



Green
Strata

Search

Category

- Community
- Energy
- Gardens & Grounds
- Materials
- Rebates & Incentives
- Strata 101
- Transport Support
- Waste
- Water

Topics

- bicycles
- building management
- bylaws
- car park exhaust fans
- car parks
- cogeneration
- communal gardens
- communication
- community
- cooling tower
- e-waste
- energy consumption
- fans
- green roofs
- green walls
- hot water
- legislation
- lifts
- lighting
- materials
- motors
- organic waste
- pools & spas
- power factor correction
- pumps
- rainwater tanks
- rebates & incentives
- recycling
- solar hot water
- solar power
- toilets
- washing
- waste
- water consumption
- water meters
- windows

[HOME](#) [ABOUT](#) [INFORMATION](#) [CASE STUDIES](#) [VIDEOS](#) [SUPPLIERS](#) [LINKS](#) [GLOSSARY](#) [CONTACT](#)

[Home](#) » [Energy Audits](#)

Energy Audits

Category: [Energy](#)

Topic: [energy consumption](#)

Introduction

An energy audit of common property, conducted to the Australian Standard by a qualified and independent energy consultant, is an important step towards reducing your energy usage and costs. It will help you identify the most cost effective and practical options.

An energy audit:

- analyses your common property energy usage and costs;
- checks your energy tariffs to make sure you are on the best one available and that you're not being overcharged;
- looks for energy wastage; and
- identifies options to save energy and costs

Typically an energy audit of an apartment building may identify energy saving measures to reduce energy usage and costs by 15% to 30% with a payback less than 2 years. In some cases, identifying billing discrepancies and better tariff options may alone pay for the cost of the audit.

An energy audit will look at all common area equipment and central building services. Equipment typically assessed in an apartment building energy audit includes:

- Lighting (car park, fire stair, lobby, and exterior)
- Ventilation fans (car park, supply and exhaust fans)
- Air conditioning (e.g. cooling towers, packaged units, and chillers)
- Hot water (e.g. electric, natural gas, and solar boosted)
- Pumps (e.g. cold water risers)
- Lifts (e.g. lighting, controllers, and motors)
- Pools (e.g. heating and filtration)
- Controls (e.g. variable speed drives, time clocks, and occupancy sensors)
- Solar power
- Building management systems
- Power factor correction

Energy Audit vs Energy Assessment

Many suppliers and installers of energy efficient lighting and other technologies offer 'Energy Assessments'. An Energy Assessment is not an Energy Audit. An Energy Audit should be conducted to the Australian Standard (AS/NZS 3598:2000). It should offer independent, impartial advice. An energy audit should not try to recommend or sell one particular product. It should investigate a wide range of technologies and give you the information you need to decide what is best for your complex.

What is involved in an energy audit?

Step 1: Desktop Analysis

The energy auditor will first need to collect historical energy data, usually at least 24 months worth of energy bills. Often this can be obtained from your strata manager or requested from your energy retailer. With this information a desktop analysis will be conducted to:

- Investigate your sites pattern of energy use; this can be very useful to identify control issues and energy wastage.
- Check your regulated tariffs to make sure you are not being overcharged.

Step 2: Site Inspection

The energy auditor will conduct an inspection of your site. It is necessary to inspect all areas of interest (including meter rooms, plant rooms, fire stairs, common areas, car park and rooftops). Ideally the site inspection should be conducted with a building manager or member of the executive committee who can answer questions about your site.

Step 3: The Report

The energy auditor will provide you with a report. The scope, level of detail and accuracy of calculations presented in the report varies depending on the level of the energy audit. As a general guide the report should:

- Analyse your site's energy usage and costs
- Conduct a tariff analysis to make sure you are not being overcharged
- Identify how and where energy is being used at your site
- Provide you with a list of energy saving opportunities

Step 4: What to do next?

Once you have the energy audit report the last thing you want is it sitting on your desk gathering dust. The energy audit will give you a list of options to save energy. Most of these will involve some capital expenditure however the report should help you decide which are the most cost effective and practical.

The next step is to choose which energy saving opportunities you are interested in, obtain quotes from suppliers, implement and start saving!

Types of Energy Audits

The Australian Standard (AS/NZS 3598:2000) outlines what an energy audit should cover. The standard specifies 3 levels of energy audits:

Level 1

A level-1 energy audit is a lower cost, entry-level assessment for your site providing a lower level assessment of energy use and energy saving opportunities. It is useful as a first step investigation into energy saving opportunities.

Accuracy: should be within $\pm 40\%$.

