THE UNIVERSITY of EDINBURGH

Sustainable Information Technology Group (SITG)

Wednesday 7 September 2016, 2pm

Cuillin Room, Charles Stewart House

AGENDA

1	**Minute** To *approve* the minute of the previous meeting on 19 May 2016 and *raise* any matters arising	**A**
2	**Sustainable IT Implementation Plan** To *receive* an update from the SRS Engagement Manager	**B**
3	**ICT in the Context of Reuse** To *receive* a project report from the Engagement Manager and Project Intern	**C**
4	**Draft Climate Strategy & ICT Contribution** To *receive* an update from the Convener	**D**
5	**IT Energy Footprint & Prioritised Projects for Energy Savings** To *receive* an update from the Director of ITI	**E**
6	**Sustainable Travel & Videoconferencing** To *note* a paper from the Director of SRS	**F**
7	**Utilities Programme Update – Pathways to 10% & Sustainable Campus Fund** To *discuss* an update from the Convener	**Verbal**
8	**Energy Engagement in IS** To *receive* a presentation from the SRS Communications Manager on the energy communications campaign and increasing the number of energy coordinators in IS	**Verbal**
9	**Sustainable ICT Procurement & Supply Chains** To *receive* an update from the Procurement Manager on the SPPT tool, ICT workshops and Fairphone	**Verbal**
10	**Any Other Business** To *consider* any other matters from Group members	**Verbal**

If you require this agenda or any of the papers in an alternative format e.g. large print please contact Jane Rooney on 0131 650 4375 or email jane.rooney@ed.ac.uk

A

UNIVERSITY OF EDINBURGH

MINUTE OF A MEETING *of the Sustainable IT Group held in the Cheviot Room, Charles Stewart House on Thursday 19 May 2016.*

Present:	Tony Weir (in chair), Director IT Infrastructure Fiona Carmichael, Computing Support Officer, Literatures, Languages & Cultures Paul Clark, Head of IT for CMVM Grant Ferguson, Head of Estates Operations Bryan MacGregor, Director of User Services Division Simon Marsden, Director IS Applications Division Fraser Muir, CHSS Chief Information Officer Euan Murray, Development Team Manager, Learning Spaces Technology Caro Overy, SRS Engagement Manager George Reid, Procurement Manager
In attendance:	Bradley Richards, SRS Project Intern, for item 2
Apologies:	Michelle Brown, Head of SRS Programmes Rab Calder, Energy & Utilities Manager Dave Gorman, Director of Social Responsibility and Sustainability Urte Macikene, EUSA VP Services Bruce Nelson, College Registrar, College of Science & Engineering

1 Minute **A**

The minute of the meeting held on 18 February 2016 was approved as a correct record. In the absence of the Convener, the Director of IT Infrastructure chaired the meeting.

SITG welcomed new member Grant Ferguson, Head of Estates Operations, replacing Geoff Turnbull, and Bradley Richards, SRS Project Intern, in attendance for item 2.

2 ICT in the Context of Reuse **B**

The Engagement Manager presented a mid-term report on the project, which aimed to develop a process and business case for PC reuse at UoE, in consultation with relevant stakeholders across the institution. CHSS was being used as a test bed, and SRS were liaising with the Turing Trust on space and ECCI on data. The Project Intern was now in post and investigating the potential for repair and reuse with UoE's primary partner Remade. One workshop had been held so far, with more planned for late June and early July. 36 PCs were ready for reuse and the project was on track to meet its targets by the set deadline.

The Blancco software had been procured. The tool included hardware testing as default, as well as internal and external checks, had an impressive pedigree, and cut the time taken from 4-7 hours down to a flat deadline of two and a half hours. 500 licences were allocated, but the number available was unlimited. One issue was the physical licence dongle that needed to be attached to the PC. A group of volunteers would get together to investigate how to do this over the network.

Action – TW to nominate a representative from ITI.

Members agreed to emphasise the product's InfoSec level 5 certification, rather than engage in proof of concept activity such as trying to recover data from wiped disks, assurance being a key motivator in opting for a commercial product. The Chief Information Security Officer and University Records Manager had signed off on Blancco.

Action – CO to follow up with TW.

Next steps included PC sourcing and policy integration. There was a challenge in sourcing machines as the supply depended on school activity, and replacements tended to be seasonal. The flow of reuse and replacement had peaks, with none expected during exam time, picking up over the summer. It was recommended that lessons learned from the project be incorporated into the current policy, rather than developing a new one. Having secured sufficient storage space, Phase 2 would investigate available technologies.

Two-hour training sessions were available as part of the Reuse Hoose programme of events, initially for waste coordinators, then for staff more generally. If uptake was low they would be opened up to students. These sessions would build skills that were also useful outside of work.

Action – CO to target the IT Forum for staff who already hold responsibilities in this area, with a view to presenting at upcoming meetings and promoting the training.

Action – CO to use the EUSA Class Rep scheme to target students from October.

3 Climate Strategy Review & ICT Contribution **C**

SITG noted an update on progress of the new University Climate Strategy, which had been well received at PSG in April. The previous Climate Action Plan had not succeeded due to a lack of analysis of the targets set and excessive emphasis on action from within Estates. This direction setting paper proposed a whole institution approach. The SRS Engagement Manager outlined the process for sign off of the strategy, the role of the proposed Sustainable Campus Fund, and how contribution from IT would feed in. Next steps would be finalising the strategy, developing a three year Implementation Plan, and looking into energy management and renewables (both on and off site, including power purchase agreements). SITG expressed strong support for investigation of UoE's options with regard to renewables.

Action – All to share any further comments with the Secretary.

4 Sustainable IT Implementation Plan **D**

The SRS Engagement Manager updated the Group on progress since the last meeting. Printing had 812 Xerox machines across campus. A strategic review of the full network was underway and should indicate where UoE's population was and what devices they were carrying (aggregated and anonymised), yielding useful data for the Group.

Action – FM to liaise with Bob O'Malley.

Action – TW to pass on contacts to CO for specific actions within the Plan.

5 IT Energy Footprint & Prioritised Projects for Energy Savings **E**

The Director of ITI updated the Group on next steps on the IT energy footprint. It was essential to fully understand the data, investment and returns, and carbon implications before taking energy efficiency action. The footprint included a number of estimations in need of refinement. The initial review had covered IS-managed infrastructure, plus any equipment run by IS on behalf of the Colleges or other support groups. It was recommended that the Group investigate how a full data capture of UoE IT could be achieved, and agree an approach on how co-located or national service power usage should be considered in calculating the University's IT footprint.

The usage breakdown was roughly 67% data centres, 19% desktop, 18% network, representing 4% of the total UoE utilities bill. It was anticipated that these numbers would rise. If national infrastructure such as ARCHER was included then this increase would be significant. SITG recommended that national services not be included in UoE footprint, beyond calculating the percentage of the University's own usage. The consolidation that ARCHER represented drove efficiency and yielded energy savings at a national level.

