

# 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](http://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 - Jewish Federation of Philadelphia

Sustainable Solutions Corporation (SSC) conducted an Energy Audit at the Jewish Federation facility located at 2100 Arch Street in Philadelphia, PA in January 2010. The 118,166 gross sq. ft. of building space is owned and managed by the Jewish Federation. The East building was built in 1913 and the West building was built in 1982, with subsequent renovations.

Initial benchmarking of this building determined an ENERGY STAR score of 63. SSC reviewed the most current building drawings, utility bills, chiller logs, and Building Automation System (BAS) and coordinated with Jewish Federation building personnel to develop a number of ECM's. SSC's analysis included recommendations for replacing chillers and related equipment; replacing air handlers and related controls; upgrading domestic water pumps, motors and controls; and implementing low-and no-cost energy conservation measures.

SSC was responsible for oversight of engineering, design and managing construction and implementation of the ECMs, as well as completion of Act 129 Energy Efficiency Rebates and ENERGY STAR certification.

Following the integration of the performance improvement measures, the building energy consumption was reduced by 12.4%, saving over 1.23 million kBtu. The building received ENERGY STAR certification in January 2012, with a score of 75 – a significant improvement from the 2011 score of 63.



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