

OFFICE EQUIPMENT

In a typical office, equipment such as computers, photocopiers, printers, fax machines, refrigerators and water heaters can account for around 15% to 30% of total electricity consumption.

Using office equipment wisely and choosing efficient models can result in big energy and dollar savings.

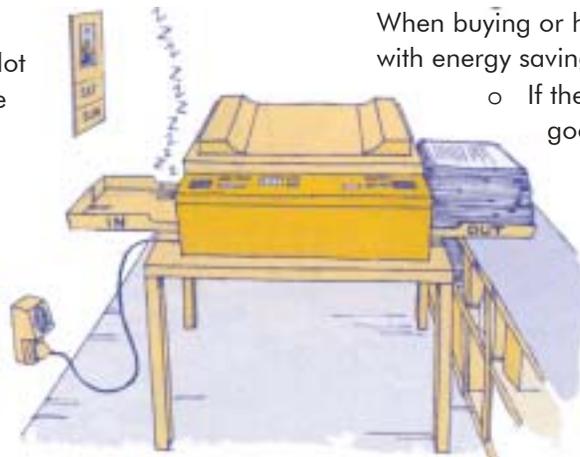
All office equipment produces heat which has to be removed by the air conditioning system to maintain comfortable temperatures, especially in summer.

By reducing the energy consumption of your office equipment you reduce the load on the air conditioning and save money here too.

PHOTOCOPIERS

It's the hot rollers in photocopiers (they fuse the toner to the paper) that use most of the energy. During copying, power consumption can be 200 to 1,300 Watts. Even when copiers are on stand-by the rollers are usually kept hot, so power consumption can still be 40 to 300 Watts.

- Significant savings can be achieved by making sure photocopiers are switched off at night and on weekends - either manually, or with an automatic time switch. Savings of 40% to 60% per year can be achieved for each photocopier, depending on how much the copier is used during the day.
- Even when switched off at the machine, some photocopiers have an electricity consumption of 7 to 30 Watts. Thus, at night and on weekends, the photocopier should be switched off at the power point.
- If the photocopier spends a lot of time sitting idle during the day, extra savings could be achieved by switching the copier off when not in use. A long warm-up time could discourage users from doing this.



Energy Star Ratings

The *Energy Star* Rating for office equipment was developed by the US Environment Protection Agency to encourage manufacturers of computers and monitors, faxes, photocopiers and printers to reduce the energy consumption of their equipment. Office equipment which carries the *Energy Star* rating usually has an automatic sleep mode (it switches to stand-by mode after a set period of inactivity), and lower stand-by power consumption. Compared to standard office equipment, savings of 50% - 60% can be achieved with *Energy Star* equipment under normal use. Note that the *Energy Star* mode may need to be activated when you first set up the equipment.

When buying or hiring a new photocopier, look for models with energy saving features.

- If the copier spends a lot of its time idle, it's a good idea to have a quick warm-up time - the best models only take around 30 seconds. This means it's less inconvenient to switch the copier off between runs. If it's impractical to switch the copier off when idle, look for a unit which has low stand-by power consumption.



