

Crossley Carpet Mills Limited

Truro, Nova Scotia, Canada

2005 Case Study

This carpet manufacturer is part of the Tandus Group of flooring manufacturing companies. The Crossley plant, employing over 350, produces high end woven and tufted carpets for the commercial and residential market. The plant operates 24 hours per day, 5 days per week. In the spring of 2004, Crossley Carpet Mills undertook an Opportunity Assessment as part of the Eco-Efficiency Program for Manufacturers. Based on the results of the Opportunity Assessment, the company proceeded with an Implementation Plan/Feasibility Assessment. The assessments were conducted by Neill and Gunter (Nova Scotia) Limited. The Eco-Efficiency Program for Manufacturers is a two-step incentive program that is designed to stimulate implementation of cost efficient opportunities within small and medium-sized manufacturers (SMEs).

The Process

The company operations include integrated yarn preparation, dyeing of yarn and carpet, tufting, weaving, finishing operations, warehousing and shipping.

The Assessment

The Opportunity Assessment benchmarked Crossley's water and energy consumption against industry norms and identified several potential opportunities for improvement involving heat recovery from dyehouse effluent, steam condensate recovery from skein dyeing and dye bath reuse. The following major opportunities became the subjects of detailed analysis in the Implementation Plan/Feasibility Assessment:

1. skein dye steam condensate recovery
2. dyehouse effluent heat recovery



Assessment Results

The assessment verified technical feasibility for both projects and estimated combined savings of \$47350 per year in energy costs. The Implementation Plan provided conceptual designs for the two projects and calculated project paybacks of 2.8 and 2.9 years respectively. Detailed technical data and analysis was also provided.

In summary, it was estimated that implementing the two projects will result in the following savings:

Potential energy savings	7903 GJ/yr	\$47350/yr
Reduction in GHG Emissions	606 tonnes/yr	



Melvin Smith, project coordinator for Crossley, said, "The assessment was very useful in quantifying the potential savings to be gained from heat recovery in our dyehouse. I feel Crossley will use this information as a means to improve our process and energy efficiency. We are grateful to the Eco-Efficiency Centre for the opportunity to participate in the Program for Manufacturers and for the expertise provided by Neil and Gunter. The program was easy to use and both the consultants and program staff were a pleasure to work with."

The Eco-Efficiency Program for Manufacturers is working for Crossley Carpet Mills. It has identified significant opportunities for improving environmental performance and at the same time improving the bottom line for the company.

The Eco-Efficiency Program for Manufacturers is aimed at small and medium sized manufacturers (SMEs) in Nova Scotia and is designed to increase awareness for pollution prevention and eco-efficiency and to stimulate implementation of cost-efficient opportunities. The cost of hiring a qualified consultant to identify eco-efficiency and pollution prevention opportunities is offset by the program. There is a cost shared arrangement with the program contributing 75% and the participating company contributing the 25% balance. The program is also intended to help build capacity in the consulting community throughout the province.

Cooperating agencies and program sponsors for the program have been Environment Canada (Atlantic Region), Atlantic Canada Opportunities Agency, Natural Resources Canada, Nova Scotia Department of Environment, Nova Scotia Economic Development, Nova Scotia Department of Energy and Nova Scotia Power Inc. The program is delivered by Dalhousie University's Eco-Efficiency Centre - a university - based extension service established to enhance the efficiency of individual businesses while encouraging the cooperative and collective efforts of groups of companies.

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