



Investing in Energy Reduction - know where you stand

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EXECUTIVE SUMMARY

Lighting and air conditioning are commonly mentioned when talking about reducing electricity use in a typical office environment, but how do you know if these are your biggest offenders? And how do you know if any changes you make will actually have an impact?

If you don't know how electricity is being used in your office then you won't be able to determine the best way to reduce your electricity bills. It is vital to have an energy assessment and start to understand consumption patterns.

Energy reduction in the office environment is vital for effective business management – not only does it reduce your use of important resources, it reduces your bills too. By measuring consumption, serviced offices can start a dialogue with their tenants on how to reduce their consumption – to work towards a lean and green office environment!

From our extensive research and analysis of numerous business case studies, we have found regular patterns across similar business types. Here we examine a typical serviced office environment.

CASE STUDY: SERVICED OFFICE ENVIRONMENT

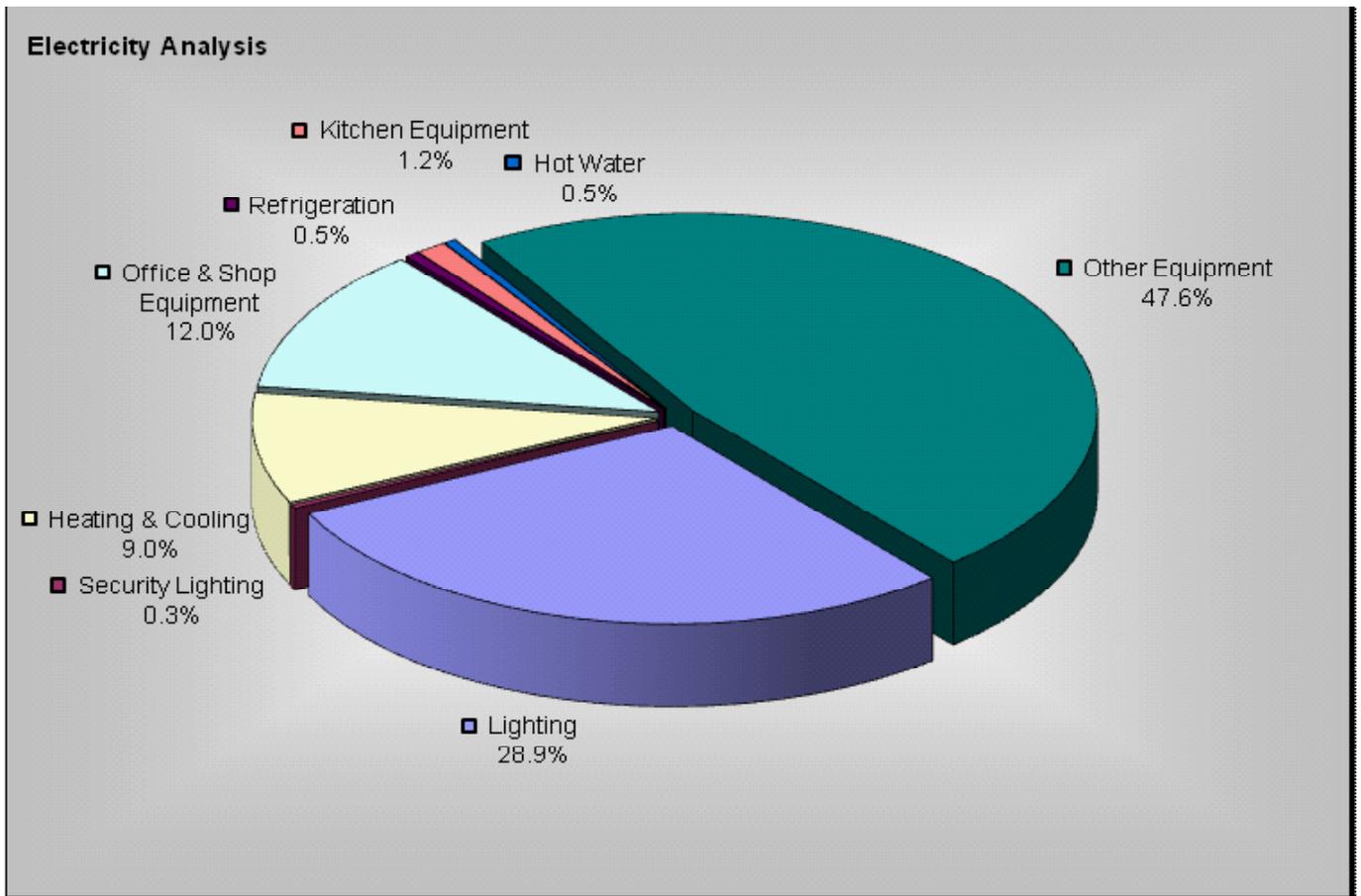
Assess Usage and Implement a Plan - A Serviced Office

