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1. Purpose

Since August 2018 the University's Energy Management System has been certified to the internationally recognised ISO 50001:2018 standard. By July 2021 the University reduced its Scope 1 and Scope 2 carbon emissions by 42% compared to a 2005 baseline. It now aims to be net zero by 2030. This Code of Practice outlines recommendations relating to good housekeeping measures intended to reduce energy use on campus. It is applicable to everyone who works, studies or lives on the Cranfield campus.

1.1. Covid Secure Sites and Ventilation

For the avoidance of any doubt, where the requirements below are in conflict with measures put in place by the University to provide Covid secure sites, the Covid measures ALWAYS take priority. AHU Control Dampers are to be set a proportion of recirculation where appropriate and the impact on CO2 levels is to be monitored to gauge whether sufficient fresh is being made available in the spaces concerned.
To ensure good ventilation it may be necessary to keep some windows open and some fire doors may also be wedged or propped open. Computers may also be left running 24/7 where there is a business need when working from home to use a Remote Desktop Gateway to access functionality only possible on a University LAN connected machine.

2. Temperatures

2.1. Space Temperatures

Heating or cooling more than necessary is very wasteful of energy. A one degree Celsius increase in temperature can use 10% more energy.

Temperatures in the indoor workplace are covered by the Workplace (Health, Safety and Welfare) Regulations 1992, which place a legal obligation on employers to provide a 'reasonable' temperature in the workplace. The associated Approved Code of Practice suggests the minimum workplace temperature should normally be at least 16°C. If the work involves rigorous physical effort, the temperature should be at least 13°C. There is no such suggestion for a maximum working temperature.

Facilities will endeavour to maintain comfortable working conditions in buildings whilst minimising energy use. Comfortable temperature levels for offices, residences, meeting rooms and lecture rooms will depend on air movement, humidity, radiant heat and other factors. It is very important for people to wear appropriate clothing for the prevailing weather conditions.

2.2. Heating

If a room is being heated, ensure the windows and doors are closed and set thermostats to the lowest comfortable temperature setting. Please remember that a thermostat simply sets the temperature required – turning it up higher does **NOT** make the temperature rise any quicker. It is important to ensure there is no cooling and heating operating simultaneously. If the heating is not working, please report it.

Do NOT use electric heaters without written permission – see Section 4.

As part of the Energy Campaign, work is being undertaken across the main Cranfield campus to improve the efficiency of heating infrastructure (replacement of radiators, installation of thermostatic radiator valves, lagging of pipework, and improvements in building insulation). Building opening times have also been restricted and Building Management System controls have been modified to reflect these so that buildings are not heated unnecessarily. Building heating and cooling schedules are under the control of Facilities. Approval to change these settings must be sought from the Director of Facilities and Head of Energy and Environment Team.

2.3. Cooling

Air conditioning will be avoided where possible. Where it is used it shall be set at an appropriate level and doors and windows shall be kept closed.

2.4. Hot Water Temperatures

Hot water temperatures will be set to ensure energy is saved whilst not compromising safety measures to guard against Legionella and scalding.

2.5. Reporting Issues

Any problems with the above should be reported as soon as possible. See section 10 for contact details.

3. Sensible Management of Conditioned Space

There are a number of measures, which will help to reduce energy use in a room:

- windows and doors shall not be left open when a space is being actively heated or cooled.
- the same space should not be heated and cooled at the same time (unless absolutely necessary for controlling specific laboratory conditions).
- when appropriate, close semi-automatic (or power assisted) doors manually to minimise draughts. These doors shut more quickly when operated manually.
- turn radiator thermostats down if a room is not being used or temperatures are too high.

4. Electric Heaters

These are expensive to use, produce high carbon emissions and can interfere with the correct working of the existing building heating system.

Therefore electrical heaters shall not be used in any University premises except where:

- they are installed as part of a fixed heating system;
- they are provided on a **strictly** temporary basis, by Facilities, when the existing building heating system has developed a fault. Once the fault is fixed the heaters must be returned;
- their use is agreed by the relevant persons (due to ongoing health issues) in order to maintain safe working temperatures. Relevant persons are: Technical - Facilities Managers; Residential - the appropriate area manager or Duty Manager.

All electric heater use must be logged with written permission provided to justify the decision and it will be reviewed periodically to ensure that use is still appropriate.

Departments and individuals are not permitted to bring in their own electric heaters for use on campus. Only those provided by Facilities are permitted and these will be controlled by a thermostat and timeclock.