A number of assumptions had been made regarding usage in the data centres as metering was patchy. It would be helpful to be able to establish actual power usage, as well as the

cost of supplying chilled water to the Appleton Tower data centre. Initial project work with Estates to resolve this had begun. Data centre strategy was being developed and would be broadened in scope to include consideration of energy efficiency. Additional metering would be installed and further sensors for ambient temperature would be added. The focus would be on KB and Appleton Tower.

The ACF was managed by EPCC and the School of Physics. As the lowest PUE at 1.2, UoE should be encouraging greater use of the ACF, for the good of the University and its sustainability agenda. However ACF was the only data centre that charged for power, so funding needed to be made available to address this barrier to consolidation. Currently use of the less efficient data centres was driven by affordability, however devolved energy would resolve this in the longer term. ACF drew the same base power as Penicuik. There was no suitable land nearby for a windfarm or similar project. The majority of ACF use was external and recovered from the research councils. Focus in the medium term would be on better containment, including addressing the white space above racks, reducing cooling, and raising chiller air temperature. The inlet temperature (currently around 22 degrees) did not need to be so low – modern kit could run at 35 degrees, though this could reduce its lifetime and lead to more failures. A new set point between these extremes would be advisable and could be incorporated into procurement practices and wider strategy.

Energy usage figures for the 13,200 managed Windows desktops were based on expectations of time spent live and on standby. Further analysis of the power saving policies applied to monitors and PCs was necessary. The default policy setting was for machines to go into standby mode after 10 minutes, and 63% of managed desktops had that policy set. For PCs that did not, users would have had to manually override this setting. This could be for valid reasons, but merited further investigation. When PCs were always left on, there was a 12% increase in power usage. Changing settings on individual PCs was time consuming and automated roll out across the whole population was preferred. Patterns of usage varied throughout the year. The number of managed Windows desktops was high as it included open access facilities, more than a 1:1 ratio of PCs to staff, and a large PGR community.

Action – TW to produce a breakdown by area.

The assumption was a single base station and monitor, but double monitor usage needed to be factored in. Monitors were not always included with cascaded PCs, but this was not an issue for the reuse project at present as donations of monitors and PCs balanced out. For HPC systems, replacement could be justified on the grounds of energy efficiency alone. Further work was needed on mobile devices to establish where and when they were being charged, in addition to looking at power management systems associated with the base unit.

Windows desktop PCs were by far the most common, the volume of mac or linux was much lower. Macs still needed to be folded in. It was less clear how to handle linux, though there had been some discussion about a possible framework. Initial audit figures should be available by mid-June. There would then be further refinement with estates, or estimation of power draw, and a fuller understanding should be reached by the meeting in September. Information gathering was underway for CHSS. As it would not have much impact, little pushback was expected and none had yet been reported. IT in Science & Engineering worked on a more devolved collegiate model, so it was necessary to work with the seven schools individually.

Action – TW to follow up with Informatics to get their network data.

More than half of PCs did not have the default standby after 30 minutes. 22% never went into standby. Modern PCs were very good at clocking down their power consumption when not in use, so the situation may not be as bad as it initially looked. There were valid reasons

for machines always being on, such as those desktops used for lower scale computational work. Usage was highest in CMVM at 37%. The next step would be to interrogate the data. There may be some virtual use as well as physical, and investigation would help clarify this. More awareness raising could be done around Wake on LAN. All network figures were estimates based on average power draw. The network was very old and had technical debt. Funding was in place to address this, though it was not expected to result in any significant saving.

Printers had not been included in the audits. Data was available for Select Print and almost all schools and support units had engaged with it, giving around 90% coverage, though some areas were still on contract with Canon. CMVM had an active project to transition. There was a Xerox rep based in the Main Library who could be consulted on the Xerox tools, including the sleep function. A wider survey was needed to understand the range of devices in use.

The missing piece was non-ISG usage, which would require a full energy audit, managed through college computing committees. SITG agreed to sharpen estimates for actual power draw, and follow up with Procurement on the percentage of laptops versus desktops, given the rising trend for screens and docking stations on desks. Currently the vast majority of machines were Windows based and IS managed. The Director of ITI confirmed that UoE was purchasing the most efficient kit possible, the area for improvement was around how it was operated.

6 Utilities Programme Brief – Pathways to 10% & Sustainable Campus Fund

SITG noted an update on progress towards achieving a 10% reduction from business as usual during 2015-2017 from a 2014-15 baseline. Beginning with a project definition, the utilities brief outlined broad areas for action, quantifying what could be achieved and identifying a lead in each responsible for delivery, and set out a series of assumptions. As the data would not always be available, the paper proposed a rule of thumb based on industry standards which could be proved to be reasonably robust. One assumption was that UoE would invest in ‘spend to save’ and a Sustainable Campus Fund was proposed as a mechanism to allow for this. Agreed in principle in March, the Fund proposal would be discussed again at Estates Committee on 25 May. The Head of SRS Programmes was following up on energy efficiency with Heads of Professional Services in each of the Schools.

7 Sustainable ICT Procurement & Supply Chains

The Procurement Manager updated the Group on the SPPT tool and ICT workshop. Results from the workshop would be presented more fully at the next meeting. Members discussed whether there would be merit in having a standing member from IS, agreeing that Procurement would instead consult with IS when needed.

8 Any Other Business

50 George Square

Estates could provide a breakdown of utilities spend for 50 George Square, including laptop charger units and separating out sockets in open access areas. More work would be needed to establish the extent of in-building metering and how far sub-metering went, in order to be able to monitor positive change. SRS Projects Coordinator Chris Litwiniuk was currently working in 50 George Square as part of an ongoing energy engagement project. Robust data at building level was available for that location.

Action – GF to ask Rab Calder to get in touch with regarding this data.

SITG noted that the Meterology system was available as a tool to display current consumption centrally within buildings, as a potential driver for behaviour change.

A. Evidence Building	**Objective: To gather data to reach a broad understanding of the scale of the University's footprint associated with IT, including agreeing a boundary in line with the remit of the Group.**	**KPI: Number of areas/domains for which robust data has been produced and made available to SITG.**

Tasks	Colleagues Responsible	Colleagues to Consult	Dates	Outputs / Outcomes
A1. Agree SITG membership, remit and boundaries and define operational control in terms of IT (personal computing, distributed network & data centres).	Jane Rooney	SITG	February 2016	Streamlined membership including student representation. Achievable, fully developed, agreed remit.
A2. Establish a baseline of sustainability metrics in relation to IT infrastructure (to understand how significant in carbon terms the various issues are) and feed in to development of an energy consumption tracking tool.	Dave Gorman & SRS	SITG	September 2016	Robust data on relative energy and carbon contribution including overall power consumption of equipment and whole life costing.
A3. Set realistic and measurable baseline and targets for carbon emissions associated with IT (taking account of anticipated growth) & agree reporting mechanism.	Dave Gorman & SRS team with College reps?	SITG	September 2016	Agreed targets (relative or absolute?) and outline reporting structures through SITG to ITC & SRSC.
A4. Review the criteria (GHG Protocol or other) on carbon generated through shared services (e.g. ARCHER) and ensure noted in Carbon Scope document circulated to members	SRS Dept. - Matthew Lawson	SITG	September 2016	Agreed strategic approach & make recommendation to SRSC / ITC.

