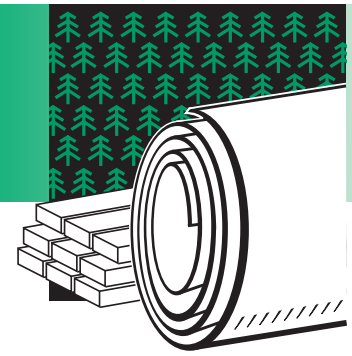


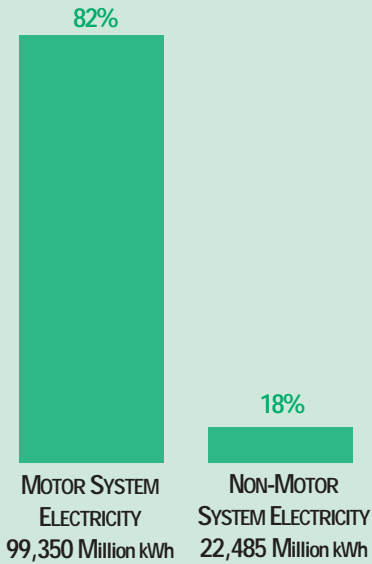
FOREST PRODUCTS

Motor Challenge Industry Profile



MOTOR SYSTEM USAGE IN FOREST PRODUCTS

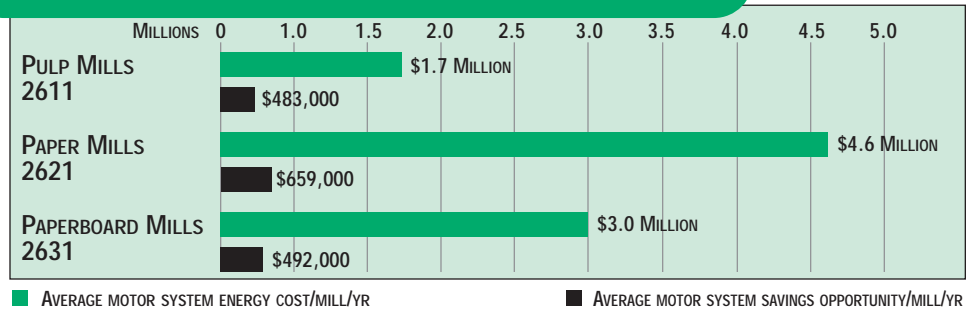
Annual Electricity Use for SIC 26



PULP AND PAPER MILLS: PROFITING FROM EFFICIENT MOTOR SYSTEM USE

The Paper and Allied Products Industry annually spends \$3.6 billion or about 2.6% of its overall operating costs to operate electric motor systems—higher than any other 2-digit manufacturing SIC. Opportunities to effectively reduce these costs are large and on an industry-wide basis could amount to more than \$558 million in savings annually. Savings opportunities at the mill level are significant, amounting to between \$480,000 and \$659,000 per year.

AVERAGE MOTOR SYSTEM ENERGY COST AND SAVINGS PER MILL

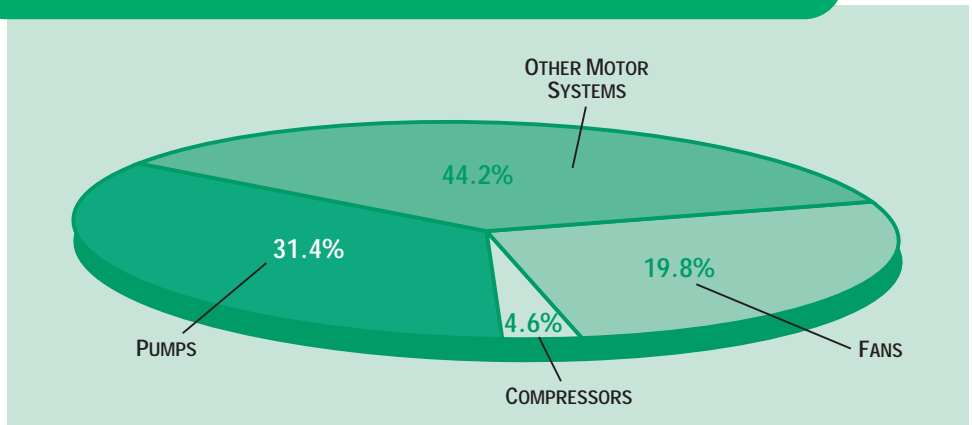


“The pulp and paper industry could save millions of dollars each year by using efficient motor systems”

