

William S. Haas Director of Energy Programs



Corporate Profile



The Shaw Group Inc.[®] is a leading global provider of technology, engineering, procurement, construction, maintenance, fabrication, manufacturing, consulting, remediation, and facilities management services to clients in the energy, chemicals, environmental, infrastructure, and emergency response industries.

- Headquarters: Baton Rouge, LA
- Stock Ticker: NYSE: SHAW
- Number of employees: 25,000
- FY 2011 Revenues: \$5.9 billion
- **Backlog:** \$18.2 billion (as of 5/31/12)
- **Website:** www.shawgrp.com







Energy Management Services



Energy Audits

- Engineering Analysis and Reports
- Design and Engineering Services
- Construction Management
- Building Commissioning and Retro-commissioning Services
- Measurement and Verification



Recent Clients





U.S. Immigration and Customs Enforcement







Partnering with Wisconsin utilities





TEXTRON Duke Energy®



An SMG Managed Facility







Missouri Department of Natural Resources

Energy Audit Overview



- What An Audit Is:
 - Analysis of the energy used in a facility
 - Identifies opportunities to reduce energy usage
 - Tool to reduce both operational and capital expenditures

- Audit Review Areas:
 - HVAC Systems
 - Building System Operation
 - Operational Procedures
 - Building Automation & Control
 - Lighting & Lighting Control
 - Pumps & Motors
 - Water Consumption Systems
 - Domestic Hot Water Systems
 - Process Equipment
 - Utility Automation & Metering
 - Renewable Energy Systems

Energy Audit Process





Typical Report Format:

Facility and System Energy Performance Analysis

Energy Efficiency Improvement Opportunities

No-Cost/ Low-Cost Improvements

Capital Improvements

Prioritization of Improvements

Cost, ROI, Incentives, Implementation Difficulty

Energy Audit Benefits



- Describes where and how where energy is used in processes and facilities
- Typically identifies 10% to 30% in potential annual energy cost savings
- Identifies the most cost effective options and prioritizes opportunities
- Provides Return on Investment (ROI) and other decision making criteria
- Supports capital planning efforts
- Can optimize building comfort and system performance
- Provides opportunities to realize environmental benefits and reduce greenhouse gas emissions

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Near Zero Zone Energy Efficiency Opportunities





- Share US and Turkish energy efficiency assessment techniques and technologies
- Energy Audits of 4 initial companies
 - Focus on wide spectrum of industries
 - Target low cost improvements as well as capital cost
 - Assess and improve existing energy efficiency installation
- Energy Efficiency Opportunities in Turkish Industries
 - Boiler and steam system
 - Compressed air system
 - Power quality
 - Insulation
 - Process energy intensity characterization

Industrial Zone Specific Examples



- Foundry and Casting: Alloy Wheels
 - ECRM Highlights
 - Chilled water generation from energy recover waste heat
 - Compressed air system improvements
 - 2 to 4 Year Payback

Steel Processing: Cold Forming Fasteners

- ECRM highlights
 - Waste heat recovery
 - Motor efficiency improvements
- 3 to 5 Year Payback
- Textile: Fabric Dyeing
 - ECRM Highlights
 - Insulating paint
 - Heat recovery off drying furnace
 - 2 to 5 Year Payback
- Plastics: Packaging & Printing
 - ECRM Highlights
 - Use cooling tower for process cooling
 - Compressed air
 - 2 to 5 Year Payback





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