Guide to energy saving in the office

Use this guide to find out where you're already saving energy and how you can improve your energy-saving practices. It is divided into three sections: temperature regulation, lighting and equipment. Good control over lighting and equipment impacts on temperature regulation.

As this guide is purposed for all office users across the University, some suggestions may not apply specifically to everyone.

Temperature regulation: heating and ventilation

Use this section to understand what produces or loses heat, and what can be done to minimise energy wastage. Not all suggestions will be applicable to you, so pick and choose – any change, however small, will be of benefit.

These suggestions will help you fine-tune your control over temperature regulation, help to save energy costs (money that can be re-allocated into building improvements for example).

Energy-efficient installations, like LED lighting and strobic fans, have made estimated savings of **1,526,923 kWh** and **736 tonnes of CO2** in 2013/14 across the University. *These installations were made possible using the Salix Revolving Green Fund*[1]

Did you know?

- A 1°c rise in room temperature can increase your heating bill by 8-10%[2]
- Windows lose up to 40% of the winter warmth and gain 50% of the summer heat
- The ideal office temperature is between 17 and 19°c
- The room will not heat up faster if the thermostat is set higher than needed. Instead, it just wastes energy.
- Gas is about 3-4 times cheaper than electricity per kWh

Energy saving suggestions

Not everyone will be able to follow these suggestions but may help you fine-tune your control over temperature regulation. This can help to save energy costs, money that can be reallocated for building improvement for example.

If you do not have control over the heating in your office but would like to alter the temperature according to the 'energy-saving suggestions' you can contact the Building Management or the Estates Helpdesk, (x52424).

- ☐ To ensure good circulation of heat, move furniture away from the heat supply
- ☐ Remember that office equipment can produce considerable heat
- ☐ Take regular active breaks to maintain circulation and regulate body temperature
- ☐ Keep your colleagues informed of good practices
- ☐ Dress for the weather
- ☐ Retain or reflect heat from the Sun using your blinds
- ☐ To cool a room down, opening windows should be the last resort. First, turn the heat down and distribute the heat more widely (open a door)
- ☐ If you open a window, make sure all radiators are off
- ☐ Avoid unnecessary lighting – heat is emitted

Lighting

Lighting offers the potential to save energy, but is also important because it affects work performance. The levels and quality of light impact on alertness, motivation and attention to detail. Moreover, all lighting emits heat as waste energy (although newer types such as LED are much improved in this regard).

Did you know…?

- Up to 40% of a building's electricity is accounted for by lighting.
- 1 kWh of electricity from the UK grid emits 600g CO_2 .
- Nearly 55% of the electricity in the UK is produced from oil, coal and gas[3]; whereas in Iceland most of the electricity produced is from geothermal and hydropower plants.
- Office lights left on overnight for a year use enough energy to heat a home for 5 months

Lighting tips

- ☐ Avoid unnecessary lighting, like in an unoccupied room or when there is sufficient sunlight
- ☐ If your office has zoned lighting, make use of this by lighting only the areas of the office you are working in
- ☐ Take advantage of natural lighting, which has associated benefits on wellbeing
- ☐ Light personal desks/working space rather than whole room where possible

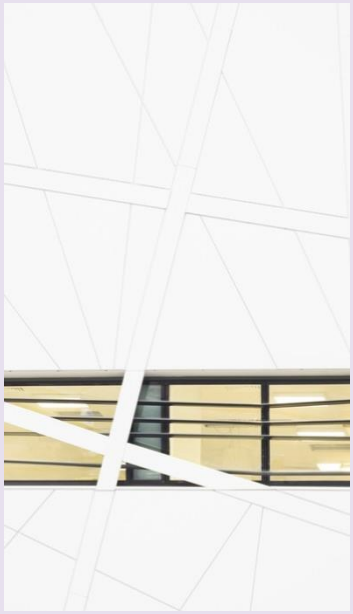
CASE STUDY: Manchester Cancer Research Centre (MCRC)

Thermal regulation: the MCRC maximises the potential of natural ventilation. 85% of the offices and 25% of the open plan office accommodation is naturally ventilated.

The building 'fabric' limits heat loss by 50%, reducing energy consumption.

The walls, floors, windows and roof are designed for 'thermal performance'. (How well a structure responds to external temperature fluctuations).

Lighting: central lightwell – maximises daylight in centre of building (less need for artificial lighting during daylight hours). The lightwell roof glazing is orientated to minimise unwanted solar gain to help reduce the associated cooling costs.



Equipment

Our reliance on electrical equipment for day-to-day work demands great energy use, but also significant potential to improve our energy-efficiency. Technology energy-efficiency is always improving, but it must be used correctly to make the most of these efficiencies.

Did you know?

- Stand-by is an energy-inefficient mode. Where equipment is used infrequently throughout the day or week, remember to switch off at the wall to reduce this electrical load.
- Screen savers do not save energy, try to make sure the power settings on the computer are set to turn the display off, rather than simply switch to a screen saver.
- Chargers left turned on at the wall still consume a small amount of electricity, even if they're not charging anything.

Energy saving suggestions

What can I do?	How will that help?
☐ Encourage staff to adopt energy-efficient behaviours	Develop an equipment policy (a set of guidelines) to standardise behaviours and advertise the benefits of energy-efficiency, e.g. the ideal fridge temperature
☐ Schedule regular maintenance sessions, including reporting broken equipment	Prolongs equipment lifespan. Ensures optimal energy-efficiency

☐ Share facilities and equipment, like kitchens and printers	Make equipment-sharing easy by creating an inventory – saves costs and wastage
☐ Turn off non-essential equipment at mains	You can save 60% of equipment running costs by doing so and you might be surprised what isn't turned on the next day!
☐ Install timers on equipment like photocopiers, printers and scanners	This is an easy way of ensuring non-essential equipment is switched off. If this is not possible, switch off printers/photocopiers when not in use.
☐ Turn monitor screens off when not in use (few minutes and end of day)	Getting into the habit of turning your screen off whenever you leave your desk means it's less likely to be left on at the end of the day.
☐ Only print documents when necessary. Think before you print	

For further information, visit...

[1]http://www.estates.manchester.ac.uk/services/psu/services/mechanical/energysavingschemes/

[2]http://www.york.ac.uk/energyconservation/fact_sheets/heating.pdf

[3]https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/513244/Press_Notice_March_2016.pdf

http://www.carbontrust.com/media/13113/ctv005_office_equipment.pdf

Your notes

Remember, you can add additional evidence to your action plan at www.manchester.ac.uk/10000actions