

2012 Southwest Ohio P2 Intern Program



P2 INTERNSHIP PROGRAM

The Southwest Ohio Pollution Prevention (P2) Internship Program is a collaboration between Butler County Solid Waste District, Hamilton County Solid Waste District and TechSolve. The program pairs outstanding undergraduate students with area manufacturers. Interns are provided training in energy, waste reduction, and environmental performance and are employed for up to 12 weeks. Industries participating in the Southwest Ohio P2 program expect to realize average annual savings of **\$131,000** year.



Valeo Climate Control is an industrial corporation that ranks among the world's top automotive suppliers with a corporate presence in 28 countries, and over 68,000 employees. Valeo Hamilton manufactures automotive HVAC units. The plant consists of several production areas for injection molding fabrication.

The 2012 Pollution Prevention internship at Valeo targeted energy reduction strategies for the manufacturing operation to reduce the plant's carbon footprint and to advance sustainability goals.



Jason Potuzko - University of Dayton P2 Intern and Michelle Tepker - Health & Safety Manager, Valeo



Jason Potuzko - University of Dayton



Project	Annual Savings	Payback	Environmental Results	Status
Indoor Lighting	\$3,008	.51 year	36,106 kWh (24 tons of CO2)	Ready to Implement
Outdoor Lighting	\$8,963	1.47 years	116,442 kWh (88 tons of CO2)	Recommended
Startup/Shutdown Procedures	\$48,000	immediate return	576,161 kWh (397 tons of CO2)	Ready to Implement
Compressed Air Leak Program	\$5,358	.10 year	64,314 kWh (48.89 tons of CO2)	Implemented
Solid Waste	\$17,667	.02 year	Waste Reduced (.75 tons of trash) Transport Reduced (0.21 tons of CO2)	In Progress
Thermostat	\$2,260	.17 year	27,127 kWh 18 tons of CO2	In Progress

Total Savings: \$ 85,256

Energy Savings 1,002,600 kWh

Indoor/Outdoor Lighting - The project explored both retrofitting existing fixtures to accommodate new lights and replacing fixtures entirely with new ballasts. LED were determined the best option, all of the current flood lights located on the building will be replaced. In the parking area, metal halide lights were also planned for replacement with LED light fixtures, reducing the total number of lights from 19 to 13. The result is significant energy savings and sufficient light output for employee safety.

Startup/Shutdown Procedures - At the end of shifts equipment at work stations was often left running (computers, tool machines, fans, conveyors, etc). Auditing the power usage of each component revealed how much energy was used to power each line. A cost analysis showed the savings when each line was shut down for the week. Using the average work schedule, estimated savings were derived from proper shutdown of all of equipment. This project is expected to save over \$20,000 on the manufacturing floor alone.

Compressed Air Leak Program - Using an ultrasonic leak detector, 120 leaks were detected. Each false use, or leak, requires the compressor to use more energy to produce compressed air. The more false uses that can be detected and fixed, the less energy required. Assuming that annually the plant loses \$10,716 per year to false uses, by adopting a new leak detection audit program, Valeo should be able to lower its percentage of false uses from 20% to 10%, or by \$5,358.

Solid Waste Reduction - Reduce waste by one third of current pick-ups. **Thermostats** - Programmable thermostats were implemented throughout the office and included software that controls rooftop units that maintain temperatures on the manufacturing floor. Temperature controls were made in "unoccupied" areas. Schedules were developed for weekdays and weekends for the year.