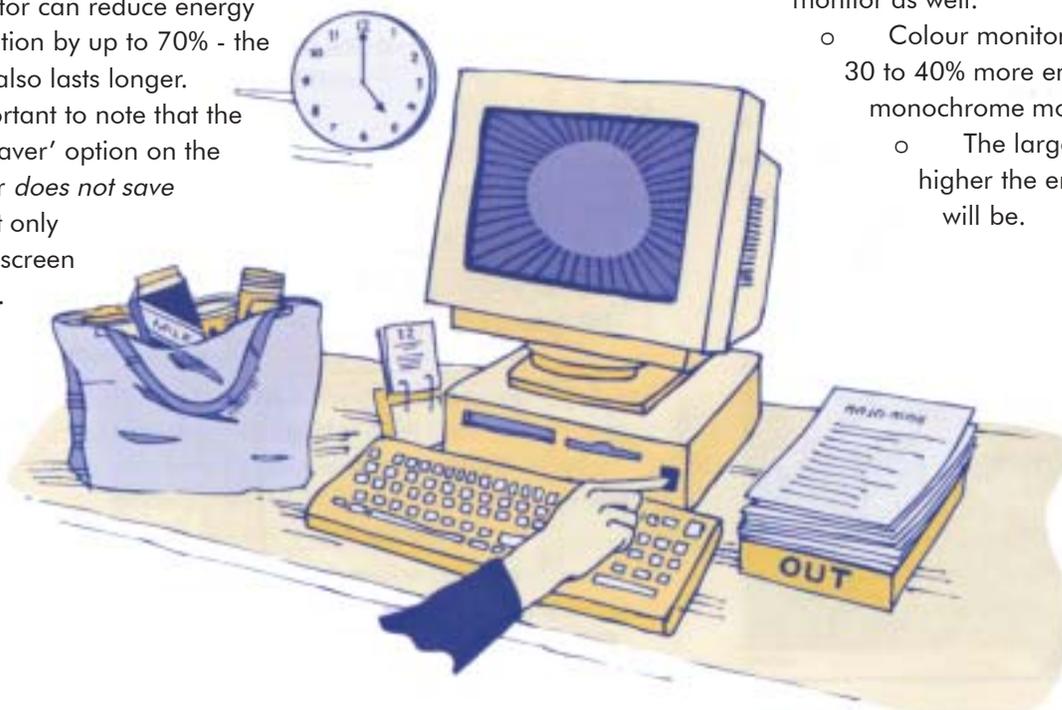
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- If the copier spends a lot of its time actually copying, then a low power consumption when copying is important.
- *Energy Star* photocopiers have automatic sleepmodes, and lower stand-by power consumption. An in-built timer can also be a useful option, as it allows you to select the times at which the photocopier is switched on and off. If the photocopier doesn't have an in-built timer, you can always use a timer on the power point.

COMPUTERS

A modern desktop computer costs about \$110 a year to run 24-hours a day, while a multi-media computer costs about \$150 a year. While the individual running cost is fairly low, in an office with a lot of computers the total running costs can be high. If computers are not switched off at the end of the day, a lot of energy can be wasted.

- The cheapest and most effective way to reduce the energy consumption of computers is to switch them off when they're not being used.
- Except for network or mail servers, it should be possible to switch desktop computers off at the end of the working day – this can give savings of around 70% per year for each computer, compared with leaving them on all the time.
- If re-booting your computer isn't a problem, always log out and switch it off when you are going to be away for more than half an hour or so.
- Re-booting computers does not damage the hard disk, and only uses slightly more energy than when they are running normally. Make all staff aware of this, so that they don't needlessly leave their computers on all the time.
- If you are going to be away for a shorter period of time, or if it's inconvenient to re-boot your computer, simply switching off the monitor can reduce energy consumption by up to 70% - the monitor also lasts longer.
- It is important to note that the 'screen saver' option on the computer *does not save energy*, it only prevents screen burn-out.



- The monitor on the network server or mail server can be switched off overnight even if the computer itself needs to keep running - in fact, the monitor can stay switched off most of the time, and be switched on only when you need to access information.
- Some modern desktop computers have software which can switch *Energy Star* monitors to their 'Energy Saver' mode - this switches off the screen when it is not in use and switches it back on when the keyboard or mouse is touched.
- Computers which have an 'Energy Saver' or 'Sleep' mode still use power, so should still be switched off when not in use.

When buying new equipment, look for computers and monitors with a low power consumption.

- Laptop or notebook computers consume up to 90% less electricity than standard desktop computers - however, leaving their battery charger on continuously may significantly reduce the savings as well as the life of the battery.
- If you don't like the small LCD screen of laptop or notebook computers, you can use them with an energy efficient monitor, and still save about half the energy.
- *Energy Star* computers and monitors are available - however, they don't always have the lowest energy consumption, so get details of the normal and stand-by energy consumption from sales staff to help you make the final decision.
- The monitor usually consumes more energy than the computer, so it's important to choose an efficient monitor as well.
 - Colour monitors generally consume 30 to 40% more energy than monochrome models.
 - The larger the screen, the higher the energy consumption will be.



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PRINTERS

Laser printers are similar to small photocopiers and so have a similar energy consumption. Power consumption on stand-by mode could be 25 to 60 Watts, while power consumption when printing could be 150 to 1,100 Watts.