B. Pathways to energy efficiency improvements	Objective: To identify and enable IT efficiency improvement projects throughout the University, assessing the effectiveness and consequences of various opportunities to make energy, carbon and cost savings.	KPI: Number of projects identified and number of recommendations made for implementation (cost and carbon savings quantified where data is available).

Tasks	Colleagues Responsible	Colleagues to Consult	Dates	Outputs / Outcomes
B1. Develop and distribute resources/materials to increase awareness of sustainability actions and promote best practice, including integration of Conflict Minerals Policy.	SRS Dept. Joe Farthing	SITG	July 2016	New electronic materials to promote energy efficiency in IT, including information on the relative impacts of different pieces of equipment to drive positive behaviours.
B2. Compile a body of evidence and case studies relating to utilities efficiency IT actions undertaken at other institutions.	SRS Dept.– Chris Litwiniuk	SITG Energy Office	Summer 2016	Summary report showing actions, payback periods and links to any publications.
B3. Develop networks and potentially host an event to share best practice.	Jane Rooney & Caro Overy, Fraser Muir (convenor of EAUC Green IT Community of Practice)	SITG Energy Office	By October 2016	Event delivered to UoE staff and staff from other universities / partner organisations.
B4. Publish case studies on website and distribute to key stakeholders	SRS Dept. – Joe Farthing	SITG	Throughout 2016, as they become available	Case studies of University of Edinburgh sustainable IT achievements published on website alongside messaging on positive impacts including investment work with corporate partners and effects the University has globally.
B5. Identify any funding opportunities to support sustainable IT projects	Michelle Brown & Claire Martin	SITG	Ongoing	An understanding of the funding landscape and communicating this to

				stakeholders. (e.g. ZWS PC reuse project currently underway)
B6. Investigate potential use of wireless to map use of devices and monitor usage levels as staff and student numbers increase.	IS representatives (Bryan MacGregor?)	SITG Tony Weir	October 2016	Scoping potential to report on use of devices and provide report then establish timelines for future reports
B7. Investigate intelligent power consumption agent software, e.g. to switch off machines out of office hours, which could generate significant savings.	IS representatives	SITG Tony Weir	October 2016	Recommendations on feasibility / pathways to implementation.
B8.Develop and promote an energy standby policy which could be implemented for supported desktops.	IS representatives with SRS Dept. promoting	SITG Energy Office Tony Weir	October 2016	Recommendations on feasibility / pathways to implementation.

C. Pathways to resource efficiency improvements	Objective: To identify and enable IT efficiency improvement projects throughout the University, assessing the effectiveness and consequences of various opportunities to make resource savings.			KPI: Number of projects identified and number of recommendations made for implementation (cost and carbon savings quantified where data is available).
Tasks	**Colleagues Responsible**	**Colleagues to Consult**	**Dates**	**Outputs / Outcomes**
C1a Develop and distribute resources/materials to increase awareness of sustainability actions and promote best practice (including paperless working via One Drive).	SRS Dept. – Joe Farthing	SITG	Ongoing	New electronic materials to promote best practice in resource efficiency in IT to drive positive behaviours.
C1b Map printing behaviours and impact across the University to identify opportunities for more efficient printing and imaging use	SRS Dept. – Caro Overy and CHSS – Fraser Muir	SITG	By October 2016	Representative survey of printing behaviours across the University providing data for recommendations on changes.
C2. Develop and disseminate sustainable procurement guidelines / minimum standards for IT and support SPPT prioritisation exercise.	George Reid / Procurement SRS Dept. – Chris Litwiniuk, Liz Cooper IS representatives	SITG	April 2016	All staff with IT procurement responsibilities have a list of sustainability criteria, which are then embedded into procurement process.
C3. Compile a body of evidence and case studies relating to resource efficiency IT actions undertaken at other institutions.	SRS Dept. – Caro Overy	SITG	Summer 2016	Summary report showing actions, savings, and links to any publications. (Work together with energy related case studies for efficiency).
C4. Develop networks and potentially host a circular economy event to share best practice and link with academics.	Michelle Brown, Liz Cooper & Caro Overy	SITG	By October 2016	Event delivered to UoE staff and staff from other universities / partner organisations.

C5. Publish case studies on website and distribute to key stakeholders	SRS – Joe Farthing	SITG	End July 2016	Case studies of University of Edinburgh sustainable IT achievements published on website alongside messaging on positive impacts including investment work with corporate partners and effects the University has globally.
C6. Conduct a pilot project monitoring PC cascading within CHSS.	SRS Dept. – Alan Peddie	SITG	August 2016	Summary report showing methodology and impacts.
C7. Investigate potential savings and risks associated with circular economy / resource efficiency / internal and external reuse; advise on and facilitate schemes (including packaging take-back schemes)	Fraser Muir & Alan Peddie	SITG	July 2016	Develop and deliver solutions to issues around secure data erasure, storage and time constraints to drive greater reuse. Make recommendations regarding the acquisition of a commercial product to cleanse PCs to a set standard.
C8. Map risks and opportunities through ICT value chains via the SPPT prioritisation exercise engaging with academics and researchers at UoE.	SRS Dept. – Liz Cooper Procurement – George Reid & Stuart McLean	SITG	April 2016	Risks and opportunities prioritized. Academics and student researchers engaged in process. Living Lab project linking academics and practitioners.
C9. Initial investigation of a model to use around printing, including routes through Finance or Procurement to establishing metrics.	George Reid / Procurement SRS Dept. – Chris Litwiniuk IS representatives	SITG	September 2016	Agreed printing model including roll-out plan

D. Contribution to wider SRS themes	Objective: Investigate SRS opportunities in IT beyond energy & waste			KPI: Number of papers endorsed / recommendations put forward
D1a Scanning and research risks and opportunities within UoE supply chains and link with wider partnerships (e.g. conflict minerals, Electronics Watch)	SRS Dept. - Liz Cooper & Chris Litwiniuk	SITG	October 2016	Papers / briefings endorsed by SITG and escalated via SRSC & ITC.
D1b Ensure awareness of conflict minerals and the University's Conflict Minerals Policy is cascaded through all IS staff and those with procurement responsibilities for IT equipment.	IS Representatives	SITG	July 2016	Plan in place for communication, observing evidence of questions about conflict minerals being asked in procurement processes.
D2. Develop and promote the introduction of pilot schemes / opportunities around personal devices for staff to test internally.	SRS Dept.	SITG	July 2016	Schemes such as the addition of fair phones as an option for University telephony. Testing and promoting other Circular Economy related products and materials.

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Sustainable Information Technology Group (SITG)

Wednesday 7th September 2016

ICT in the Context of Reuse

Description of paper
This paper is the final output report of the Zero Waste Scotland funded project to enhance capacity for reuse of PC desktops within the University of Edinburgh

Action requested
SITG is asked to note the report and provide feedback on suggested recommendations, in particular the recommendation to continue an internal PC reuse service

Resource implications
The group may wish to consider the best route forward concerning the suggested ongoing provision of an internal PC reuse service. Resource would be required to continue this service.

