

Intertape Polymer Group

Truro, Nova Scotia, Canada

2006 Case Study

This major plastics manufacturer, incorporated in Nova Scotia in 1968, occupies a 320,000 ft² plant in the Truro Industrial Park. It is a major business in the area, employing 400 full time staff. The plant operates 24 hours per day, 7 days per week. Intertape Polymer Group Inc. (IPG) is a leader in the development and manufacture of specialized polyolefin plastic & paper packaging products and complementary packaging systems. Headquartered in Montreal, Quebec, the company has strategically grown to include 15 manufacturing facilities, with approximately 3,000 employees.

Late in 2005, Intertape 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 Assessment. The assessments were conducted by Neill and Gunter (Nova Scotia) Limited. This two-step incentive program is designed to stimulate implementation of cost efficient opportunities within small and medium sized manufacturers (SMEs) and demonstrate the benefits of “greening” our industry.

The Process

The company operations include 2 main products including shrink wrap plastic and woven plastic fabric. Annually the plant converts 30,000 tonnes of resin into finished products. The extrusion process is a major user of energy and water for cooling. The plant uses propane and no. 2 fuel oil, but electricity supplies more than 80% of the plants energy.

The Assessments

Plant engineers were aware of a major opportunity to improve efficiency in the extrusion process by installing a cooling tower to displace the electricity used to power chillers during the colder months and reduce the plant’s water consumption. They undertook the Opportunity Assessment to quantify this opportunity and to identify other possible opportunities. The assessment confirmed that the cooling water project (cooling tower) was the major improvement opportunity, but it identified four other significant opportunities with better payback periods. The cooling water project became the focus of detailed analysis in the Implementation Assessment. In addition to the cooling water project other opportunities identified included heat recovery to pre-heat dryer makeup air, improvements in the compressed air system, lighting upgrades and possible increased by-product production from scrap plastic.



Assessment Results

The Implementation Assessment verified technical feasibility for the cooling water project and estimated net annual savings of \$103,300 per year in energy and water costs. The report provided equipment quotations for the cooling tower project which yielded a simple payback period of 6 years.

In summary, the combined potential savings for all of the opportunities are estimated to be:

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| Potential energy savings | 4265 GJ/yr | \$153,700/yr |
| Potential water savings | 137210 m ³ /yr | \$43,300/yr |
| Reduction in GHG Emissions | 940 T/yr | |

Peter Soley, P.Eng., Plant Engineer

at IPG, said, "The Eco-Efficiency Program for Manufacturers was very helpful in providing detailed costing and preliminary design details for the cooling tower project. As a bonus we received a shopping list of other improvement opportunities that we might not have identified without the resources provided through this program. As in many manufacturing operations, energy efficiency is important to being competitive but often technical resources are dedicated to production related issues.

The program provided the catalyst to move efficiency projects forward. The program was easy to use and both the consultants and program staff were focused on helping us improve our operations."



The Eco-Efficiency Program for Manufacturers is working for Intertape Polymer. 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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