

# WHAT'S PREVENTING YOU FROM HAVING AN ENERGY AUDIT?

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## What's Preventing You From Having an Energy Audit?

Energy audits are one of the best ways to discover money-saving opportunities in an existing building. A commercial or industrial energy audit, also called an energy analysis, will identify how much energy a building uses, how efficiently it uses that energy, and where changes and improvements can be made that will impact both the occupant comfort *and* the bottom line.

As a Certified Energy Manager (CEM) and a Building Energy Assessment Professional (BEAP) I have personally conducted ASHRAE level 1 and 2 audits on dozens of buildings from 25,000 to more than 800,000 SF. Often we uncover tens of thousands of dollars in savings just from the Preliminary Energy Assessment, a cursory walk-through required that precedes a formal analysis. Going deeper, we have performed ASHRAE Level 2 Audits with retrofits and retro-commissioning that have resulted in hundreds of thousands of dollars in savings over 4 to 10 years.

In a very *nonscientific* survey, I have come up with these three reasons: Cost of the Audit, Cost to Fix the Issues Uncovered, and Fear.



## 1. Cost of the Audit

You need to know the numbers – all of them. A proper energy assessment on a commercial, institutional or industrial building, such as a school, hospital, mall or manufacturing facility is the first step. The actual cost of the audit increases with the depth and complexity, but potential payback also increases as mentioned earlier.

A qualified team of professionals who have experience in the building industry, especially in HVAC and lighting, and are well-versed in current standards and best practices, will conduct the most thorough energy analysis and use ASHRAE standards.

At a minimum, the analysis should cover the following areas:

### ASHRAE Level 1 Energy Analysis

- Review of minimum of 36 months of utility bills with close inspection of bills during peak usage times (typically mid-summer and/or mid-winter)
- Physical inspection of building, including lighting, HVAC and service water systems
- Discussions with facility personnel and building engineers

ASHRAE Level 2 Energy Analysis (everything in Level 1 plus the following)

- Thermal imaging
- Data logging
- Blower door testing, if feasible
- Spot-checks of thermostats with hand-held digital thermometer

The cost for an ASHRAE Level 2 Energy Analysis depends on the size and complexity of the building, e.g., a hospital, shopping mall, large dormitory, commercial office building, large laboratory or industrial plant would cost considerably more than a standard three-story commercial office building with a few packaged rooftop units on it or a single occupant location such as a store or restaurant.

## 2. Cost to Fix the Issues Uncovered

The recommended improvements will cost money. A respectable, professional audit will tell you the expected payback of every improvement. A Level 2 or Level 3 analysis will provide qualified estimates, and a Level 3 may even include actual quotes for service.

Your Energy Analyst may uncover several low and no-cost options with short ROI (return on investment). Implement these and you will start seeing cost savings right away while you take time to plan for the larger investments recommended. For maximum ROI, consider rolling the low-cost fixes in with the higher cost ones (see ["Why Not to Do the Easy Energy Efficiency and HVAC Fixes"](#)).

Many states, including Michigan, now offer PACE grants. PACE, or Property Assessed Clean Energy, allows commercial, industrial, multifamily and nonprofit property owners to finance energy efficiency and renewable energy projects with little or no impact on the bottom line. These funds even cover the cost of the energy analysis, so it's worthwhile to see if you qualify before getting started. For more, see ["Paying for Energy Upgrades May Be Easier Than You Thought."](#)

Further, many utility companies offer free energy audits if the owner agrees to spend a minimum amount to perform some of the energy conservation measures (ECMs) suggested by the analyst. We have found that most owners, when they see the paybacks, will willingly spend considerably more than the minimum.

At the same time, consider the costs of NOT implementing the recommendations. In brief, they will most likely include:

- Continued higher energy costs
- Higher maintenance costs
- Other economic impacts

Many states and municipalities now require buildings to post an Energy Use Index (EUI) score. Buildings with a poor EUI will be less desirable to potential lessees or to purchasers. Buildings that embrace sustainable practices have been shown to fare better on many factors.

### 3. Fear

If you have never had a thorough energy analysis of your building, the idea could be daunting. You may be wondering, “What will they find?” “Will they be critical of our operations and/or maintenance practices?” or “How will I have time for this? My staff is already overworked!”

Rest assured, the analysis team is not out to “get you.” We want to be your partner in making your building the most energy efficient it can be in the most cost-effective manner.

We often find that once we have completed the assessment and reviewed the findings, most building owners and managers realize they have been missing out on savings, then they ask, “Why did we wait so long?”

If you have ever wondered whether an energy audit of your office building, industrial park, school, or hospital would be worthwhile, the answer is emphatically “YES.” But only if you want the building to be a healthy place to work, a profitable business investment, and operating efficiently for many years to come.

