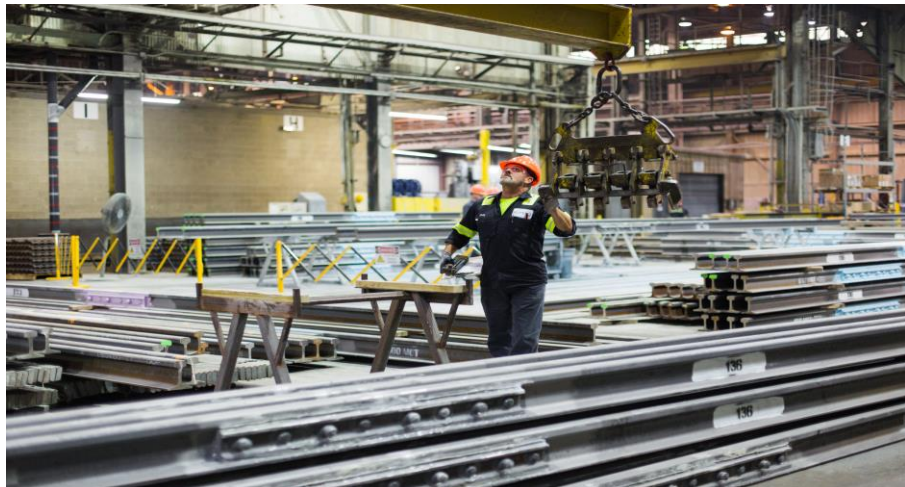


## A Variety of Savings Opportunities for Railroad and Utility Products and Services Manufacturer

The **Industrial Assessment Center (IAC)** at **West Virginia University (WVU)** discovered opportunities to decrease energy usage and enhance corporate competitiveness for Koppers Inc., which has a manufacturing facility located in Huntington, West Virginia. The assessment team focused on the manufacturing process as well as the energy support systems. The recommendations at this facility may serve as a template for potential savings at similar plants.



Railroad Rail Joints.  
*Huntington Plant, Huntington, West Virginia.*

### Company Background

The Koppers Inc., Huntington plant manufactures bonded insulated joints for the railroad industry.

### Summary

As a result of the assessment, recommendations were made for improvement in several specific areas. Opportunities for saving energy were identified with respect to Replace the Metal Halide and High-Pressure Sodium Fixtures with LED, Repair Compressed Air Leaks, Improve the Controls on the Compressors, Reduce Compressor Pressure Set Point, Install Smart Sensor to Regulate Bonding Oven, Replacement of Regular Urinals with Water Free Urinals, Install

Occupancy Sensors in Designated Areas, Insulate Bonding Oven Sections. Two of the seven recommendations made by the team were planned to be implemented, resulting in the reduction of energy consumption by 651,148 kWh of electricity and an annual cost savings of \$55,599.

### Energy Conservation Analysis

In general, the management and employees at the facility are “energy conservation” oriented and follow many good practices to save energy. For example, the plant uses synthetic lubricant for compressors, radiant tube heaters in the plant, sky lights in the plant and Shuts off compressor during weekend. The assessment team was pleased with the level of energy efficiency awareness amongst plant personnel and worked on identifying other ways to save energy by discussing energy efficiency opportunities.

The recommendations identified by the team were discussed with

the plant personnel on the assessment day. The plant personnel were encouraged to contact and interface with IAC-WVU for further discussion and/or clarification required with respect to the implementation of the assessment recommendations.

### Benefits at a Glance

The implemented measures will result in annual electricity savings of 651,148 kWh and annual cost savings of \$55,599.

Average Payback is 8 months.

Implemented recommendations will reduce carbon dioxide emissions by 1,426,013 pounds.

### Repair Compressed Air Leaks

The assessment team suggested repair leaks in compressed air lines on a regular basis. The line pressure was

measured by the assessment team using pressure transducers at different locations throughout the plant. The annual energy supplied to compressors that feed the leaks can be reduced by repairing the leaks.

**Install LED Lighting**

LED Lighting will reduce the electrical

usage for lighting while maintaining the original lighting output.

**Assessment Savings Tabulated**

The following Table presents the annual cost savings that has resulted at the Koppers Inc. due to the implemented

recommendations. The energy conservation opportunities that were identified in the assessment and were implemented will reduce annual electric usage by 651,148 kWh per year. This translates into an annual cost savings of \$55,599 and an annual reduction in CO<sub>2</sub> emissions of 1,426,013 pounds.

**Planned Implementation of Recommendations**

Assessment Recommendations	Annual Resource Savings (kWh/yr)	Total Annual Savings	Capital Costs	Simple Payback (months)
<b>Repair Compressed Air Leaks</b>	138,472 kWh/yr	\$11,821	\$180	1
<b>Replace Metal Halide and High-Pressure Sodium Fixtures with LED</b>	512,676 kWh/yr	\$43,778	\$37,964	11
<b>Total</b>	<b>651,148kWh/yr</b>	<b>\$55,599</b>	<b>\$38,144</b>	<b>9</b>