

C-Vision Limited

Amherst, Nova Scotia, Canada

2005 Case Study

This electronics manufacturer provides contract printed circuit board manufacturing and complete design services to customers. The plant operates 2 shifts per day, 5 days per week. In the fall of 2004, C-Vision undertook an Opportunity Assessment as part of the Eco-Efficiency Program for Manufacturers. The Program is a two-step incentive program that is designed to stimulate implementation of cost efficient opportunities within small and medium sized manufacturers (SMEs). Based on the results of the Opportunity Assessment, the company proceeded with an Implementation Plan/Feasibility Assessment. The assessments were conducted by Nova Dynamics Limited.



Prior to the Eco-Efficiency Opportunity Assessment, the company had a strong

focus on environmental performance and recycling. They have taken steps to ensure that hazardous wastes are treated properly and more importantly are moving to eliminate lead from their process. The company is also registered to ISO 9001:2000.

The Process

Raw materials used in production of PCB's arrive by truck and are stored in the receiving area.



Discrete electronic components are prepared and assembled, primarily into custom circuit board assemblies using surface mount technologies or integrated circuits. Specialized cable, termination and board mounting and/or enclosure assemblies are also fabricated, as customers require. As part of the quality control and assembly process, circuit boards are examined, tested and repaired. Completed products are then packaged, labeled and prepared for shipment to customers.

The Assessment

The Opportunity Assessment examined the company's energy systems and the various waste streams identifying a wide range of improvement opportunities, 9 of which were recommended for further analysis in a feasibility assessment/implementation plan. These included improvements to the electrical distribution system, power factor improvement, improved insulation, conversion to heat pumps for space heating & cooling, improved lighting and lighting control and compressed air system changes. Three specific opportunities were selected for further investigation in the Implementation Plan: electrical power supply and demand control; conversion of the plant heating/cooling system to heat pumps and waste heat recovery from air compressors. Estimated implementation costs and implementation direction was provided for each opportunity. It also provided payback periods for each, thus allowing the company to prioritize the various projects for implementation.

Assessment Results

The assessments identified over \$65000 per year in potential savings for the various opportunities with paybacks ranging from four to six years. The overall savings estimated are:

Potential energy savings	2327 GJ/yr	\$65600/yr
GHG reduction	786 tonnes/yr	

Peter Rushton, C-Vision's Project Coordinator said, "After learning about the Eco-Efficiency Program for Manufacturers and understanding the value that it can provide, we quickly engaged the necessary resources to take advantage of the experience and knowledge available through the Eco-Efficiency Office and their associates. We are still investigating the Assessments for implementation, but are very impressed with the potential savings in our energy consumption."

The Eco-Efficiency Program for Manufacturers is working for C-Vision. It has demonstrated that there are opportunities for reducing energy consumption while 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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