Outcome: an abbreviated report with a short list of key energy saving opportunities with rough figures on savings and costs.

Next step: you should now have a better understanding of your site's energy usage and options to reduce your energy usage and costs. Further investigation is required to properly cost and assess options. This may be done by seeking quotes from suppliers or conducting a level-2 audit.

Level 2

A level-2 energy audit provides a more detailed assessment of your site's energy usage and a more comprehensive analysis of energy and cost savings. It is intended for sites that have some knowledge of energy efficiency and require a detailed assessment of opportunities to reduce their energy consumption.

Accuracy: should be within $\pm 20\%$.

Outcome: a full analysis and report providing a prioritised list of energy saving opportunities with estimates on costs and savings.

Next step: you should now have a good understanding of your site's energy usage and a prioritised list of options to reduce energy usage and costs. Now you need to decide what options you would like to pursue, seek quotes from at least 3 suppliers, re-assess costing and implement.

Level 3

A level-3 energy audit provides the most comprehensive assessment of energy usage and a detailed economic analysis of energy saving opportunities. It may cover an entire site or may focus on one area or process. It requires energy metering and logging which may significantly increase the cost of the energy audit.

Accuracy: should be within $+10\%$ for costs and -10% for benefits.

Outcome: an in-depth analysis and detailed report providing a firmly costed list of energy saving opportunities.

Next step: you should now have all the practical and financial information required to justify implementing an energy saving opportunity. It's time to implement!

Which energy audit is right for my building?

When commissioning an energy audit it is important to consider a range of issues:

What do you want to achieve?

Do you want a rough guide to energy saving opportunities (level-1) or a more detailed analysis and costing (level-2)?

What is your budget?

Your annual energy spend is a good guide to what your budget should be. The energy costs of medium-to-large apartment buildings (> 30 apartments) often justify the need for a more in-depth level-2 energy audit. For smaller sites a level-1 audit may provide the most economical option. Remember that many options to save energy will involve some capital expenditure so keep that in mind when assessing your budget for the total project.

How big and complex is your site?

Size does matter; larger sites should consider a level-2 audit. The complexity of your building is another important factor. If your building's common area energy is consumed solely by house lighting then a level-1 audit may be sufficient. If your site has a central hot water system, centralised air conditioning, ventilation fans, lifts or a pool then a level-2 audit may be the best option.

Any issues you would like to see investigated?

If you would like the energy audit to focus in detail on some particular issues at your site then you should consider a level-2 energy audit. In some cases energy metering and logging may be suggested for your site however this can significantly increase costs.

Top 10 Tips

1. **Choose the right energy audit.** When seeking quotes from energy auditors discuss whether a level-1 or level-2 energy audit is best for your site.
2. **Check the audit scope.** Make sure you discuss and outline the scope of works so you know exactly what you'll be getting.

and that it suits your needs.

3. **Want do you want to know?** At the start of the project make sure you discuss with your energy consultant any particular issues you would like to see investigated.
4. **Independent advice.** Choose an energy consultant who you know will offer independent advice. If an energy consultant is also selling a particular energy efficiency technology make sure their report will provide impartial and unbiased information on a range of energy saving options, not just the ones they sell.
5. **Be present for the site inspection.** Who better to guide the energy auditor around your site than you? It is a great opportunity to ask and answer questions about your site to get the most out of the audit.
6. **Provide information.** Provide as much information as you can - you know a lot more about your site than the energy auditor. The more information you can share the better the auditor will understand the unique aspects of your site and identify the best energy saving opportunities.
7. **Ask questions.** Energy audit reports may be long and highly technical. Make sure you ask your energy consultant about anything you don't understand.
8. **Act.** Once you have the energy report the important thing is to act. While there probably won't be the budget to implement all identified energy saving opportunities there should be some low cost options to get started on.
9. **Manage.** If you have had an energy audit and implemented some energy saving measures then your job is not done yet. Ongoing energy management is crucial. Make sure energy usage and costs are discussed and reported, at least annually but preferably at each Executive Committee meeting.
10. **Start again.** The energy efficiency market is changing rapidly, electricity prices are increasing each year, new energy efficiency products are always emerging, and government schemes and rebates are constantly changing. Large sites (> 100 apartments) could consider conducting a level-1 energy audit desktop analysis each year and a full level-2 energy audit every 3-4 years. Smaller sites could consider conducting an energy audit every 3-4 years.

Last Updated: Sat, 22/09/2012

[Login](#) to post comments



This site was made possible by an Environmental Grant from the City of Sydney

[Contact](#) | [Disclaimer](#) | [Privacy](#)

©Green Strata Inc 2011