

Sustainable Solutions Corporation

ASHRAE Energy Audits

The Business Case for Energy Audits

“Energy costs can represent 25% to 35% of a typical building’s operating costs and are subject to rate fluctuation beyond the control of most building management.” - BOMA Experience Report 2009, www.boma.org

A professional energy audit, conforming to ASHRAE's *Procedures for Commercial Building Energy Audits*, provides recommendations that, if implemented, result in significant energy and cost savings. Research shows that energy audits can provide significant value to the building owner, including:

- Tenant attraction and retention
- Identification of asset performance
- Utility savings on owner-paid portion of bills
- Achievement of marketable building certifications such as LEED, ENERGY STAR or BOMA 360
- Obtain applicable utility rebates, state grants and federal tax incentives

ASHRAE Energy Audit Overview

ASHRAE's *Procedures for Commercial Building Energy Audits*, establishes three levels of energy audits:

- **ASHRAE Level I** – Analyze energy bills and conduct a brief on-site survey of the building to identify and provide a breakdown of potential low-cost/no-cost energy conservation measures (ECMs).
- **ASHRAE Level II** – Conduct a detailed building survey and energy analysis. Prepare a cost analysis and estimated ROI for feasible building improvements and suggested changes to operation and maintenance procedures. Provide recommendations for potential cost effective capital improvements.
- **ASHRAE Level III** – This expanded assessment of selected building performance improvements involves extensive data collection and a more refined energy and financial analysis to ensure long-term continuous improvement and operational cost savings.



The ASHRAE Level I audit, which typically identifies significant savings for minimal upfront costs, is a preferred choice for many facilities. An ASHRAE Level II or Level III assessment is more appropriate for facilities where energy-consuming systems (e.g. HVAC, process equipment, etc.) are operating poorly or nearing the end of useful life.

To learn more about the value of ASHRAE Energy Audits, contact:

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Why Choose SSC?

SSC utilizes years of applied experience working in every major facility type, including commercial office space, manufacturing and light-industrial. Regardless of the level of ASHRAE energy audit conducted, SSC consistently provides the following value-added services:

- An action plan for converting recommendations into operational improvements and realized cost savings
- ENERGY STAR benchmarking and certification services (if facility meets minimum EPA requirements)
- A complete LEED EB: O&M prerequisite analysis for use in future LEED certification
- Scope 1 and 2 carbon footprint reporting

Based on its portfolio of ENERGY STAR benchmarked properties, SSC has demonstrated a 9.3% Group Adjusted Percent Energy Use Reduction. Many facilities have experienced significantly higher reductions, leading to increased capital savings.

Case Study - Saint-Gobain Granville, NY

Saint-Gobain's Granville, NY facility manufactures Performance Plastics, specifically bonding tapes and soundproofing materials, which includes its EZ Clad™, SolarBond™, Thermalbond®, Norseal®, and Green Glue product lines. The building itself is 111,000 sq. ft. and was first constructed in 1964, with subsequent additions through the 1990s. In order to integrate sustainability into the facility, products and processes, SSC first performed a Sustainable Product Analysis which included a site visit to the Granville, NY facility to complete a preliminary evaluation of the products and operations. SSC also conducted a detailed review of the product lines to determine the green and sustainable aspects of the plant and products to assist with the development of green marketing materials.

The preliminary Sustainability Assessment identified low- and no-cost improvements that could be easily implemented to increase efficiency and reduce operating costs. One of the most notable improvement opportunities was a minor adjustment to the Thermal Oxidizer to improve the efficiency of the propane gas usage.

Following the Sustainable Product Analysis, SSC performed a Life Cycle Assessment (LCA) of the Thermalbond product manufactured at the Granville plant. The resulting LCA data was used to determine opportunities for further improvement in the sustainability of the product, from raw materials extraction to product end of life. The life cycle data revealed a water leak throughout the process, which was another low-cost, easily implementable improvement that would result in significant savings.

By implementing the above noted operational improvements identified by SSC, the Granville facility reduced propane usage by 20%, providing an annual cost savings of \$188,000 (based on 2010 oil prices) and reduced water consumption by 50%.

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