Commercial Auditing Program – Delivering Energy Savings to Small Business

Our Mission

To advance environmental and economic well-being by providing unmatched energy services, products, education and information based on world-class research.

About Us

Our staff of approximately 100 people (energy engineers, energy specialists, technical experts, software developers, energy research librarians, and more) work out of our Olympia, Spokane and satellite offices. Operating similar to a consulting firm, the WSU Energy Program is a self-supported department within the University.

Contact

Lee Link, Ph.D.
Assistant Director

WSU Energy Program
905 Plum St. SE
P.O. Box 43165
Olympia, WA 98504-3165

360-956-2000
LinkL@energy.wsu.edu

www.energy.wsu.edu

Commercial energy services at the Washington State University Energy Program

Deep history • Broad expertise • Professional innovation

The **Washington State University (WSU) Energy Program** has helped commercial and industrial customers save energy for over 25 years. Our energy professionals deliver reliable, unbiased technical services to help customers across the United States and around the world save energy.

WSU Energy Program engineers and building science experts are renowned for their positive approach and down-to-earth expertise. With varied backgrounds and hundreds of years of combined experience, they collaborate to develop innovative tools, provide training and technical assistance, and fine-tune strategies to help customers solve energy-related problems.

The Commercial Auditing Program – CAP – helps small commercial customers capture energy savings

When the WSU Energy Program team realized that most energy audit tools were too expensive or complex to be used effectively by small commercial customers, they began to build a tool specifically for them: the Commercial Auditing Program, or CAP.

CAP puts the power of site-specific engineered analysis in the hands of those who service smaller commercial buildings (less than 50,000 square feet), such as restaurants, schools, office buildings or correctional

facilities. This capability is important; many energy conservation measures (ECMs) cannot be considered because they require engineering analysis.

Using CAP as a self-audit tool, people with a wide range of expertise can perform an energy assessment without hiring an outside engineering consultant. CAP produces usable, credible and uniform results – essentially performing the analysis of an engineer for contractors or building owners who typically service small commercial buildings. The goal of CAP is to bridge the gap between simple ECMs and expensive engineered analyses.

CAP is a Microsoft® Excel-based tool that performs site-specific calculations for the ECMs that are most relevant for commercial buildings: water heating, HVAC and lighting measures. Users input information about the building's energy systems and their operation. After data analysis and modeling, CAP lists site-specific ECMs in three categories in order of payback and impacts on greenhouse gas emissions:

- **Operations and Maintenance ECMs**, which are low-cost or no-cost measures
- **Capital ECMs**, including the expected payback period
- **End-of-life upgrades**, such as new appliances and light fixtures, which can be made when the incumbent technology reaches the end of its useful life

CAP also calculates the interaction among all of the ECMs to accurately represent energy savings.

A beta version of CAP has already been used at 30 commercial sites, where its usability, reliability and accuracy have been impartially verified. Offering an average of eight ECMs per site, energy savings projected by CAP average 28 percent.

With additional project funding, the WSU Energy Program plans to add additional modules to CAP and develop web- and tablet-based applications. As the tool expands in functionality, each new module will undergo rigorous validation and the training and support components will be expanded.

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