Serviced offices are unique in that they provide a facility that a number of tenants share and use. Each tenant pays a set monthly fee which gives them unlimited access to phones, power points and lighting. This means a serviced office provider has no control on how much power is used by each tenant and therefore has to pay for any excess consumption. For example, a tenant can leave their 1KW computer on 24x7 without having to pay extra so there is no motivation for them to change their consumption habits.

In this case study we offer solutions to reduce energy consumption by targeting tenant usage.

A serviced office provider came to us to help him reduce his energy bills. Prior to the energy assessment we conducted, his major energy reduction target was lighting. However, our energy assessment clearly indicated that reducing tenant power usage would provide the greatest savings.

The following pie chart shows how power in the serviced office was apportioned after the energy assessment service – notice that 47.6% of the total is 'Other Equipment' which is tenant related.



GRAPH ONE: 47.6% of usage is related to tenant usage.

Reducing use of lighting is still a useful project; however even in these simple situations what is intuitive is not necessarily going to point to the best approach.

For example, the provider was considering using motion sensors in each room so that the lighting would switch off in a room when it was unoccupied. However the provider did not have a good understanding of how often the tenants frequented their rooms, therefore it was hard to know how effective sensors would be. A more viable option would be to upgrade the entire lighting system, guaranteeing a 30% reduction and a lower upfront costs as well as greater savings.

Energy Saving Upgrade Actions – The Energy Reduction Investment Plan

Following the onsite energy assessment, it was possible to develop an Action Plan that identified the best ways to save electricity. This included improving the efficiency of existing equipment as well as installing new equipment which is more energy efficient.

From the case study, the following strategies and upgrades are suggested for optimum return on investment:

1. Implement detailed study to understand tenant consumption.
2. Implement standby/timer technologies to rooms if appropriate.
3. Upgrade lights with T5 adapters to replace current T8 lighting.
4. Implement detailed study to understand tenant movement and room usage patterns.
5. Introduce motion detectors or alternate switching strategies for room lighting.

6. Consider upgrades to shared office equipment and implementing new technologies i.e.:
 - o Wireless Networking
 - o Upgrade Network Equipment
 - o Upgrade Computers
 - o Consider PABX based Phone Choices
 - o Consider fax gateways rather than expensive fax machines
 - o Replace photocopiers with higher star rated appliances

Some general no cost energy upgrades to any Serviced Office include:

- Help staff/personnel to use lights only when needed: place several switches throughout each area of a building to take into account the usage patterns of work areas. For example, avoid having one or only a few switches controlling lights in large areas.
- Educate all staff/personnel about best practice use of lighting: provide easy to read signage near all lights to remind staff/personnel to turn off lights when not in use (e.g. in storerooms, toilets, meeting rooms etc). Note: All personnel including cleaners, security guards and other contractors should be aware of best practice use of lighting.
- Ensure lighting is operating at its optimum level: keep lights and light coverings clean as dirt and dust reduces light output and the life expectancy of lighting.
- Minimise heat-producing equipment in air conditioned rooms: office equipment such as photocopiers, facsimiles, lights, computers, refrigerators and water chillers produce heat resulting in excessive use of air conditioning. Where possible, place photocopiers, faxes, printers and scanners in non-air conditioned or rarely occupied, naturally cool rooms, and turn off equipment when not in use.
- Switch off appliances instead of leaving on 'stand by': switching off all kitchen equipment at the power point saves you money. Equipment that is in 'standby' mode is still using up to 10% of overall energy use.
- Use cold water for dishwashers that heat water as part of their wash process. If your dishwasher heats water during the operating cycle do not connect the machine to the hot water tap.
- Use dishwashers only when full to conserve energy and water.
- Turn off electric hot water systems on weekends and holidays. Install a timer where possible to prevent reheating in high cost periods and to ensure energy savings.

Energy Reduction for Life

It is a common misconception that an Energy Reduction Investment Plan is a single, once-off event. To be effective, energy reduction must be a continuous cycle of yearly activities with specific goals for optimum return.