



## Policy Coversheet

<b>Policy Title:</b>	Green IT Policy
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<b>Committee/ Office- assigned reference number: (if applicable)</b>	
<b>Name of Committee/ Office which approved the policy:</b>	Information Technology Policy Committee (ITPC)
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<b>Expiry date/ Validity period:</b>	Annual
<b>Reference number of policy which this replaces: (if new policy enter 'New')</b>	NEW
<b>Office responsible for developing the policy:</b>	Information Systems Services
<b>Name of the person completing the coversheet:</b>	Rachel Fligelstone
<b>Classification category of Policy: (select from list below)</b>	vi)

### Policy classification categories

Policies & procedures for or relating to:

- |                                   |                                     |
|-----------------------------------|-------------------------------------|
| i) Conducting University Business | viii) Health and Safety             |
| ii) Academic services             | ix) Estate management               |
| iii) Student services             | x) Complaints                       |
| iv) Human resources               | xi) Records management and data     |
| v) Recruitment                    | xii) Research                       |
| vi) Resources                     | xiii) Charging regimes and policies |
| vii) Equality and diversity       | xiv) Other (please describe above)  |

Please email a copy of the policy with a completed coversheet attached to: [governance@lancs.ac.uk](mailto:governance@lancs.ac.uk)

# Green ICT at Lancaster University: Institutional Policy

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*Approved by IT Policy Committee on 27<sup>th</sup> January 2010*

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## 2 Document Purpose

The purpose of this document is to take forward agreed action from March 2008 ITPC and detailed in the document presented: “Energy Conservation and PCs (ITPC/0803/E)”. Furthermore, to establish institutional agreement on a Green ICT Policy.

## 3 Goals

The goals of the policy are as follows:

1. **To reduce the ICT carbon footprint:** To reduce carbon emissions generated by the University’s ICT infrastructure, by the devices attached to it, and by changing the ways in which these devices are used. We expect to determine that a significant proportion of the institution’s electricity consumption is for the ICT infrastructure and are preparing policy that will help to reduce it.
2. **To reduce the institutional carbon footprint:** To help reduce total carbon emissions by better use of ICT for institutional processes. Targeted investment in ICT can actually be used to reduce the overall carbon footprint of the institution. We expect that some policy changes drive by the HECMP project may have requirements for ISS projects and policy changes finally approved by ITPC.

## 4 Drivers for Policy Change

“A 60-80% cut in carbon emissions will demand doing different things, not just doing things differently. The winners in a low-carbon economy will think differently.”<sup>1</sup> Just as money is a constraining resource, so carbon will become a constraining resource. Focusing on carbon emissions will be a long term change for the institution with long term implications. Ignoring environmental issues will be an expensive option for the university as:

- The cost of energy is increasing significantly
- Green credentials are increasingly in the minds of students as they decide where to study

As part of a wider initiative, in conjunction with the Carbon Trust, ISS is developing its strategy for reducing the carbon footprint of ICT at the university and the university itself. The university is targeting a 10% reduction in electrical power consumption for the academic year 08-09. Current supply capacity for 08-09 is 7.9 Megawatts so a 0.8 Megawatt saving is required.

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<sup>1</sup> Simon Mingay, Gartner, May 2008

## 5 Groups targeted by the Policy

It is useful to consider what the policies mean for service providers and for different groups of users. The main providers of infrastructure and services are ISS and Faculties/departments. When considering the different opportunities for carbon emissions reduction through ICT, the logical groupings for computers are as follows:

### Computers

- A. Students personal computers (e.g. in residences)
- B. Public Access Labs and Teaching Space PCs
- C. Staff computers (for administration)
- D. Staff computers (for research)<sup>2</sup>
- E. Point of sale computers
- F. ISS managed servers
- G. Servers not Managed by ISS

## 6 Reducing the ICT Carbon Foot Print: Draft Statements of Policy

### 6.1 Students' Personal Computers

1. **Power Management:** All students should power-down their computers and peripherals when not needed for use. Resident students can opt-in to a service which will automatically power down their PCs and monitors at the end of the working day.
2. **Power management:** Recommend the use of power devices that turn off peripherals when PC is powered off. (for example, <http://www.oneclickpower.com> )

### 6.2 Public Access Labs and Teaching Space PCs

3. **Power management:** Public access PCs that are not in use will normally be powered down at 10.00pm each day. Outside of normal office hours, public access PCs will normally be powered down after 60 minutes of inactivity when not logged on.
4. **Power management:** Public access PCs will normally be powered up 30 minutes before the start of each working day.
5. **Service management:** ISS will roll-out systems management software that will power up PCs overnight, apply patches and updates and power down.

### 6.3 Staff Computers (for Administration)

6. **Power management:** All users are required to power down their PCs and monitors at the end of the working day. There is no longer an ISS recommendation to leave staff PCs running overnight for application of software updates. There may be a small number of machines that will be exempt from this requirement; specific reasons for exemption must fall into a category approved by ITPC. Proposals for that categorisation will be identified through consultation with users and brought to May 2010 ITPC for approval” .
7. **Power management:** Recommend the use of power supplies that turn off peripherals when PC is powered off. (for example, <http://www.oneclickpower.com> )

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<sup>2</sup> Those computers that would need to be outside of power management policies as they play a direct role in research—for example, controlling research equipment or analyse research results for long periods of time.

