

## Project Overview



**P3 Intern:** Nic Meyer

**Major:** Mechanical Engineering

**School:** University of Nebraska – Lincoln



## Company Background

Molex LLC was founded in 1938 when a father and son developed a moldable thermoplastic and named it “Molex.” As the company grew, they added metal stamping to create the first molded terminal block and start their company on its path to becoming an interconnection giant. Today, some of Molex’s customers include Tesla, Microsoft, Ford, GM, Bosch, NASA and many others around the world. Molex went from a company with two employees, to over 40,000 employees present day, located in 17 countries with a portfolio including 14 smaller subsidiaries.

## Project Description

Molex has established an internal environmental, health and safety program called Ecocare. This program is designed to promote the constant improvement in day-to-day operations, and to reduce waste, when possible, in all forms. In 2013, Molex publicly stated that it was going to reduce greenhouse gasses by 15% by 2018 across its entire company. With a public commitment to reduction, it has been a focus of each facility to reduce waste wherever possible. The focus of this assessment is to reduce waste and save energy in the compressed air system in the stamping department, the lighting in the press enclosures, and eliminate paper usage for die prints. Hand dryers were assessed for all three Molex locations in Lincoln.

## Pollution Prevention Benefits

There are four main P2 recommendations in this report. While all of the main recommendations will save the company cost on a yearly basis, some general P2 recommendations were made that will have a less tangible impact. The focus of the report is on reducing energy consumption, solid waste and greenhouse gas emissions.

**Table 1. Summary of P3 Benefits**

Opportunity	Initial Cost	Annual Savings	Annual Energy/Waste Savings	Greenhouse Gas Savings	Intangible Benefits	Payback Period
Blow-off & Brush	\$132,000	\$970,000.00	640,000 kWh 43,000 lbs.	890 MTCO <sub>2</sub> E	Increased Safety	< 1 Years
LED Lights	\$24,300	\$6,300.00	110,000 kWh	77 MTCO <sub>2</sub> E	Increased Safety	3.8 Years
Digital Prints	\$3,400	\$1,300.00	2,000 lbs.	5 MTCO <sub>2</sub> E	More Workspace	2.5
Hand Dryers	\$54,000	\$38,000.00	11,000 lbs.	57 MTCO <sub>2</sub> E	Health and Safety	1.5
<b>Total</b>	<b>\$214,000</b>	<b>\$1,010,000.00</b>	<b>750,000 kWh 56,000 lbs.</b>	<b>1030 MTCO<sub>2</sub>E</b>	<b>Environmental</b>	<b>&lt;1 – 3.8 Years</b>

*MTCO<sub>2</sub>E: Metric Tons of CO<sub>2</sub>*