

Process and Energy Optimization

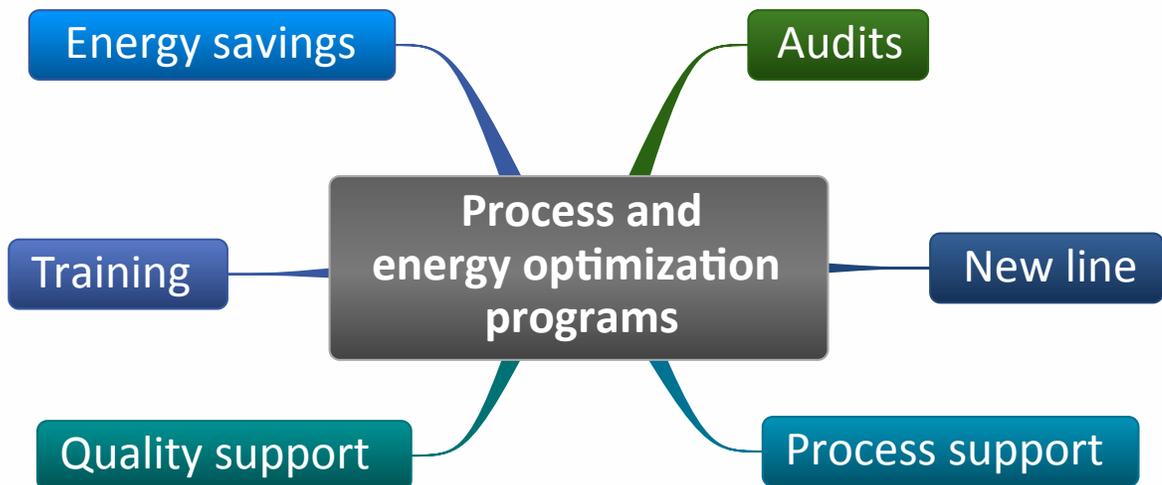
Proven approach to improving operation efficiency

Improving production efficiency and reducing costs is the goal of every business. However, it isn't always easy to identify and ultimately correct the things that are preventing you from achieving those goals. Plus, with your staff already busy with their full workload, it can be challenging to find internal resources to accomplish these objectives.

This is where Plastic Technologies, Inc. (PTI) can help. For the past 30 years, we have been assisting both brand owners and converters to optimize injection and blow molding processes for preform and plastic container manufacturing. We also excel in improving plant operating efficiencies. *(For a list of services please see page 4.)*

Our **Process and Energy Optimization** approach results in:

- Reduced costs
- Enhanced product quality
- Improved output
- Less waste



Cost savings opportunities:

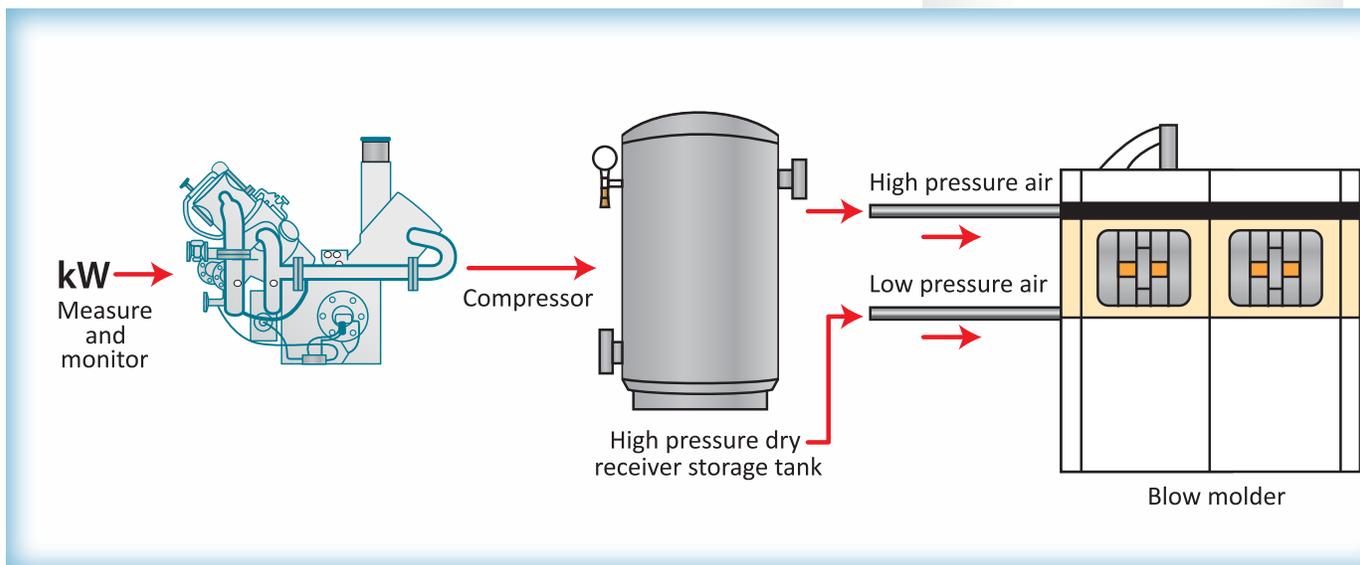
Filler/blow molder synchronization. Potential energy savings associated with correct machine setup and process can be as much as \$170,000 per machine.

Processing and start up procedures. By reducing waste at start-up, energy cost-savings between \$12,000 and \$24,000 dollars a year per machine are possible.

Refining the process. Depending on the base-line process and oven condition originally established, another \$5,000 to \$10,000 a month in energy savings can be achieved. Reducing air usage can result in additional savings that could be up to twice the amount experienced with process modifications.



Our Process and Energy Optimization results in reduce costs, improving output, enhancing product quality and lowering waste.



Actual client scenarios:

Truckloads of parts produced with a premium resin were rejected by the customer jeopardizing future business. PTI was able to solve the problem, by improving the process and reducing costs.

A plant installed a new line to produce eight different bottles. Line efficiency was at 41% which caused plant efficiency to be at 68.7%. At the end of the project, plant efficiency was increased to 83.2%. Quality complaints were also reduced.

A brand owner was experiencing bottle expansion. Performance was improved to meet plant standards. Labeling problems were minimized because the bottles expansion was reduced. Package performance improvement enabled a 15% line efficiency increase and reduced lost label scrap by 2% or more.

The average peak kW was reduced by 109 by making process changes on three blow molding machines.

Electrical rate (per kW)	Average kW savings per machine	kW for 3 machines (in operation)	Est. annual production hours	Est. annual savings
\$0.11	36.4	109.2	6864	\$824,450



Significant cost reductions, with one client reporting \$500,000 in savings.



PLASTIC TECHNOLOGIES, INC.

Here are some of the services we provide:

Audits

- Energy usage (power, air, water)
- Material handling

Trials (onsite support)

- Resin
- Color
- Filling line
- New package design and optimization

Studies and evaluations

- Equipment selection
- Drier studies
- Auxiliary equipment

Machine and plant startup

- Preform injection molding
- Machine acceptance and installation
- Bottle blow molding

Quality programs

- Evaluation and effectiveness
- Problem investigations
- Stress crack failures

Please contact us today for a no obligation discussion of your specific situation and how our experts can apply PTI's **Process and Energy Optimization** analysis to improve your operation.

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