—Wayne Gross,
Executive Director,
Technical Association
of the Pulp and Paper
Industry (TAPPI)

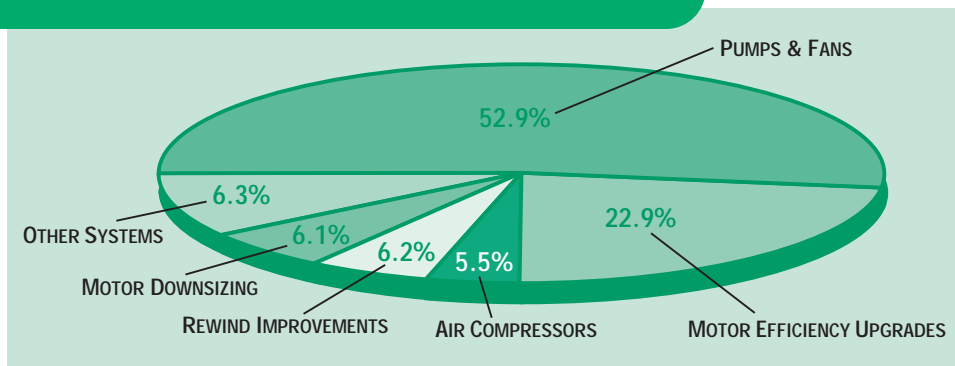
Where are motor systems savings opportunities concentrated? Close to 60% of the motor system electricity in pulp and paper mills is used in applications with motors of 200 hp and higher. The chart below shows how the motor systems electricity use is broken down into various applications.

ANNUAL MOTOR SYSTEM ELECTRICITY USE BY APPLICATION FOR SIC 26



How can these savings opportunities be captured? By simply factoring in energy efficiency or utility expenses into electric motor purchasing or repair evaluations, mills could reduce motor system electrical costs on average by 14%. More than 45% of potential savings are related to pump-based systems. And even though mills often have hundreds of such applications, an average 20% of those applications will yield about 80% of the savings. Targeting those key pumping applications will have big payoffs. Also, there are many savings opportunities in fan and compressed air systems.

ANNUAL MOTOR SYSTEM ELECTRICITY SAVINGS FOR SIC 26



The greatest opportunities for motor system savings are in the pump systems, particularly for substituting speed control for throttling and by-pass valve control mechanisms.

Next Steps

Establishing a process in mills to search for motor system savings opportunities is the first step. Information outlining techniques and software tools to assist in this effort are available through the Motor Challenge Program. To find out more about the Motor Challenge materials and other OIT products available to you, contact the Information Clearinghouse at (800) 862-2086. Clearinghouse staff are available to help you learn more about these material resources and how to use them, or about other types of assistance that might be available.

If you are interested in reading more about the data discussed in this profile, ask the Clearinghouse about the *United States Industrial Electric Motor Systems Market Opportunities Assessment*. This report has data on more than 250 manufacturing plants nationwide, their motor systems, operating characteristics, and much more.

Industry of the Future—Forest Products and Agenda 2020

In November 1994, DOE's Secretary of Energy and the Chairman of the American Forest and Paper Association signed a compact, establishing a research partnership involving the forest products industry and DOE. A key feature of this partnership was a strategic technology plan—**Agenda 2020: A Technology Vision and Research Agenda for America's Forest, Wood and Paper Industry**. Agenda 2020 includes goals for the research partnership and a plan to address the industry's needs in six critical areas:

- Energy performance
- Environmental performance
- Capital effectiveness
- Recycling
- Sensors and controls
- Sustainable forestry

OIT Forest Products Team Leader: Valri Robinson (202) 586-0937.



Motor Challenge, administered by the Office of Industrial Technologies (OIT), is a voluntary partnership program with U.S. industry to promote the use of energy-efficient electric motor systems. Thousands of industrial partners have joined Motor Challenge and are improving their competitiveness and efficiency and, in turn, the Nation's.

OIT is working in partnership with the Technical Association of the Pulp and Paper Industry (TAPPI) to assist the industry in achieving increased energy efficiency through cosponsored training, and the development and distribution of materials.

FOR ADDITIONAL INFORMATION, PLEASE CONTACT:

The OIT Information Clearinghouse
Phone: (800) 862-2086
Fax: (360) 586-8303
<http://www.motor.doe.gov>

DOE's Forest Products Web site:
www.oit.doe.gov/IOF/forest

TAPPI Web site:
www.tappi.org

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