BEYOND
SMART CITIES

ENERGY AUDIT SPECIALIST
BEYOND SMART CITIES



welcome to

BEYOND SMART CITIES

BEYOND SMART CITIES

ENERGY AUDIT SPECIALIST
BEYOND SMART CITIES

BUILDING ENERGY ASSESSMENT OVERVIEW



ONLINE PROFESSIONAL COURSES LED BY THE WORLD'S TOP SPECIALISTS

ONLINE TRAINING BY KRISHNAJI PAWAR

LEED AP(BD+C),GSAS CGP,GCP,ISO 14001

LEARN.BEYONDSMARTCITIES.IN

BEYOND SMART CITIES

MODULE 3

Types of Energy Audits or Assessments

KRISHNAJI PAWAR - CEO & FOUNDER

LEED AP(BD+C),GSAS CGP,GCP,ISO 14001

WWW.BEYONDSMARTCITIES.IN





BUILDING ENERGY ASSESSMENT OVERVIEW

Energy Management Systems (EnMS) help organizations monitor and control energy use, establish long-term efficiency improvement processes, and use a whole systems approach to build capacity and focus on continuous improvement, without measuring or guaranteeing energy savings.

Learning Objectives

- Introduction
- Principles and Concepts of Energy Assessment
- Types of Energy Audits or Assessments
- Role of an Energy Auditor or Manager
- Energy Assessment and Audit Professional Certification
- Benefits of Energy Audits or Assessments
- Summary and Resources

BEYOND SMART CITIES

INTRODUCTION

- Energy Management Systems Overview
- Implements systems and procedures for monitoring and controlling energy use.
- Establishes long-term energy efficiency improvement processes.
- Uses a whole systems approach for capacity building and continuous improvement.
- Does not measure or guarantee energy savings or reductions.
- ASHRAE has defined three levels of energy audits: Levels 1, 2, and 3, and a necessary background step called Preliminary Energy-Use Analysis (PEA).

ENERGY AUDIT OVERVIEW

Energy audits examine how much energy a facility uses and how to make it more efficient. Important for the energy auditor to determine:

- What an energy audit is:
- What are the main functions and benefits of an energy audit?
- The various types of energy audits; and
- How to conduct an energy audit.



ENERGY AUDIT OVERVIEW+

- A crucial part of energy management, identifying opportunities for energy efficiency improvement.
- Defined as systematic analysis of energy use and consumption.
- Aims to identify, quantify, and report on opportunities for improved energy performance.
- Forms part of building condition survey and evaluates energy performance.
- Applicable to industrial energy systems.
- Develops understanding of energy-use patterns of a facility or system.



ENERGY AUDIT IMPORTANCE

BEYOND SMART CITIES

- Assesses energy usage in industries.
- Identifies waste areas and improvement opportunities.
- Reviews variations in energy costs and supply reliability.
- Determines appropriate energy mix.
- Identifies energy conservation technologies.
- Facilitates retrofitting for energy conservation equipment.
- Translates conservation ideas into practical solutions.



ASHRAE ENERGY AUDIT LEVELS AND PRELIMINARY ENERGY-USE ANALYSIS

Level 1 Energy Audit:

- Walk-through survey: Limited to low-cost or no-cost improvements.
- List of potential capital improvements for future consideration.



ASHRAE ENERGY AUDIT LEVELS AND PRELIMINARY ENERGY-USE ANALYSIS

Level 2 Energy Audit:

- Energy Survey and Analysis: Evaluation of energy by end use and peak demand analysis.
- Energy savings and installed cost estimates provided for practical energy efficiency measures.
- Operating and maintenance improvements and recommended measures for future in-depth analysis.



ASHRAE ENERGY AUDIT LEVELS AND PRELIMINARY ENERGY-USE ANALYSIS

BEYOND SMART CITIES

Level 3 Energy Audit:

- Detailed analysis of capital-intensive modifications.
- Calls for more detailed field data, rigorous analysis, and possibly building energy modeling.
- Includes installed cost estimates with a higher degree of detail and confidence.