8. **Procurement:** Staff will normally buy desktop systems that have certified low power consumption, and will normally buy from a centrally recommended source for which institutional or sector purchasing frameworks have been negotiated.
9. **Service management:** ISS will roll-out systems management software that will power up PCs overnight, apply patches and updates and power down. This may offer opportunity for PCs to be powered up 30 minutes before planned arrival at work

#### 6.4 Staff Computers (for research)

10. **Procurement:** Staff will normally buy desktop systems that have certified low power consumption, and will normally buy from a centrally recommended source for which institutional or sector purchasing frameworks have been negotiated.
11. **Procurement:** Server purchases for research will balance performance and power consumption; following the same guidelines as for ISS data-centre hardware (outlined below).

#### 6.5 Point of Sale computers

No specific recommendations.

#### 6.6 ISS Managed Servers

12. **Procurement:** Procurement for server software will give preference to systems that we can deploy in our virtual environment.<sup>3</sup>
13. Data-centre hardware procurement will give preference to suppliers:
  - a. Who can supply products that consume less power for a given level of performance
  - b. Present figures on the embodied carbon in their products
  - c. Whose products contain less embodied carbon (when comparison is possible)
  - d. Provide modular upgradeable hardware, and extended warranties that can extend the effective life of the supplied product

#### 6.7 Servers not managed by ISS

14. Virtualisation: independently managed computers can be virtualised on ISS hardware at the owner's request at no end user cost if the old physical hardware is passed to ISS for decommissioning and disposal. Management of the virtual computer will not necessarily change server administration responsibility.<sup>4</sup>

#### 6.8 Machine Rooms

15. **Energy Efficiency:** Only computer rooms that have energy efficient cooling systems (e.g. utilising 'free cooling' technologies) will be used at the University beyond July 2011. As an

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<sup>3</sup> In order to reduce the cost of maintaining ISS services and to reduce the electricity and carbon required to provide those services, ISS have embarked on a programme of virtualising server hardware (Part of the Consolidated Resilient Infrastructure programme). What may previously have taken a rack of forty servers, now takes a fraction of a single rack, with shared power supplies running more efficiently and providing sufficient computing power where it is needed on an as-needed basis. During the night, the memory and processor usage decreases significantly and servers that are not being used by the virtual infrastructure are turned off.

<sup>4</sup> Monies that would be spent on research computers from research grants would still need to be spent as usual.

institution, we will set an annual target of less than 25% computer power consumption overhead for cooling (where normal is between 30 and 50%)

16. ISS will make space available in energy efficient machine rooms in order to retire inefficient machine rooms by migration of services (particularly, migration of services to virtual hardware)

## 6.9 Process Improvements

17. **Printing efficiency:** The institution will adopt as a default duplex printing, and the use of recycled paper in all but exceptional circumstances.
18. **Printing power reduction:** As part of institutional procurement practices, we will normally select printers that have low power consumption
19. **Reduce Reliance on Printing:** As part of ongoing institutional process reviews, we will seek to remove printed paper requirements from institutional processes wherever feasible

## 6.10 Recycling

20. **WEEE:** The university will follow the Waste Electrical and Electronic Equipment (WEEE) guidelines (WEEE) as set out by the government.<sup>5</sup>
21. **Consumables:** as well as providing recycled paper for printing, the institution will ensure that consumables (such as printer cartridges) are recycled.

## 7 A Carbon Reduction Target

The HECMP Carbon Emissions project will target a 20% reduction in university carbon emissions by 2020 and an 80% reduction by 2050. At this stage, it is not possible to say for certain whether the policies recommended in this document are sufficient to reduce the ICT footprint by 20%. It is recommended that specific targets for reducing ICT power consumption are developed by the HECMP and those targets reported to ITPC in early 2009, along with further recommendations on reducing ICT power consumption.

## 8 Reducing the Institutional Carbon Footprint

This section seeks to influence other institutional business policies and processes; it highlights areas for exploration of ICT as a tool for carbon reduction.

Andrew Meikle is a member of the HECMP project team and will act as liaison between ITPC and that team. THE HECMP team will have its recommendations drafted by the end of the year.

Based on the experience of other institutions and best practice, the following kinds of initiatives may be proposed:

- Reducing travel requirements by providing ICT based opportunities for communication and collaboration, eg:
  - Email
  - Telephony
  - Instant messaging
  - Video conferencing

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<sup>5</sup> <http://www.environment-agency.gov.uk/business/1745440/444663/1106248/>

- Shared workspaces
- Replacing paper based processes with ICT<sup>6</sup> based equivalents
- Flexible working to reduce travel to and from the university
- Eco-efficiency (for example, remote printing: printing prospectuses in Malaysia rather than printing here and shipping them to Malaysia)
- Change processes to examine carbon accounting (ensuring just-in-time delivery may minimize inventory, but may be very inefficient from a carbon perspective)
- Use ICT to report on environmental efficiencies across the institution
  - A dashboard showing number of machines turned on versus number of machines in use
  - How power consumption looks month by month (taking advantage of the electricity metering project undertaken by Estates)

Andrew Meikle, 10<sup>th</sup> Oct 2008

Updated January 2010

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<sup>6</sup> The operational efficiencies that this type of replacement can offer are significant enough, that Green issues are secondary drivers for change.