

**At A Glance:**

- Recommended energy and productivity savings totaling \$162,799
- Implemented over 90% of recommendations to save \$162,246

Energy Saved

MAKING LIFE BETTER. ONE BATCH AT A TIME!

**Assessment Overview**

A team of students & faculty from the IAC at Syracuse University performed an industrial assessment at Perry's Ice cream in Akron, New York. The assessment was sponsored by the Department of Energy and was led by Center Director Frederick J. Carranti, P.E., a faculty member in the Department of Mechanical & Aerospace Engineering. The IAC team employed a comprehensive assessment methodology that considered energy, waste, & process-related improvements. The team examined all large energy-consuming equipment & systems for potential savings. They compiled a waste inventory & investigated the potential for waste reduction or improved disposal/recycling methods.

The team also examined manufacturing processes for potential improvements, & emerging technologies were assessed for potential contributions to efficiency improvements.

Summary

Through the Department of Energy's *Industrial Assessment Center* (IAC) located at Syracuse University, an ice cream manufacturer was able to realize significant savings from reductions in energy & productivity costs. Through recommended changes to the compressed air system, administrative costs, building upgrades, boiler improvements, machine changes, & lighting retrofits, the company can potentially save approximately \$162,799 annually.

Applications:

The Syracuse University Industrial Assessment team identified opportunities to decrease energy usage, increase capacity, improve product quality, & enhance employee safety and comfort. The Industrial Assessment Center team accomplished this after conducting a comprehensive assessment of the company's systems and utility scheme. The team's goal was to identify significant opportunities for cost savings, quality improvements, & productivity enhancement.



Company Background

Perry's Ice Cream specializes in the production of quality ice cream, inspired by the company's core old fashioned values. The company was founded in 1918 and has since provided New York, Pennsylvania, Ohio, Virginia and New England with quality and service.

The company workforce consists of over 300 employees and is committed staying competitive and efficient into the coming century.



Overview of Recommendations:

The table below summarizes specific recommendations identified during the assessment. These projections of savings & capital costs identified during the assessment have been established through engineering analyses and research.

As a result, thirteen recommendations were provided to the company, for consideration and they are listed below.

Getting the most from our energy efficiency resources



Executive Summary Recommendations

Assessment Recommendations (AR)	Annual Resource Savings		Total Annual Savings	Capital Costs	Other Costs	Simple Payback
<i>Purchase Natural Gas Supply from a New Supplier</i>	<i>Avoided Costs:</i>	<i>\$11,943</i>	<i>\$11,943</i>	<i>None</i>	<i>None</i>	<i>Immediate</i>
<i>Reduce Compressed Air System Line Pressure</i>	<i>Electricity:</i>	<i>84,509 kWh</i>	<i>\$3,147</i>	<i>None</i>	<i>None</i>	<i>Immediate</i>
	<i>Demand:</i>	<i>153 kW</i>				
<i>Shut Off Blower Agitator</i>	<i>Electricity:</i>	<i>73,685 kWh</i>	<i>\$3,039</i>	<i>None</i>	<i>None</i>	<i>Immediate</i>
	<i>Demand:</i>	<i>298 kW</i>				
<i>Utilize Synthetic Lubricants</i>	<i>Electricity:</i>	<i>14,155 kWh</i>	<i>\$553</i>	<i>None</i>	<i>None</i>	<i>Immediate</i>
	<i>Demand:</i>	<i>40 kW</i>				
<i>Duct Outside Air to Compressors</i>	<i>Electricity:</i>	<i>70,983 kWh</i>	<i>\$2,650</i>	<i>\$328</i>	<i>\$630</i>	<i>0.4 years</i>
	<i>Demand:</i>	<i>132 kW</i>				
<i>Repair Leaks in Compressed Air System</i>	<i>Electricity:</i>	<i>63,673 kWh</i>	<i>\$2,340</i>	<i>\$300</i>	<i>\$525</i>	<i>0.4 years</i>
	<i>Demand:</i>	<i>98 kW</i>				
<i>Clean Boiler Waterside Heat Transfer Surface</i>	<i>Natural Gas:</i>	<i>274 MMBtu</i>	<i>\$2,726</i>	<i>\$1,466</i>	<i>None</i>	<i>0.5 years</i>
<i>Purchase Dehumidifier and Utilize Waste Heat*</i>	<i>Natural Gas:</i>	<i>468 MMBtu</i>	<i>\$79,657</i>	<i>\$50,307</i>	<i>None</i>	<i>0.6 years</i>
	<i>Avoided Cost:</i>	<i>\$75,000</i>				
<i>Purchase Dehumidifier and Utilize Waste Heat on Plant Floor*</i>	<i>Electricity:</i>	<i>820,693 kWh</i>	<i>\$43,464</i>	<i>\$52,154</i>	<i>None</i>	<i>1.2 years</i>
	<i>Demand:</i>	<i>138 kW</i>				
	<i>Natural Gas:</i>	<i>1,539 MMBtu</i>				
<i>Preheat Boiler Feedwater with Stack Waste Heat</i>	<i>Natural Gas:</i>	<i>878 MMBtu</i>	<i>\$8,736</i>	<i>\$13,180</i>	<i>\$1,400</i>	<i>1.7 years</i>
<i>Install Occupancy Sensors on Vending Machines</i>	<i>Electricity:</i>	<i>2,102 kWh</i>	<i>\$77</i>	<i>\$330</i>	<i>\$18</i>	<i>4.5 years</i>
	<i>Demand:</i>	<i>3 kW</i>				
<i>Install More Efficient Lighting</i>	<i>Electricity:</i>	<i>54,123 kWh</i>	<i>\$2,037</i>	<i>\$11,000</i>	<i>None</i>	<i>5.4 years</i>
	<i>Demand:</i>	<i>110 kW</i>				
<i>Install Demand Control Ventilation in the Building</i>	<i>Electricity:</i>	<i>70,842 kWh</i>	<i>\$2,430</i>	<i>\$15,374</i>	<i>None</i>	<i>6.3 years</i>
	<i>Demand:</i>	<i>12 kW</i>				
	<i>Electricity:</i>	<i>1,254,765 kWh</i>				
Totals	<i>Demand:</i>	<i>985 kW</i>	<i>\$162,799</i>	<i>\$144,439</i>	<i>\$2,573</i>	<i>N/A</i>
	<i>Natural Gas:</i>	<i>3,159 MMBtu</i>				

* These items are awaiting the next budgetary request

**For More Information;
Or to request your own energy assessment:**

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