5. Electrical Equipment

5.1. Turn It Off

Turn equipment off when not in use, or put it in to hibernate or standby mode. As described in 5.3below, computers, printers and photocopiers have PowerMAN controls installed but computers should be turned off at the end of your working day. Other common office items such as desk lamps should always be turned off when not in use. Similarly, laboratory and workshop equipment should also be turned off when not in use, but take care not to disrupt an ongoing experiment or to damage equipment. Some laboratory equipment is very sensitive to being turned on and off. If in doubt consult the laboratory and workshop technicians for best advice. It will be helpful to label equipment which is required to be left on for long periods, and to include a contact name if responsibility for its use is unclear.

5.2. Servicing, maintenance and calibration

Electrical equipment should be serviced / maintained / calibrated in accordance with the operating manual, to ensure efficient operation.

5.3. Managed IT Equipment

All managed IT equipment, e.g. laptops, desktops, printers/photocopiers are power managed to ensure they are as efficient as possible. Power management software, PowerMAN, is installed on all PCs (unless a specific exclusion has been agreed) to ensure they enter a hibernation state when no activity has been detected for a given period of time. Multifunction devices such as printers/copiers have similar controls in place. This saves the University a large amount of energy and also ensures PCs are secure whilst people are away from their desks. N.B. It is **VERY** important to close all databases before leaving your PC unattended; this ensures the best performance of PowerMAN and is also a data security requirement.

5.4. Use Timers and Automatic Settings

To ensure that equipment is turned off when not being used, make use of automatic shutdown settings or use external timers to switch equipment off out of normal working hours.

5.5. Unused Fridges in Laboratories

When laboratory fridges are not in use for storing experimental samples they should be unplugged, cleaned and left with their doors propped open until they are needed again.

5.6. Provide Clear Instructions

Instructions shall be in place to clearly identify who is responsible for switching off equipment when leaving a lecture/meeting room, e.g. the last person to leave the room.

6. Lighting

Lighting is provided for safe and effective working. When lighting is not needed it should always be switched off, when possible, except where it is required for emergency access/exit ways. Many lights are now controlled by motion and light level sensors and will switch off, and/or dim down, automatically to provide sufficient artificial lighting considering natural daylight levels and occupancy. There will be a deliberate time delay before lights switch off to ensure safety.

7. Buildings

7.1. Energy Certificates

It is a legal requirement for a valid A3 size, colour, Display Energy Certificate (DEC) to be displayed in a prominent place, clearly visible to the public, in every building over 250m^2 which is frequently visited by the public. An associated Advisory Report must also be held on file for every such building and be made available if requested. The University's DECs will be updated as required.

Energy Performance Certificates (EPCs) will be provided for all buildings upon construction, sale or rent in accordance with applicable legislation.

7.2. Energy Reporting

Regular reports are provided on the intranet highlighting the energy use of the main buildings on site. In January 2023, an energy Dashboard was developed to make it easier for staff and students to view this data and this has become a key resource in our energy saving campaign. Data is reviewed weekly by the Energy and Environment Team and there are regular update meetings with building Energy Champions to discuss saving opportunities.

8. Procurement

Equipment purchased by the University shall have the highest energy ratings where ratings are available. If less efficient energy equipment is to be purchased this shall be justified on a whole-life cost basis. Potential suppliers must be informed that selection of a particular goods or service will be partly based upon the supplier's energy efficiency performance.

9. Planning Projects and New Facilities

When planning projects or new facilities which:

- could have an impact on building heating, cooling, ventilation, or lighting, or
- involves the introduction of controlled temperature equipment, or
- involves the installation of process equipment with a rating of 5 kW or more,

the Energy and Environment Team shall be consulted by the PI before a proposal is submitted, as metering may be required, and recharging of energy costs may be necessary. For process loads expected to be 50 kW or more, considerations around site load management will apply.

10. References and Links

Links to the following key documents can all be found on the HUB (staff) and My Cranfield (Students)

Cranfield University Energy Policy

Cranfield University Energy and Carbon Plan (updated annually)

Search : “Our Sustainable university” and click on “Energy and Carbon Management” (The HUB)
Search: “Sustainability” and click on “Environment policies and governance” (My Cranfield)

The Energy Dashboard can also be accessed through these portals.

Search: for the “Our Sustainable university” page and click on “Energy Monitoring Dashboard”

Search: for the “Sustainability” page and click on “Energy Monitoring”

The University’s website also includes relevant documents in the Carbon and Energy Management page:
https://www.cranfield.ac.uk/our-sustainable-university/carbon-and-energy-management

11. Contacts

Report faulty heating, lighting, cooling and ventilation equipment to the Facilities Management Team via FacilitiesManagementTeam@cranfield.ac.uk.

Send suggestions for practical and cost-effective energy efficiency improvements to green@cranfield.ac.uk.

To open discussions regarding planning of projects and new facilities with the Energy and Environment Team, email: energyandenvironment@cranfield.ac.uk

12. Document Control

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