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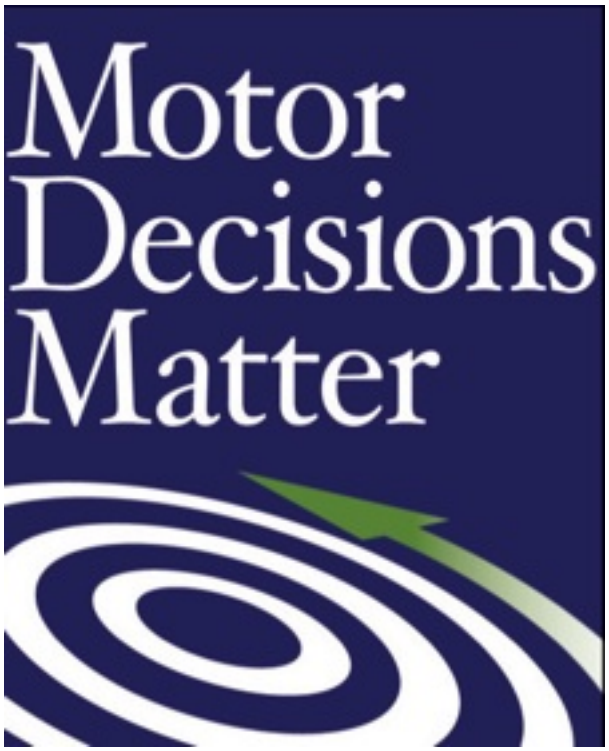

By now, we've all heard about carbon emissions and their role in global climate change. You probably also know that some states and regions have enacted legislation to put a price on carbon emissions, and that the Federal government is considering doing the same, in order to limit overall U.S. emissions and protect the environment. So today, whether for business or environmental reasons— *or both*—facilities across North America are beginning to think about reducing their carbon footprints. Efficiency improvements in motors and motor systems provide one of the best opportunities to reduce industrial sector energy consumption and total carbon emissions [1].

Based on estimates by the U.S. Department of Energy (USDOE), motors account for 85% or more of a typical industrial facility's electrical consumption. In 2007, electricity generation was responsible for 40% of industrial sector emissions in the U.S. [2]. These figures indicate that motors are responsible for 34% of an industrial facility's total emissions. While rising energy costs have already made motor efficiency a priority for most operations, concern over carbon emissions and climate change is more reason to make sound decisions about your motors.

How much can your facility save through motor efficiency? At today's national average electricity price, a constantly running 20 hp standard motor will consume more than $12,000 in electricity—*and also lead to emissions of 180,000 lbs. of carbon*—annually. Increasing its efficiency can result in hundreds of dollars in savings annually for the life of the motor. NEMA Premium® motors are more efficient than standard or EPAct energy-efficient units. Replacing a

pre-EPAct 20 hp motor with a NEMA model can lead to annual savings of $493 in electricity and 9650 lbs. of carbon [3]. Consider for a moment, the size and number of motors in your facility and the amount of money and carbon you could save every year by increasing the efficiency of your motor fleet.

Boosting efficiency means understanding what motors you have, which are the best candidates for immediate replacement and which should be replaced after they fail. Conduct a motor inventory and develop a plan to manage the repair and replacement of every motor in your facility. The Motor Decisions Matter Campaign offers a number of free tools and resources at www.motorsmatter.org that can help you better manage your motor fleet, understand the costs and benefits of upgrades and best-practice repair and how to plan ahead for improvements. Use these tools to begin upgrading your motor fleet and start saving energy, carbon and money. **MT**

References

1. McKinsey & Co. 2006, *Pathway to a Low-Carbon Economy*
2. Energy Information Administration 2007, *Emission of Greenhouse Gases Report*
3. Calculation based on kWh, cost savings and motor-efficiency values from the USDOE Industrial Technology Program Best Practices resources, and U.S. average carbon emissions per kWh of generation from USDOE 2000, *Carbon Dioxide Emissions from the Generation of Electric Power in the U.S.*

The Motor Decisions Matter campaign is managed by the Consortium for Energy Efficiency, a North American nonprofit organization that promotes energy-saving products, equipment and technologies. For further information about MDM, contact Jess Burgess at jburgess@cee1.org or (617) 337-9274.

For more info, enter 3 at www.MT-freeinfo.com

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