Risk Management
Risks of considered options for recommendations are included within the body of the paper

Equality & Diversity
Although due consideration has been given to equality and diversity as a key element of the SRS agenda and we do not currently think that an Equality Impact Assessment is required, we will continue to monitor issues within our work.

Next steps/implications
Work on this project so far indicates the following issues may be of relevance for a subsequent phase of this project:

Consultation
This paper has been developed by the SRS Engagement Manager and circulated to the Project Board in advance of submission.

Further information

Author
Caro Overy, SRS Engagement Manager
with contributions from ZWS funded project Project Board

Presenters
Caro Overy, SRS Engagement Manager
Bradley Richards, PC Reuse Intern

Freedom of Information This paper may be included in open business.

PC Reuse at University of Edinburgh

Zero Waste Scotland Reuse and Repair Capacity Fund Project

Executive Summary

This Report provides an analysis and evaluation of the PC Reuse Project funded by Zero Waste Scotland through the Reuse and Repair Capacity Fund that took place January-June 2016. It examines the market and legal drivers that helped frame the Project along with specific opportunities available at the University found through the project. It looks at external donations, includes key findings from a carbon study performed by the Edinburgh Centre for Carbon Innovation, and a mapping of the internal PC reuse process developed. Finally, the outcomes of the project as well next steps and recommendations are detailed.

Findings from the carbon study demonstrated the benefits of PC reuse were significant: extending the lifetime of a single computer and monitor from four to six years avoids an estimated 190 kg of CO2e. The six month Project has resulted in a total of 174 PCs being reused internally, along with 257 other IT items such as monitors, keyboards and mice. This has saved the University an estimated £63,086 and 39,382kg of CO2e, and diverted 2,657kg of waste.

Key Recommendations

Within the University of Edinburgh, it is suggested that the following summary recommendations are taken forward

- Secure continuation of the internal PC reuse process developed. It is projected that an investment of £26,568 would lead to annual savings of around £120,000
- Expand PC reuse further both externally and internally to the University of Edinburgh as part of a wider move towards Circular Economy
- Adapt policy to account for and incorporate the developed PC reuse process
- Explore the possibility of including other IT equipment within the developed process
- Formalise maintenance and remanufacturing into the PC reuse process developed

Contents

Introduction

The Department for Social Responsibility and Sustainability ran a successful pilot of PC reuse from December 2014 to December 2015 with help from Information Services, Waste and Recycling and Records Management. This resulted in 420 PCs being diverted from recycling with 98 being reused internally and the remaining 322 being donated externally to Remade in Edinburgh, a local social enterprise.

Funding from Zero Waste Scotland from the Reuse and Repair Capacity Fund was awarded in late 2015. A Project Board was formed to help steer the project in order to fulfil the project milestones. The Board included representation from within the University from The College of Arts, Humanities and Social Sciences, the Waste Team, the Edinburgh Centre for Carbon Innovation (ECCI), and the Department for Social Responsibility, as well as external stakeholders Remade in Edinburgh and The Turing Trust.

Drivers

University Policy and Strategy

From an overarching perspective, the University Strategic Plan 2012-2016 commits the University as an institution to “make a significant, sustainable and socially responsible contribution to Scotland, the UK and the world, promoting health, economic growth and cultural wellbeing”. The Recycling & Waste Management Policy 2010 was developed in order to provide the University community with a clear understanding of our position within the framework of legislation and good practice around waste management. We are committed to continuing a legally compliant, environmentally sound and financially controlled practice with the setting, monitoring and achievement of key targets. In particular, by reducing the unnecessary use of raw materials, reusing products, and encouraging and enabling recycling, composting or energy recovery.

Market Drivers

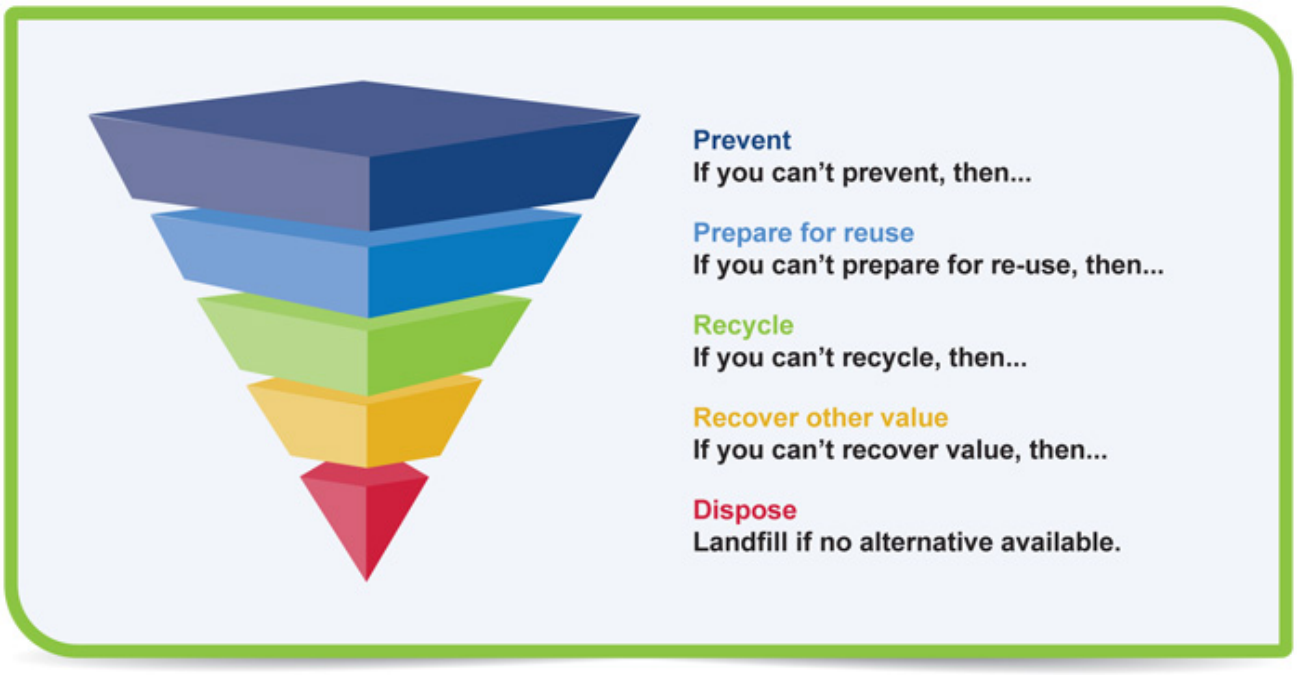
A report by WRAP (*Meeting the UK Climate Challenge: The Contribution of Resource Efficiency, 2009*) found that increasing reuse of key household products, in particular clothes, household appliances and electrical equipment, could reduce UK greenhouse gas emissions by an average 4 million tonnes CO_2e per year between now and 2020.

