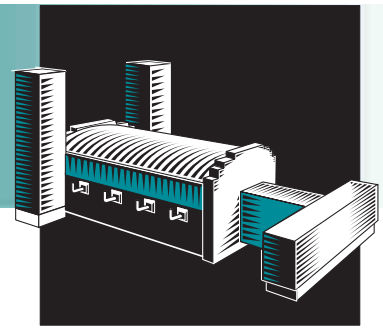


INDUSTRIAL ASSESSMENTS

Cost Reduction Strategies



AUDITS HIGHLIGHT SAVINGS OPPORTUNITIES

Did you know...
Efficiency measures recommended by our IAC audits represent about \$55,000 per year in potential savings for each manufacturer.

MOST COMMON RECOMMENDATIONS SUGGEST LIKELY WAYS TO CUT COSTS

The Department of Energy's Industrial Assessment Centers (IAC's) have performed over 9,700 audits of industrial facilities. For *all industry*, the most frequent recommendations are as follows:

1. Use higher efficiency lamps and/or ballasts
2. Use most efficient type of electric motors; multiple speed or adjustable-frequency drives for variable loads
3. Eliminate leaks in inert gas and compressed air lines/valves
4. Install compressor air intakes in coolest locations
5. Use energy-efficient belts and other improved mechanisms
6. Insulate bare equipment (for example - pipes and tanks)
7. Analyze flue gas for proper air/fuel ratio
8. Reduce the pressure of compressed air to the minimum required
9. Install timers and/or thermostats
10. If possible, reschedule plant operations or reduce load to avoid peaks

Industrial Assessment Centers

Industrial Assessment Centers provide free, comprehensive industrial assessments for eligible manufacturers. For each audit, a team of engineering faculty and students from one of 26 university-based centers conducts the audit and recommends measures to help the manufacturer improve productivity, reduce waste, and save energy. Implementation is optional.

Database Delivers Results

Previous audit recommendations may help you target opportunities in your own facility. The IAC web site allows you to identify plants similar to yours and view the measures most frequently recommended to them for improving efficiency and productivity. Implementation costs and payback on the selected measures are also available. Visit the database at http://oipea-www.rutgers.edu/database/db_f.html

Eligibility for No-Cost IAC Audits

Eligibility criteria are subject to change, so all facilities are encouraged to check the current criteria at www.oit.doe.gov/iac and determine whether they are eligible for a free IAC audit. If your facility is not eligible at this time, follow the links to find other resources.

Auditing Your Own Facility

To assist you in conducting an audit of your facility, you may want to download a copy of the *Self-Assessment Workbook for Small Manufacturers*, which is available at http://oipea-www.rutgers.edu/documents/doc_f.html.

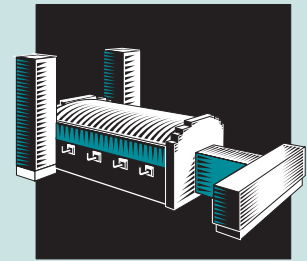


Audit Results at Glass-Related Facilities

Around 100 IAC audits have uncovered energy and cost-saving opportunities in glass-related facilities that produce containers, fiberglass, flat glass, and specialty glass products. The audits have produced many short-term, low-cost recommendations such as those listed in the table below.

GLASS ORIENTED AUDIT RESULTS

Product	Audit Year	Recommendation	Cost	Annual Savings	Payback (months)
Glass bottles	2001	Install meter on sewer line	\$8,220	\$30,490	3
Glass containers	2000	Adjust teflon guides to avoid conveyer jamming	\$0	\$11,460	Immediate
		Relocate compressor intake duct	\$14,400	\$29,037	6
Fiberglass strands for reinforcement	2000	Reduce binder waste	\$0	\$207,000	Immediate
		Replace shaker system	\$68,000	\$72,000	11
Glass panels	1999	Preheat kiln combustion air	\$12,000	\$29,047	5
Tempered glass	1999	Purchase new optimization software to decrease glass waste	\$10,000	\$131,976	1
Handblown glass	1999	Adjust furnace air-fuel ratio	\$1,000	\$229,919	1
		Install vacuum transfer system	\$8,219	\$42,323	2
Bent and flat fabricated glass	1999	Insulate surfaces of furnace to reduce heat losses	\$5,439	\$24,192	3
		Recycle water from grinding operations	\$12,000	\$40,226	4
Flat glass	1998	Improve worker machine productivity	\$3,000	\$24,414	1
		Add economizer on air conditioning unit	\$2,580	\$6,254	5
Chopped fiberglass	1998	Recycle waste fiberglass and mat scrap with regional recycler	\$32,000	\$304,000	1
Technical and signal glassware	1998	Renegotiate gas cost with supplier	\$0	\$78,270	Immediate
Machine made crystal	1998	Simplify repack operation	\$1,673	\$83,200	1
		Insulate hot surfaces of Lehr	\$1,007	\$8,584	1
		Filter and recycle cooling water used in molds	\$8,050	\$23,400	4
Glass lamps and vases	1998	Modify semi-automatic mold mechanisms	\$8,200	\$73,440	1



OTHER RESOURCES

OIT Clearinghouse
800-862-2086

www.oit.doe.gov/bestpractices



April 2002