ENERGY AUDIT OVERLAY

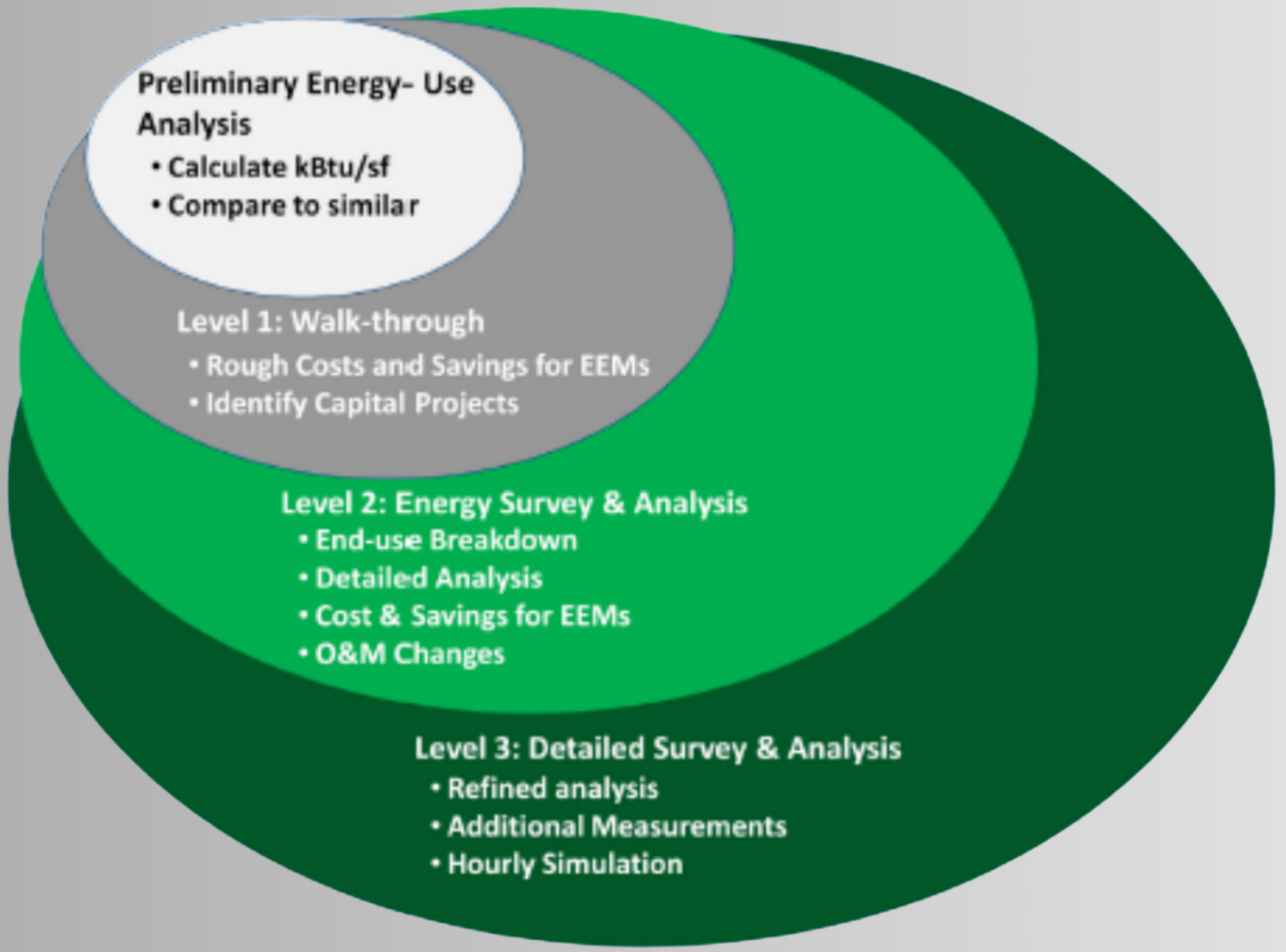


Figure 1 — Relationships of ASHRAE Energy Audit Levels 1, 2, and 3

ASHRAE'S ENERGY AUDIT OPTIONS

- Including PEA and audit levels 1-3.
- Suggests an optional separate energy audit, a targeted audit.
- Allows no strict boundaries between different energy audit levels.
- Suggests a single energy audit, including in-depth analysis of energy conservation and renewable energy options.
- Aims to transform energy use in a building and serve as a long-term planning tool.
- Similar to moving to a Level 3 audit and including PEA, Level 1, and Level 2 audits.
- Explores pros and cons of this transformational energy audit approach.



BEYOND SMART CITIES

CONTACT US

+91 6363032722

info@beyondsmartcities.in

learn.beyondsmartcities.in

#55,HMR Layout ,Bengaluru ,India



BEYOND SMART CITIES

ENERGY AUDIT SPECIALIST
BEYOND SMART CITIES

THANK YOU