Further research by WRAP shows that annual UK retail sales of electrical and electronic products constitute around 1.4 million tonnes of materials in 180 million products, only 7% of which are reused, and around a third of which still goes to landfill.

The UK market value for trading pre-owned equipment is already worth up to £3 billion, and encouraging the trade-in of used TVs alone could grow UK GDP by over £750 million per year by 2020. This confirms that second hand equipment (whether sold or donated) is a valuable resource – financially and environmentally.

Legal Drivers

Regarding waste and environmental legislation, the intention is to reduce the risk of, and protect from, pollution as well as to reduce environmental impact. The Waste (Scotland) Regulation 2012 states a duty to move waste up the waste hierarchy.



As soon as an item is classified as waste (i.e. there is an intention to dispose) waste legislation automatically applies. Waste which is instantly reusable, can (if the right conditions are met) be reclassified as "non-waste" and redistributed. Waste which requires repair or refurbishment in order to then enable it to function in its original condition, can be reclassified in this way.

When it comes to reusing another person's/organisation's waste, those conditions usually take the form of registration to transport waste, and Waste Management Licence exemptions, to confirm that an organisation is permitted to carry out specific activities with specific wastes. These are granted and issued by SEPA and must be checked and confirmed with relevant processes followed by the organisation owning the equipment (in this case the University of Edinburgh).

Opportunities

Reuse at the University of Edinburgh has risen from 1% of all waste in 2012/13 to 5% in 2014/15. Numerous initiatives have helped to drive this. One of these is Warp it, which is used as the University's reuse distribution portal, where staff can advertise unwanted items or claim them for free. This is how we encourage, monitor and track reuse at the University. It is located at www.warp-it.co.uk/universityofedinburgh.

Warp it has 559 members (restricted to staff and PHD students) at the University. The site costs £2,500 to access and a further £1,000 in staff costs annually. Estimated savings since December 2013 to June 2016 are £100,000, 147,000 kg of CO2e and 14,000 kg of waste.

In the last four academic years, the University has disposed of almost 12,000 PCs (Fig1). An upwards trend can be observed, with projected 3,613 computers disposed of in the current academic year.

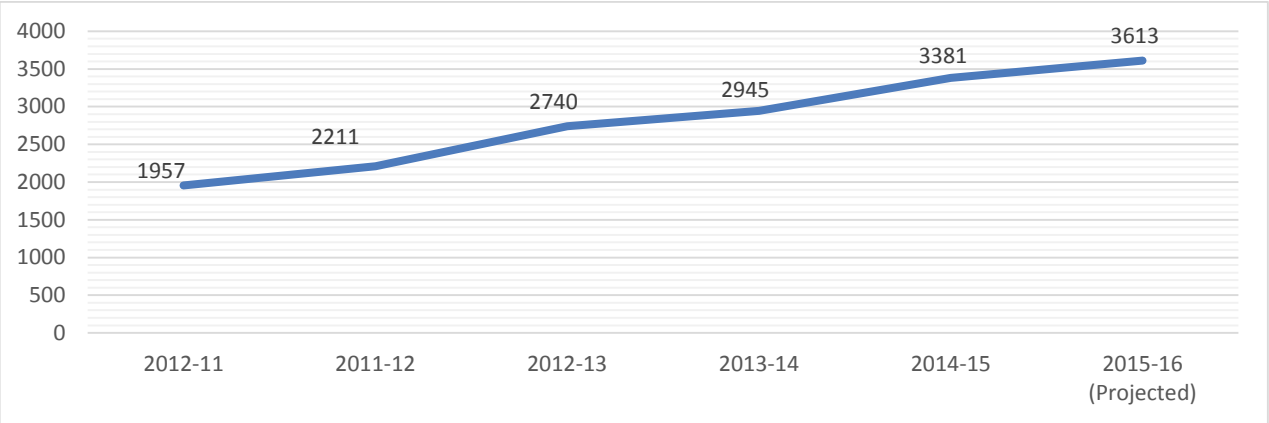


Figure 1 Number of PCs disposed of annually, taken from WEEE contractor reports

Information Services advised that PCs that are up to 5 years old should have satisfactory performance for office use and recommends replacing machines after this period. Our initial scoping shows that a significant number of machines currently being disposed of have not reached this age, and could continue to be used. Basic setup of a new PC costs £266 plus invoice costs and disposal costs, therefore significant financial savings can be made from maximising the use of each machine. From an environmental perspective, each PC has estimated lifecycle CO_2e emissions of around 190 kg and is reported as 10kg of recycled waste, if disposed via WEEE contractor.

Ad hoc cascading of IT equipment is informally facilitated by IS through mailing lists and on a department to department basis. The Reuse & Recycling of Computers and other Electronic Equipment Policy (2005) is the current document regulating reuse of PCs. The new data security policy has been endorsed with the use of Blancco data erasure software recommended by Frasier Muir (CIO, CAHSS), following consultation with relevant departments: IS, Waste, Records Management and SRS.

There is scope to recover machines from office moves and refurbishments and refits of high performance PC labs to capture PCs suitable for reuse in a way that minimises the operational burden. From December 2014 to December 2015 we found ca. functional 420 PCs within the University otherwise earmarked for disposal: 79% had been purchased within the previous 5 year period, and were therefore suitable for office use; 16% of the machines had been purchased within the previous 8 years, and were therefore deemed suitable for reusing externally; and only 5% were older than 8 years, and therefore were sent to CCL North to be recycled.

The market value of the machines that currently constitute the majority of computers disposed of varies from £40 and £140, if refurbished. While it is not currently feasible for the University to refurbish and sell those PCs, they could be considered for donation to partner organisations.

Details on partner organisations can be found below. The procedure for reusing the PCs can be found in Appendix 1.

Work with external organisations

The University of Edinburgh is increasingly being contacted by external organisations looking for donations of unwanted equipment. Work with these organisations helps us find reuse routes for unwanted equipment.

In order to ensure that we address the risks associated with transactions of this kind, any potential partner organisation has to fulfil a set of criteria. Though not exclusively, this covers the partner organisation having the correct SEPA exemptions and paperwork, properly inventorying the materials we hand over for reporting purposes, making sure there are no data implications by checking hard drives have been removed and covering logistical challenges by collecting materials themselves. It also has to make sure that the criteria we expect is covered before selling items on such as PAT testing, stress testing and refurbishing machines to an acceptable level. The full criteria can be found in Appendix 2.

Different approaches to dealing with requests have been trialled over the past 2 years with a view to developing a framework which will allow us to engage with current and potential partners in an efficient and low-risk manner.

Activities to date

Below is the Zero Waste Capacity Fund milestones set at the start of the Project which gives a rundown of activities within the project.

- Storage and infrastructure

The project requires storage. This can be provided on University campus but needs appropriate infrastructure and requires funding.

