

## Realizing Big Savings for Small Business

Potential energy savings representing cost savings of approximately \$71,000 were identified by the **Industrial Assessment Center of San Francisco State University (IAC/SFSU)** at the **Harvest Container** facility in Lindsay, California. Facility's Management decided the short term implementation of most of the proposed measures, realizing an overall yearly energy cost saving of \$52,000 with an estimated pay back of 1.2 years. The remaining opportunities are being considered for future budget planning.

### Company Background

Harvest Container produces corrugated cardboard containers, of various sizes and strength for the food industry. It employs 40 people, and operates 50 weeks per year, producing approximately 35 million cardboard containers.

### Summary

The IAC/SFSU team performed a comprehensive assessment of the facility's energy use in January 2015. The team consisted of seven engineering students, led by Professor Ahmad Ganji, Director of the Center at San Francisco State University. After an introductory meeting, the team toured the facility, conducted a detailed inspection of equipment and processes, identified various potential opportunities for energy



A strong energy portfolio for a strong America efficient use, coupled with clean renewable energy means a stronger economy, a cleaner environment, and greater energy independence. *Royalty Free Photo*

conservation, and gathered the data necessary for quantification of potential savings and estimation of the implementation costs.

### Results

The audit team identified 15 energy and cost saving opportunities with a total annual potential saving estimated at approximately \$71,000. Facility's management decided to implement 9 in the short term, and consider the remaining 6 for future budget planning. Implemented opportunities represent a total estimated annual cost saving of \$52,000, which includes a reduction on annual electricity energy consumption of 443,000 kWh, and a reduction in natural gas use equivalent to over 3,000 MMBtus, representing approximately 32% of total energy presently used. The total cost of implementation of all potential opportunities, net of Utility's rebates, was estimated at approximately \$76,000, resulting in an overall simple payback period of 1.1 years. The implemented measures would result in an approximate cost savings of \$52,000 with an estimated payback of 1.2 years. Using EPA

carbon emission index, the identified opportunities would reduce CO2 emissions by approximately 328,000 lbs per year.

### Implemented Recommendations

| Assessment Recommendations                         | Total Annual Savings |
|----------------------------------------------------|----------------------|
| Reduce the Pressure of Compressed Air              | \$3,820/yr           |
| Repair Air Leaks                                   | \$370/yr             |
| Stop Use of Compressed Air for Certain Processes   | \$1,990/yr           |
| Upgrade Compressor Controls                        | \$28,980/yr          |
| Insulate Bare Equipment                            | \$3,380/yr           |
| Tune Boiler                                        | \$2,450/yr           |
| Repair or Replace Steam Traps                      | \$7,210/yr           |
| Use Controls to Only Operate Equipment When Needed | \$3,390/yr           |