



Reinventing Home Energy Audits and Auditors

Colorado Utility Efficiency Exchange

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Present Definition Of An Energy Audit?

- An inspection, survey and analysis of energy flows in a building, process or system with the objective of understanding the energy dynamics of the system under study. Typically an energy audit is conducted to seek opportunities to reduce the amount of energy input into the system without negatively affecting the output(s). When the object of study is an occupied building then reducing energy consumption while maintaining or improving human comfort, health and safety are of primary concern. Beyond simply identifying the sources of energy use, an energy audit seeks to prioritize the energy uses according to the greatest to least cost effective opportunities for energy savings.

What Is An Energy Audit?

- Decision making tool
- Road map for energy related issues

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How Have Energy Audits Changed?

- Its not just about energy anymore
- Consumers want more information
- Integrating technologies is a science



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Four Main Areas Audits Address

- Health and safety of the occupants
- Building durability
- Comfort
- Energy efficiency.

Types of Home Energy Audits

- Do-it-yourself Energy Audits
- Online Energy Audits
- Walk-through Energy Audits
- Comprehensive Energy Audits
- Professional Energy Audits



Who Needs An Energy Audit?

You do!





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How Often Should An Audit Be Conducted?

- Depends
 - If one has already been conducted
 - How long ago was it conducted
 - Change requires more frequent auditing
 - Rule of thumb – every 2-5 years

Should Audits Be Mandatory?

- Some already are – subsidized housing
- Its not just about energy anymore.....
 - Environmental issues
 - Economic issues
 - National security issues
 - Political issues
 - Social issues



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Opportunities For Suggesting Energy Audits

- High bill complaints
- Delinquent bill customers
- Low-income households
- Struggling businesses
- Criteria for available funding
- Businesses seeking a competitive edge

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How Do We Get Requests For Audits?

- Media spots
- Thermogram of every home & business
- EUI calculation
- Other.....

After The Audit – Now What?

- The level of response depends on
 - The auditor
 - ROI
 - Incentives
 - Available budget
 - On-going communication

Ingredients Of An Audit

- EUI calculation
- Identifies all energy types being used
- Identifies all energy users
- Identifies improvement measures
- Lists cost, savings, and payback for each
- Addresses all other client concerns

What Does An Audit Address?

- Building shell
- Heating system and water heater
- Maintenance and safety practices
- Air tightness
- Indoor air quality
- Energy-bill analysis
- Ice-dam problems
- Basement dampness
- Window condensation
- Excessive dust levels
- Dry air
- Insulation levels
- Mechanical systems
- Cost/benefit analysis

Diagnostic Tools

- Meters – watt, volt, power factor, etc.
- Blower door
- Infrared camera
- Smoke gun
- Calculator/software program

Benefits Of An Audit Program

- Financial
- Economic
- Environmental
- Social
- Improved customer service
- Establishes relationship with customers

Guiding Principles

- Long-term commitment to provide audits
- Good results
- Require some level of financial participation from each requestor
- Continuous development



Western's Equipment Loan Program Audit Kit

- Free to all Western customers
- Make requests online at
<http://www.wapa.gov/es/loan/default.htm>
- Or call Gary Hoffmann at 720-962-7420
- Or call Ron Horstman at 720-962-7419



Leadership and Vision

- People underestimate their capacity for change. There is never a right time to do a difficult thing. A leader's job is to help people have vision of their potential.



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The Growing Leadership Role of Utilities

- Utilities can provide the data necessary for describing the local energy system and the effects of changes on it
- Utilities can supply technical resources to help analyze alternatives and strategies
- Utilities are required to participate in various local, state, and nationally mandated energy programs
- Utilities can undertake other efficiency programs
- Utilities have experience and capital and are in a position to expand into other energy service areas

Why Take a Leadership Role?

- Our present energy policies are not working
- Everyone uses energy and contributes to the associated problems so we must contribute to the solutions
- Energy problems are worldwide in scope but the cost problem is local and immediate



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Utilities & Energy Efficiency Principles

- Get your own house in order first
- Programs must have measurable results
- Include and treat all customers/sectors of the community equally
- All actions should be cost-effective
- Programs should stimulate private businesses
- Consider all aspects of each program so it is a win-win for the customer, the community and the utility



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What's Stopping You?

- What are some obstacles some of you have overcome while implementing innovative energy programs.

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What are you Doing?

- Life is not about waiting for the storm to pass; it's about learning to dance in the rain



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Questions?