Two rooms were obtained at The Nursery located at High School Yards thanks to the Turing Trust. The Turing Trust are a local charity who aim to promote education and training through the use of information technology in sub-Saharan Africa. By reusing equipment they aim to provide training opportunities and skills development both in Africa and the UK whilst reducing waste and supporting a more sustainable and environmentally friendly society. James Turing (Director, Turing Trust) sits on our project board.

- Internship advertised and recruited

University of Edinburgh will secure the services of Bright Green Business to advertise for and recruit a full time intern for 6 months to be paid the living wage.

Bradley Richards was hired as PC Reuse Intern via Bright Green and has been in post since February 2016.

- Consultancy: Innovation

We will commission ECCI to produce a full carbon study of reuse of IT equipment in the University of Edinburgh. Work to be agreed January 2016 for delivery by end of project.

An ECCI carbon study was carried out by Jim Hart (Independent Consultant) June 2016. Highlights are included in this report with the full report available on request.

- Project coordination time

Evidenced within report documentation to amount to 10 days of staff time per month for 6 month duration of project.

Caro Overy (Engagement Manager, SRS Department) managed the project with Alan Peddie (SRS Project Coordinator) handling the day to day running and line management of Bradley Richards (PC Reuse Intern). Amount of time set aside for the project was accurate to that of time spent.

- Consultancy: Training in Repair and Reuse

This work will support the internship and building capacity through skills within the University around repair and reuse of IT equipment (specifically desktops).

Remade in Edinburgh carried out training with Bradley Richards to develop his repair and reuse skills. Feedback from Bradley was that it was helpful and enabled his work on the project.

112 PCs had to be refurbished in order to be appropriate for internal reuse from donations received. RAM upgrades, hard drive replacements and fan replacements were the most common parts repaired or replaced.

- Workshops: Repair and Reuse

Workshops to be commissioned and delivered to raise awareness and build repair and reuse skills within the University to take place March, May and June 2016.

Remade in Edinburgh carried out three workshops. The first was at a University event in March 2016, the Reuse Hoose. This was poorly attended with only 2 attendees with 7 spots available. The two latter workshops were carried out at the Main Library in June 2016 and were better attended with 7 attendees at each. Attendance was a challenge with these workshops, primarily due to timing in the academic year. Feedback from the sessions from attendees was very positive.

- Transport

Reserve transport funding required throughout to ensure transportation of desktop PCs for reuse. Departments reusing PCs should fund transportation internally, but where this is not possible, this money allows reserve funding.

Transport was provided internally by the University servitorial staff, managed by Steve Downes (Servitorial Services Manager).

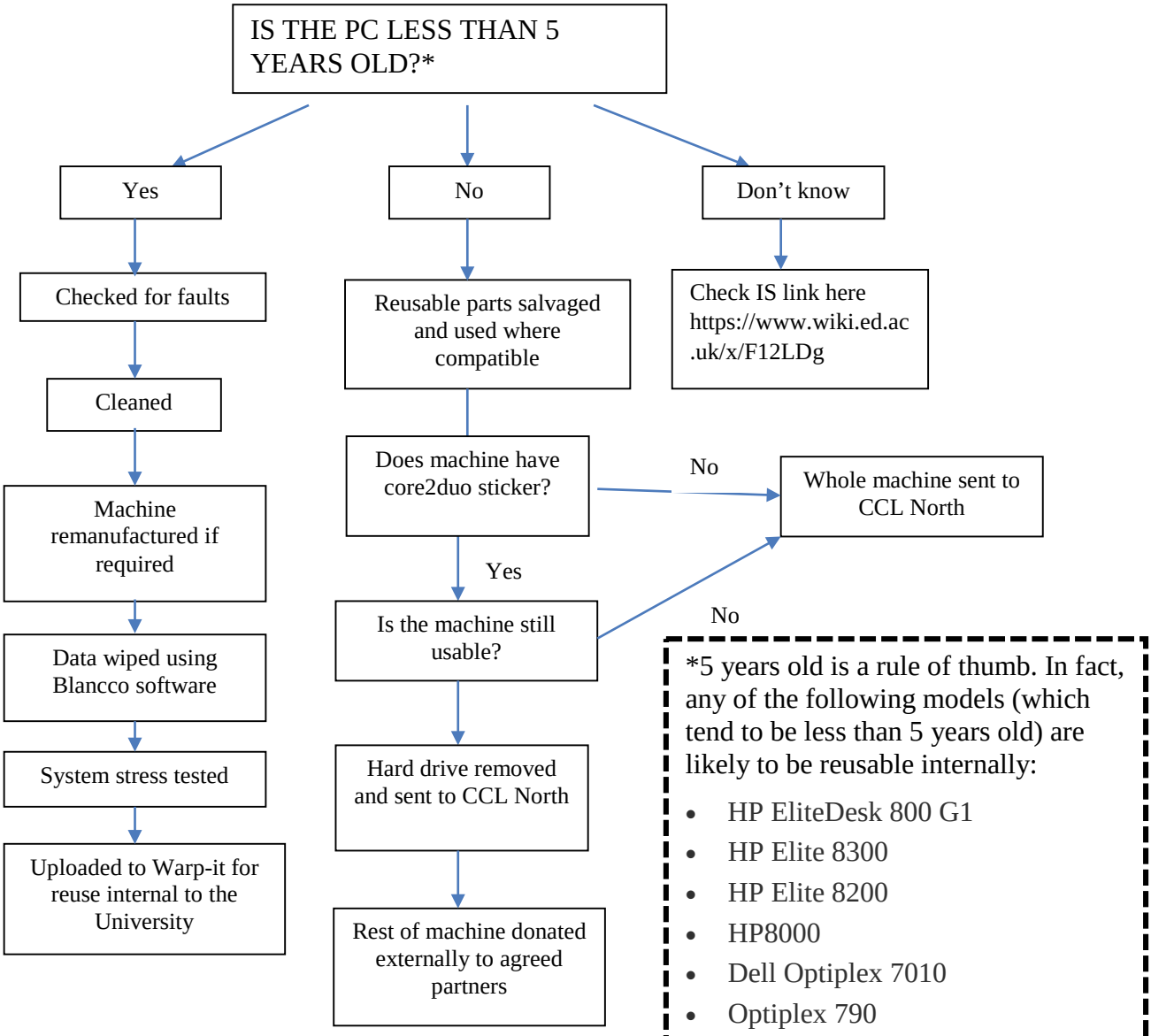
- Reuse of Desktop PCs

The project has a target of internal reuse of 100 desktop PC machines over the period of January-June 2016. Reuse of the machines will be tracked through WARP-It reuse portal, so figures will be reported in the final report.

174 PCs were reused internally over the project period, exceeding this target.

PC Reuse Process

Once desktops are identified for reuse the below process is used to ascertain what happens with each machine.



Carbon Study

The ECCI (Edinburgh Centre for Carbon Innovation) undertook a carbon study to give a more detailed appreciation of what could be achieved with regards to the carbon footprint of PC reuse. It also investigated issues raised around the energy efficiency of keeping older IT equipment in use rather than replace with newer models. Jim Hart (Independent Consultant and ECCI Associate) wrote the report, which is available on request.

