SNAP-ON TOOLS

ALGONA

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COMPANY PROFILE

Snap-on Tools is a global innovator and manufacturer of tools and equipment that are known for their high quality and durability. At the Algona, Iowa, facility, they manufacture more than 95 different tool boxes of varying sizes and purposes and offer more than 27 different box colors. Their 400 employees in Algona work across two production shifts and one maintenance shift during weekdays with additional weekend hours utilized during peak demand.

PROJECT BACKGROUND

Snap-on Tools is committed to sustainable practices and safeguarding Iowa's natural resources. They have set an ambitious goal of reaching Zero Landfill status. To pursue this goal, Snap-on Tools participated in the Pollution Prevention Intern Program to develop and implement a solid waste diversion plan and raise environmental awareness at all levels of the plant. Also, Snap-on Tools wanted to investigate the possibilities for energy savings in their current lighting system.

INCENTIVES TO CHANGE

The disposal costs of solid waste materials continue to rise, and the environmental impacts of sending it to the landfill are well known. Snap-on Tools would like to expand their current recycling program to include additional waste streams and increase division from the landfill. Additionally, a significant amount of the electricity consumed at Snap-on Tools is utilized by the lighting system. Reducing the energy usage of the lighting system could greatly reduce overall energy consumption at the plant.

PROJECT	ANNUAL COST SAVINGS	ENVIRONMENTAL RESULTS	STATUS
SOLID WASTE RECYCLING PROGRAM	$61,600	67 TONS	IN PROGRESS
ENERGY EFFICIENT LIGHTING - OPTION A	$131,655	1,221,463 KWH	RECOMMENDED
ENERGY EFFICIENT LIGHTING - OPTION B	$148,109	1,374,118 KWH	RECOMMENDED

RESULTS

Solid Waste Recycling Program: Cardboard and some office paper are currently recycled, but plastics and other plant waste streams are landfilled. More than 30 percent of the waste currently sent to the landfill could be diverted to a sorted recycling program, facilitated by a third party recycler. With use of the new recycling program, Snap-on Tools could divert more than 67 tons of solid waste from the landfill and save more than $60,000 annually. In addition, the intern developed a comprehensive employee education and training program to educate staff on the new recycling program processes and procedures.

Energy Efficient Lighting: The lighting system at Snap-on Tools consists of a wide variety of bulbs and fixtures. Also, the current fixture layout of the plant had not been analyzed for optimal lighting performance. The intern conducted a comprehensive lighting audit to gather the number of fixtures, type and number of bulbs per fixture, watts per bulb, kilowatt hours per year, and light meter readings in LUX. After completing the audit, the intern recorded a total of 35 different types of fixtures throughout the plant and more than 2,500 individual fixtures with varying numbers of lamps. The intern developed two lighting recommendation options for Snap-on Tools.

Option A would be to conduct a one-for-one replacement of every existing fixture with a standardized, energy-efficient fixture with LED bulbs. Option A would reduce lighting costs and minimize associated maintenance costs.

Option B would be a more comprehensive revamp of the lighting system, which would still involve upgrading to the more efficient fixtures and LED bulbs. Option B would also include a new layout of the fixture locations, moving or eliminating some fixtures to improve the lighting quality for specific production applications. Option B optimizes the lighting layout while saving more energy than Option A. Option B also provides greater cost savings and quality of lighting overall but has higher initial costs and additional labor to achieve the new layout.

ESTIMATED CONVENTIONAL AIR POLLUTANTS DIVERTED IN METRIC TONS

For Implemented and In Progress Recommendations

TOTAL FOR ALL SECTORS						
CO_2	NH_3	NO_X	PM_{10}	$PM_{2.5}$	SO_2	VOC
0.00	0.00	0.00	0.00	0.00	0.00	0.00

ESTIMATED GREENHOUSE GASES DIVERTED IN METRIC TONS

TOTAL FOR ALL SECTORS			
$MTCO_2e$	CH_4	N_20	CFC
77.00	0.00	0.00	0.00

ESTIMATED CONVENTIONAL AIR POLLUTANTS DIVERTED IN METRIC TONS

For Recommendations in Recommended Status

TOTAL FOR ALL SECTORS						
CO_2	NH_3	NO_X	PM_{10}	$PM_{2.5}$	SO_2	VOC
1,388.00	0.02	2.68	0.40	0.30	5.45	0.10

ESTIMATED GREENHOUSE GASES DIVERTED IN METRIC TONS

TOTAL FOR ALL SECTORS			
$MTCO_2e$	CH_4	N_20	CFC
1,559.00	51.25	8.52	8.34