

## CASE STUDY: PROCESS HEAT RECOVERY

SYSTEM TYPE: Heat Exchangers, Controls, Piping, and Pumps

### PROJECT FINANCIALS

- Total Turnkey Installed Cost: \$ 276,000
- Annual Energy Cost Savings: \$ 97,850
- Simple Energy Funded Capital Payback: 2.8 years
- Average Project IRR: 54%
- CO2 Equivalent Reduction : 730 tCO<sub>2</sub>e (Natl. Avg. Emission Rate)

**MANUFACTURING Facility Installs New Heat Exchangers, Controls, Piping, and Pumps, plus Recommissions an Existing Condensing Economizer—Saves \$97,850 Annually**

### System Description

- Boilers rejecting waste exhaust heat directly to atmosphere
- Air compressors rejecting heat directly to existing cooling towers
- Existing steam powered water heating systems

### System Opportunities

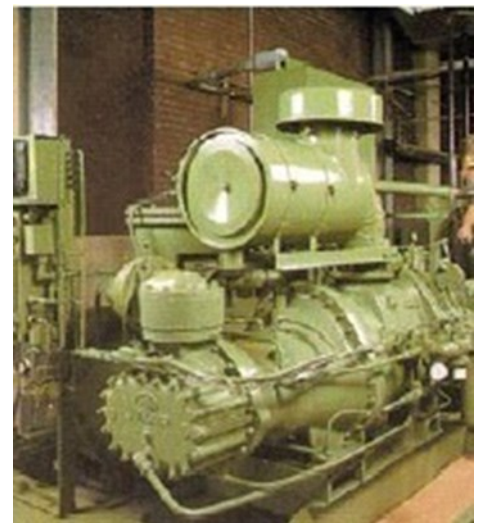
- The opportunity to use the boiler waste heat for heating process water was identified
- The opportunity to use the rejected air compressor heat to pre-heat city water was identified

### Project Description

- Recommissioned an existing condensing economizer, re-piped the system, added controls and a trim heat exchanger in order to use the waste boiler exhaust heat for process water heating
- Installed one new heat exchanger, piping, insulation, two pumps, and controls to pre-heat city water during winter hours when the city water is too cold for the process

### Project Benefits

- Used waste heat to reduce water heating loads
- Conservatively saved 13,766 MMBTU annually
- Increased the deliverability capability of the existing hot water system



## Plant Profile

- Manufacturing facility, personal care products
- Production areas

## Key Benefits

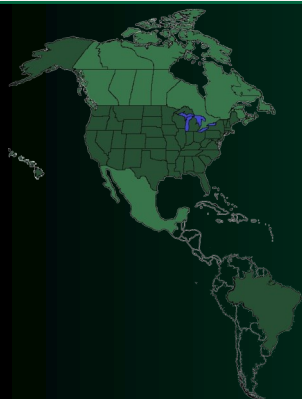
<b>Annual Energy Cost Savings</b>	\$ 97,850
<b>Carbon Reductions</b>	730 tCO <sub>2</sub> e (Nat'l Avg. Emission Rate)
<b>Project IRR</b>	54%

## Financial Data

<b>Investment</b>	\$ 276,000
<b>System</b>	Heat Recovery
<b>Life Expectancy</b>	N/A
<b>Incentives/Rebates</b>	\$ 0
<b>Payback Period</b>	2.8 Years



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