Key findings of the report were as follows:

- In terms of carbon emissions avoided in the new computer supply chain, the benefit of reuse is significant. Extending the lifetime of a single computer and monitor from four years to six years avoids approximately 190 kgCO2e
- If fully incorporated into standard practice, PC reuse would bring savings conservatively estimated at 380,000 kgCO2e per annum (equivalent to keeping more than 150 cars off the road)

- In terms of energy efficiency, the benefits of using an older computer (i.e. making best use of the carbon invested in its creation) far exceed any benefit from any potential energy efficiency gain from replacing it, even under optimistic assumptions around improvements in energy efficiency

Outcomes

Below are comparative figures for the same time frame of the initial internal pilot phase (Feb-July 2015) and the Zero Waste Capacity Fund project phase (Feb-July 2016), the difference in delivery being the presence of a specified role to undertake PC reuse and an appropriate storage and workshop space, both funded by the Zero Waste Scotland funding.

174 machines were reused, along with 257 other items. The savings are estimated at £63,086 and 39,382kg of CO2e, with 2,657kg of waste diverted with an investment of £25,000.

Items reused	Pilot Phase (Feb-July 2015)	Zero Waste Phase (Feb-July 2016)
PCs	39	174
Monitors	7	132
Keyboards/mice	4	125

Savings made	Pilot Phase (Feb-July 2015)	Zero Waste Phase (Feb-July 2016)
Financial	£10,909	£63,086
CO2e	6,631kg	39,382kg
Waste	273kg	2,657kg

Recommendations and next steps

Continuation of internal PC Reuse service through a dedicated role

There is a clear business case for continuation of a PC Reuse service internal to the University shown by the pilot and funded phases. The provision of this service was made through the employment of the IT Reuse Assistant in the context of the funded project, and it is likely that without dedicated staffing, the service would cease. Total investment of £25,000 in the funded project led to approximately £63,000 savings. The increase in capacity shown in the funded project would not have been possible without the hiring of the IT Reuse Assistant who was able to deal with day to day issues. An equivalent role within the University should be explored in order to continue the work that the project has shown is possible.

Since benefits of PC Reuse are dispersed across schools and departments, it is appropriate that such a role be based within Corporate Services Group and specifically within the Department for Social Responsibility & Sustainability, where the activity can be fully embedded within broader programmes of work on the Resource Efficiency and Circular Economy theme.

We are currently unaware of any equivalent internal PC Reuse services at other Higher Education Institutions, so there is scope for sharing of this model of best practice through national networks such as EAUC.

The following table outlines costs, benefits and risks of providing the basic PC reuse service in 3 different ways:

Option	Costs	Benefits	Risks
1. **Funding for dedicated IT reuse post in SRS**	Cost and overheads of new FTE post, including administration and line management	Centralised service provided across Schools and Colleges with clear point of contact, reducing time and effort needed across	Close communication with all Colleges and Information Services required. Challenge to flat cash budget, although

		the institution. Ability to incorporate new aspects of reuse as they arise through sustainability networks. Risks controlled within University.	savings show a clear business case.
2. Information Services absorb cost and provide service	Cost and overheads of new FTE post OR additional workload in existing roles	Technical expertise for service provided. Risks controlled within University.	Lack of capacity to expand and adapt role through sustainability networks. Unclear how the role would be justified in IS strategy
3. External service provision through outsourcing e.g. through Remade in Edinburgh	Arranged contract with external provider, to be determined	Expertise exists, could strengthen external networking and sustainability aspects	Data management and integrity when dealing with external party, due diligence requirement. Risks to ongoing operation as lack of control over third party business.

If Option 1 were taken, to achieve a projected annual saving of around £120,000, the following investment in the functional IT reuse service would be required:

Item	Annual cost
Dedicated IT Reuse Assistant	£22,686 (including on costs, predicted FTE UE04)
Blancco data wiping software	£2,382
Secure storage space	£1,500 (based on existing arrangement)
Total cost	**£26,568**
Projected annual saving	***£120,000*** *(based on funded project experience)*

Process

We should continue working with external and internal partners to move our waste up the waste hierarchy and improve performance, in particular improving the developed PC reuse process further. We should work with Zero Waste Scotland to apply for Revolve accreditation in line with safe, secure and sustainable reuse processes used outside of the University. It is estimated that this would involve 6 to 10 days of staff time over a six month period.

A scoping exercise across the University should also be performed to identify areas that could be integrated into the process e.g. could machines that are less efficient or older be used?

The reuse of other IT items should also be investigated to determine if the reuse process can be applied; priority would be given to Macs, laptops and servers.

It would also be worthwhile developing the customer service element of the work to ensure the process of claiming a machine is of appropriate quality and efficient.

Maintenance, refurbishing, and remanufacturing

Maintenance, refurbishment and remanufacturing of machines should be formally worked into the next phase. A number of machines simply needed cleaned with small upgrades required (for instance extra RAM) in order for them to be used rather than discarded; the project reused around 80 such desktop PCs. Other machines required simple cleaning and data wiping.

There were also 10 machines salvaged since the end of the project timescale by merely using the higher end wiping technology Blancco, with more detail in the data section below.

Data

Using the wiping software Blancco, we have seen faster wiping times for PCs than with software tried before the beginning of this project. However, further investigations are needed to ascertain whether the wiping can be undertaken via the University network rather than needing an individual to be physically present, which would further reduce wiping times. It would also be germane to explore whether the level at which Blancco wipes machines is to a level that Records Management could consider it acceptable to donate the machine externally, eliminating the current need for destruction of hard drives prior to external donation.

There is also scope for Blancco being used over networks which would necessitate further investment. This would dramatically cut down wiping time, especially for large donations that come from computer labs.

Internal costing mechanisms

Costings for remanufactured machines should be considered for parts and small upgrades where required, for example to boost RAM. A number of machines identified in the project would be appropriate for reuse following such upgrades.

Policy

Policies from Departments such as Waste, Procurement and IS should be explored in relation to the Project to see which way we could progress to make the process business as usual for the University. Existing Waste Policy and Procurement Strategy should be mapped as part of upcoming policy refreshes. It is not thought that a standalone policy for IT Reuse would be effective.

Resale

There is an inherent value in equipment even if it is not appropriate for internal reuse. An investigation whether there is a possibility to resell items should be undertaken, whether this is for staff and students for personal use or to external organisations.

Components

An exploration into exactly what happens to discarded components as a result of the project is recommended. For instance some hard drives are being destroyed due to data concerns however motherboards, CPU chips and other PCB's inherently have a value due to the amount of precious materials used in their manufacturing.

Other Internal opportunities

Linking to internal projects on Circular Economy such as the work at the Business School, exploring the possibility of a living labs approach and perhaps dissertation work would be worthwhile.

External opportunities

Linking to other Higher Education and local organisations would be recommended in terms of both equipment and information sharing through local and national networks.

