*n* std – 100/*n* PE) = 75 x 0.75 x 0.746 x 8,000 x (100/91 – 100/95.4) = **17,014 kWh/year**

Energy Cost Savings = 17,014 x $0.09 = **$1531/year**

Over a 10-year operating period for a 75-hp motor, the purchase price might represent just 2% of the total motor installation and operating costs. Energy and maintenance costs account for the remaining 98%. Even a small improvement in motor operating efficiency can produce significant energy and dollar savings and provide a rapid return on investment.

Agralite Electric Cooperative

GREAT RIVER ENERGY®
A Touchstone Energy® Cooperative

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