Much of the advice which applies to photocopiers therefore also applies to laser printers.

- Switch the printer off overnight and on weekends - this can save \$20 to \$50 per year per printer.
- If the printer spends a lot of its time sitting idle, switch it off when not in use, or choose a printer which has a 'sleep mode' to automatically switch it off after a certain period of inactivity - *Energy Star* printers will have this feature. Note that in this case it's important
- to have a printer with a quick warm-up time.
- If it's not convenient to switch the printer off during the day, choose one with a low stand-by power consumption if it spends a lot of time sitting idle, or a low power consumption when printing if it is in continuous use.
- *Energy Star* laser printers generally consume more energy than inkjet and dot matrix printers, but the best of the new laser printers consume as little as 1 Watt when in sleep mode.
- Where the high quality and print speed of laser printers is not required, inkjet and dot matrix printers can be used - these generally use less than 10 Watts in stand-by mode, and less than 20 Watts when printing. As with laser printers, it is still worthwhile switching these printers off at the end of the day, or during long periods of inactivity.

FAX MACHINES

Most fax machines only spend a small portion of time actually sending and receiving faxes, and sit idle the rest of the time. This means that the stand-by power consumption is the biggest factor affecting their overall energy consumption.

- Thermal fax machines and inkjet fax machines have a stand-by power consumption of around 10 to 20 Watts, while laser faxes have a stand-by power consumption of around 30 Watts.
- Although a thermal fax machine costs less to buy, the thermal paper costs a lot more than the plain paper used by inkjet fax machines, isn't recyclable, and needs to be photocopied for long term storage.
- When shopping around for a new fax machine look for models with the *Energy Star* rating, which means it will have an automatic sleep mode and low standby power consumption.

OTHER OFFICE EQUIPMENT

Most offices have a kitchen or lunch room, and this is another area where energy savings are possible.

Water Boilers

Urns or water boilers left on continuously throughout the day can have a fairly high energy consumption, up to 90% of which might be wasted.

- In a small office it may be best to simply use a quick boil electric kettle to provide hot water when required.
- Where an urn or water boiler is used, choose the smallest unit appropriate to your needs, and make sure that it is switched off overnight - a timer could be used for this, and some models have these inbuilt.
- Timers can be used to switch urns and water boilers on just before coffee breaks and switch them off afterwards.
- Some of the modern water boilers are well insulated and recover heat from steam before it escapes – ask for information on the stand-by losses from the unit before buying.



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Refrigerators

As with urns and water boilers, you will be wasting energy if you have a refrigerator which is much bigger than you need.

- Refrigerators have Energy Rating Labels which help you identify the most efficient units - six star models are most efficient and one star models are least efficient, so when shopping around for a new unit choose one with a high star rating.
- Contact the Energy SA Advisory Centre for a copy of the brochure *Energy Efficient Fridges and Freezers* if you want more information on the Energy Rating Labels.
- Refrigerators should be installed in a well ventilated location which is out of direct sunlight and away from heat sources such as ovens, pie warmers, etc.
- The coils at the back of a refrigerator should be clear of the wall and should be cleaned from time to time to prevent the build-up of fluff.
- The freezer of a refrigerator should also be kept clear of frost - if there's a layer of frost more than 5mm thick, then it's time for a defrost, otherwise you will be using more energy than needed.

Ovens

Often food only needs to be re-heated at work before it is eaten. One of the best ways to do this is with a microwave oven - it uses considerably less energy than an electric or gas stove.



WATCH YOUR ENERGY BILLS GO DOWN

So you see, saving energy and reducing your energy bills is not that hard, is it? And remember, if you save energy you will also be helping the environment by reducing greenhouse gas emissions and air pollution. If you want more information so that you can reduce your energy bills even further, contact the Energy SA Advisory Centre. The Advisory Centre provides free, independent advice on all aspects of energy use and savings.



Where can I get further **energy efficiency** advice?

Log on to the *Energy SA* website - source the information through 'Saving Energy - in business' @ www.energy.sa.gov.au

Call our **Energy SA Advisory Centre** on 8204 1888 (Freecall™ for country callers 1800 671 907)

Visit us at 101 Grenfell St (groundfloor), Adelaide

email us at energy.sa@saugov.sa.gov.au



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