ENERGY AUDITS | FURTHER DETAILS

HELIOSENERGY

American Society of Heating, Refrigeration & Air Conditioning Engineers (ASHRAE)

An ASHRAE Level-I Energy Audit is a basic energy audit often called a walk-through energy audit. This audit's primary focus is to identify low-cost/no-cost energy conservation measures (ECMs). The auditor assesses a building's energy efficiency by analyzing its energy usage and conducting a walk-through survey. The walk-through is focused on "low hanging fruit," or opportunities that are relatively easy to implement. The findings from this audit determine if a more detailed Level-II or Level-III energy audit is required.

An ASHRAE Level-II Energy Audit is adequate for most buildings and involves a more detailed building survey and energy analysis. The audit report will include a breakdown of energy usage by equipment and load. The audit identifies and provides the cost-benefit analysis of all practical measures that meet the owner's constraints and economic criteria. It also provides a list of capital-intensive improvements that require thorough data collection and analysis, along with an initial estimate of potential costs and savings.

An ASHRAE Level-III Energy Audit is very comprehensive and the findings are expected to enable go/no-go decisions. This audit focuses on potential capital-intensive projects and involves more detailed field data gathering and engineering analysis. It provides detailed costs and savings information with a high level of confidence sufficient for major capital investment decisions. Another key feature of an ASHRAE Level-III energy audit is creating a building energy model and simulating the building operation.

Levels of Energy Audits

Level 1, 2, 3 & Energy Audit Process & Report Steps

Process	Level 1	Level 2	Level 3
Conduct Preliminary Energy Analysis (PEA)	✓	✓	✓
Conduct walk-through survey	✓	✓	✓
Identify low-cost/no-cost recommendations	✓	✓	✓
Identify capital improvements	✓	✓	✓
Review Mechanical and Electrical (M&E) design, conditions & O&M		✓	✓
Measure key parameters		✓	✓
Analyze capital measures (savings & costs)		✓	✓
Meet with owners/management to review findings		✓	✓
Conduct Additional testing/monitoring			✓
Perform detailed system modeling			✓
Provide schematic layouts for recommendations			✓

Report	Level 1	Level 2	Level 3
Estimate savings from utility rate change	✓	✓	✓
Compare Energy Use Index (EUI) to that of similar sites	✓	✓	✓
Summarize utility data	✓	✓	✓
Estimate savings if EUI met target	✓	✓	✓
Estimate low-cost/no-cost savings		✓	✓
Perform detailed end-use breakdown		✓	✓
Estimate capital project costs and savings		✓	✓
Complete building description and equipment inventory		✓	✓
General description of considered measures		✓	✓
Recommend Measurement and Verification (M&V) method		✓	✓
Financial analysis of recommended Energy Efficiency Measures (EEM)		✓	✓
Detailed description of EEMs			✓
Detailed EEM cost estimates			✓