Improving Industrial Efficiency: Food Processing

Food processing encompasses everything from grain processing to animal slaughter to fruit chopping. However, each manufacturer's common need for preservation, sterilization and pathogen reduction, thorough process cleaning, and packaging reveals shared energy-intensive processing steps, such as refrigeration and heating.

Both Berkley National Laboratory and the National Dairy Council of Canada recommend a systems approach to energy reduction, including reducing load by eliminating unnecessary processes and upgrading inefficient equipment.

Upgrade Motor and Pump Systems.

- Use variable speed drives to better match the motor or pump speed to the application, saving 7-60% of existing energy costs.
- Install holding tanks and eliminate redundant liquid flows to reduce pump demand and save 20-40% of energy consumption.

Keep Your Cool by Optimizing Refrigeration.

- Use ambient air during winter months to reduce active chilling, saving up to 15% of refrigeration energy costs.
- Insulate refrigerated areas and safely increase refrigeration temperatures. Maximizing your cooling efforts can save 1 – 3% of energy consumption for each one °F increase in temperature.

Contain Your Compressed Air.

- Leaks in your compressed air system make the system work harder, expending unnecessary energy.

NYSERDA's Industrial and Process Efficiency Program has **OVER $100 MILLION AVAILABLE** to improve productivity and your bottom line

To learn more about how NYSERDA can help you significantly reduce electricity usage and achieve measurable savings throughout your food manufacturing process, call **1-866-NYSERDA,** email us at **IPEoutreach@nyserda.org** or visit **www.NYSERDA.org/IPE**.

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The Berkeley National Laboratory publication breaks down how electricity is typically consumed within fruit and vegetable processing facilities. Fifty percent of the electricity consumed is for process cooling and refrigeration, followed by machine drives (40%), HVAC (5%), and lighting (5%).

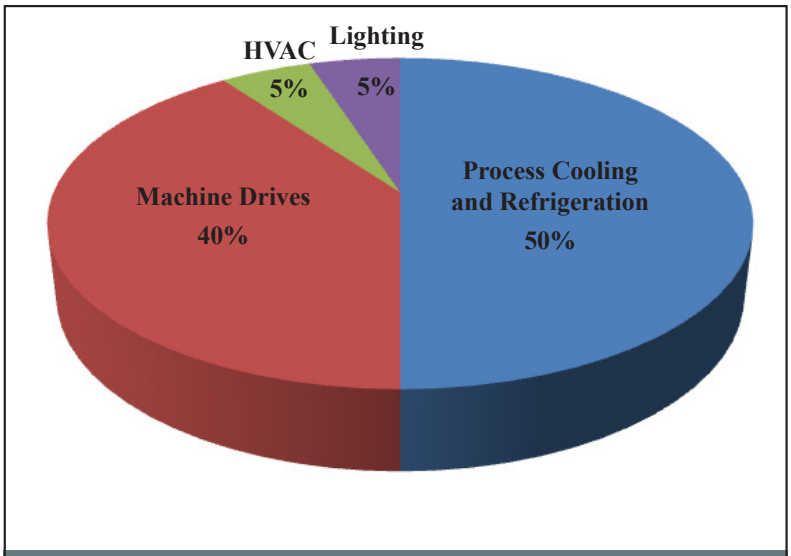

Exhibit 1. Energy Distribution in Fruit/Vegetable Plant

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