

Energy Audits Reduce Energy Consumption and Costs

Is your facility/building wasting energy? If your facility has not been subjected to an energy audit then it is probably using more energy than necessary, resulting in a direct hit to your bottom line and an outsized carbon footprint. PS&S engineers have extensive experience successfully identifying and implementing energy conservation measures for our clients across the commercial, industrial, higher education, institutional and public sectors.

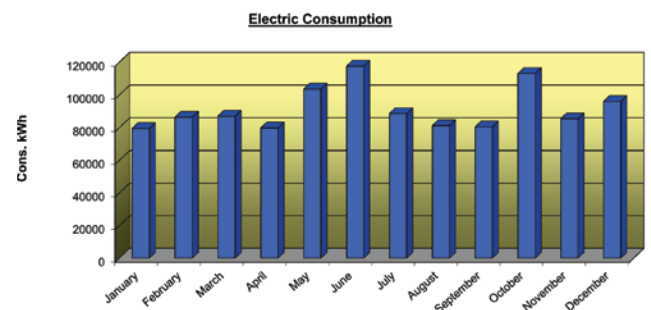


Energy Audit Expertise:

- 1** Benchmarking energy use using the Energy Utilization Index (EUI) and EnergyStar Ratings to assess facility performance relative to peer group.
- 2** Assistance in obtaining government incentives and tax credits to offset capital cost of implementing Energy Conservation Measures (ECMs).
- 3** Our in-house ability to work with facility staff and familiarity with equipment and building management systems (BMS) helps to uncover energy savings opportunities.
- 4** PS&S is a full service, multi-disciplinary engineering firm that can provide design services to effectively implement ECMs that meet the Owner's goals for return on investment.

Types of Energy Audits (ASHRAE)

- **Preliminary Energy Use Analysis.** Provides analysis of historic utility use and develops the EUI as a means of comparison with similar buildings.
- **Level I Walk-Through Analysis.** Builds on the Preliminary Energy Use Analysis and incorporates a brief building survey. Focus is on analysis of no- and low-cost ECMs.
- **Level II Energy Survey and Analysis.** Recommended approach that is generally sufficient for most commercial buildings. Incorporates a more detailed building survey and energy analysis of all practical ECMs.
- **Level III Detailed Analysis of Capital Intensive ECMs.** An investment grade analysis of capital intensive ECMs subjected to a more rigorous analysis, sufficient for major capital commitments.



For more information on Energy Audits and other PS&S Energy services, please contact **Walter Fedick, PE at 732.584.0339 or wfedick@psands.com.**

Typical Level II - Energy Survey and Analysis

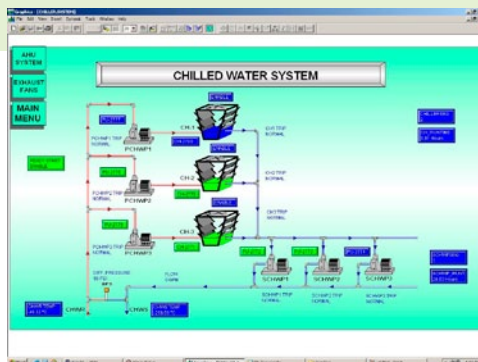
A typical Level II Energy Audit begins with an analysis of most recent one to two years of utility bills (electric, gas, fuel oil, water). In some cases, PS&S can assist in obtaining these records from your providers. Characterization of the patterns of energy usage and computation of EUI and/or EnergyStar Rating will be performed to establish benchmark of current building energy performance which will provides a means of comparing subject building's energy use to its peer group. Ideally, most recent drawings and other pertinent documents will be reviewed prior to conducting a survey of the building systems and operations including:

- **Building envelope**
- **Lighting**
- **HVAC**
- **Domestic hot water**
- **Other energy consumption: data centers, process, food preparation, laundry, etc.**
- **Controls: BMS, HVAC systems and lighting**

Conduct interviews with facility personnel to identify:

- **Operating schedules**
- **Maintenance history**
- **Comfort issues**
- **Review of available drawings and design documents**

Candidate energy conservation opportunities will then be identified and developed. Promising ECMs will be subjected to an economic payback analysis, including investigation of incentives that may be available to offset the first cost of project and reduce the payback period. PS&S will issue an Energy Audit Report that summarizes our findings and identifies the next steps.



Typical Demand-Side ECMs

- **HVAC equipment operating schedules**
 - Alignment of equipment operating schedules with occupancies
 - Night/weekend thermostat set backs/set ups
 - Optimal/adaptive start
 - Equipment upgrades
 - BMS evaluations and upgrades
 - Retro-commissioning
- **Lighting**
 - High efficiency fixture replacements
 - Occupancy sensors and daylighting controls
 - Central lighting control software

Related Energy Services

- Plant Utility Assessments
- Facility Condition Assessments
- Energy Master Plans
- Tariff evaluations
- Demand reduction strategies
- Lighting Assessments
- Approved NYSERDA FlexTech Contractor
- Infrared Thermography Audit
- Sustainable Energy Solutions including Solar PV, SRECs, Wind, Cogeneration/CHP, Ice Storage
- Short Circuit Studies
- Arc Flash Studies
- Power Quality Monitoring



For more information on Energy Audits and other PS&S Energy services, please contact **Walter Fedick, PE at 732.584.0339 or wfedick@psands.com.**