Appendix 1

Warp-it PC Guidance

The following rules have been instituted for internal reuse of PCs, as agreed between identified relevant parties since March 2015:

1. Machines have to be within 5 years of purchase.
2. All data has to be wiped using IS and Records Management approved software.
3. PCs need to be PAT tested if used by more than one user.
4. Note of serial number should be taken to enable tracking.

It is crucial to ensure that no sensitive data remains on PCs that are cascaded, internally or externally. The risk of sensitive data having previously been on a PC determines its suitability for cascading:

Risk	Computer source	Data management	Cascading steps	
High		Staff computers from people/departments that are likely to be (or actually) dealing with **sensitive information** (e.g. Finance, HR, Student Records). All staff computers should be considered as high risk by default.	**Always destroy** data containing components (via WEEE contractor; currently CCL North),	Consider cascading to partner organisations after removing data containing components, then destroy via CCL North
Medium		Other **non-high risk** ex-staff computers not covered above.	Wipe and overwrite all data using IS approved software	Consider cascading within the University if practical, then consider cascading to partner organisations after removing data containing components, then destroy via CCL North.
Low		Ex-lab computers.	Those computers are wiped every 24 hours automatically. Wipe and overwrite all data using IS approved software can be done as part of scheduled automatic update.	Consider cascading within the University if practical, then consider cascading to partner organisations, then destroy via CCL North.

When considering whether machine is too old to be cascaded, rule of thumb is:

- Models younger than 5 years should be considered for cascading within the University or, if not possible, to charities;
- Models older than 5, but younger than 8 years should be considered for cascading to charities;
- Models older than 8 years should always be sent for WEEE disposal.

In case a PC is to be used by multiple users (e.g. PC lab, hot desk), it has to be PAT tested. The standard University practice ensures that PCs will be PAT tested annually, however the HSE requirement is to PAT test PCs only once every 5 years. This ensures that PCs will be suitable for cascading.

If cascaded externally, the organisations receiving equipment from University of Edinburgh have the requirement to PAT test independently and in case of failure return machines to University of Edinburgh.

Appendix 2

Agreement between Remade in Edinburgh and the University of Edinburgh regarding donations of equipment

This agreement identifies the responsibilities of both the University and the charity in the identification, removal, transport, treatment and, if necessary, disposal of goods that are removed from the University of Edinburgh's premises. The objective is to ensure the removal and subsequent handling of materials in a manner compliant with all applicable legislation, and that both parties act in the best of faith.

Section 1: Responsibilities of the University of Edinburgh
It will be the responsibility of the University of Edinburgh to:

Provide an inventory of potential items for collection. This inventory shall:

- Be provided at the University's earliest convenience
- Detail the range and quantity of items available for collection
- Identify items which are to be returned to the University by the collecting charity following repair and safety testing.
- Identify dates and times at which items can be collected
- Identify dates and times at which items can be returned

Investigate any complaint raised by the charity and to provide a response as soon as is practicably possible.
Provide contact details for any queries by the charity

Section 2: Responsibilities of Remade in Edinburgh
It will be the responsibility of Remade in Edinburgh to:
Respond to the inventory provided by the University clearly confirming:

- The items which the charity can collect, subject to inspection on collection day. Items will be allocated to a charity on a first come first serve basis.
- The date and time, within the University's given availability, that the charity will collect the items
- The date and time, within the University's given availability, that the charity will return reclaimed items to the University
- The name of staff who will collect the items
- Details of the vehicle collecting the items, including registration and dimensions, to allow for University parking attendants to be notified by the University point of contact and to ensure adequate parking space is available
- Ensure that items intended for reuse are PAT tested (with relevant labelling) by either the charity or partners of the charity before being issued for sale by the charity or for reuse by the University.

- Ensure items are otherwise repaired and in a safe condition before sale to the public or return to the University
- Acknowledge that upon taking receipt of the goods it assumes ownership of them
- Take reasonable steps to ensure that details of how the materials are treated are sent to the University such that it can provide reports on the activity. This should include details of:
  - A description of items taken (e.g. fridge, heater etc.)
  - The quantity of items taken
  - The quantity, or estimates thereof, of items that are placed on the resale market following safety testing and repair
  - Confirmation that all items placed on the market have been subject to the necessary PAT tests and other tests as required for safe reuse
  - The description and quantities of items that were not suitable for placement on the market. Details should include the disposal route (e.g. recycling, landfill) and confirmation that all necessary waste management procedures were observed
- Records will be provided in an electronic format (preferably Excel) to the University on a quarterly basis
- The charity must keep all records for 3 years
- The charity will act in accordance with all legislative requirements (including environmental, health and safety and data protection legislation) and shall ensure relevant licenses and operational permits are valid and in place for the charity and any partner bodies used by the charity. The University reserves the right to audit such agreements and licenses.
- The University will not be liable for any wrongful treatment or disposal of items

Section 3: Review and amendment:

The University wishes to work positively with the charity. The University will endeavour to cater to the charity's needs;

- A named point of contact within the University and within the charity will be agreed to support this partnership and to resolve any issue that may arise. These details are found in section 4.
- It is a priority of the University that all items are treated in a safe and responsible manner by the charity, whether resold or disposed. Where the University can demonstrate that charities have not adhered to the above, or where items have been wrongfully treated and handled by the charity or a partner of the charity, the university retains the right to terminate any partnership.
- The point of contact for both the University and the charity will review the operation and success of this project at a regular interval to be agreed by both parties. The University wishes to work constructively with the charity to continually improve the scheme.
- Any amendment to the operation of this project is to be agreed by both parties before any change is implemented.
- Neither the charity nor the University shall engage with the media without written approval from all parties including an agreement on the content of responses to be relayed to the media.

Section 4: Point of contact

This is held on file in the original agreement.

IT Energy Footprint

Initial Footprint

To provide an initial benchmark on IT energy consumption, Information Services has gathered data related to power usage for equipment which is hosted or managed by Information Services. The table below provides the initial data on power usage from this review for data currently available:

Item	Number	Av IT power draw per unit (kw)	PUE	Total power draw (kw)	Estimated total power draw (kw hours) per year	Cost per year
KB data centre	1	178.61	1.7	304	2,659,786	£ 239,381
Central data centre	1	101.40	1.56	158	1,386,054	£ 124,745
ACF data centre (IS managed usage)	1	190.00	1.2	228	1,997,280	£ 179,755
Managed Windows Desktops	13,200	0.05	1	197	1,723,467	£ 155,112
Network switches	2,300	0.04	1	92	805,920	£ 72,533
Wireless access points	2,350	0.01	1	19	164,688	£ 14,822
Routers (distributed)	15	2.34	1	35	307,345	£ 27,661
Total					9,044,540	£ 814,009

The data centre usage includes national shared services such as the IT used by EDINA, and of co-located infrastructure for SRUC.

These figures include a number of estimates, in particular:

- The PUE for all data centres is estimated:
  - There is no metering of chilled water supply for KB data centre, an estimate has been used in calculating the presented PUE.
  - The AT data centre uses a common district cooling system, so includes estimate for chilled water.
  - The ACF is well metered, but the PUE varies over time depending on room utilisation.
- The Managed Windows Desktops reflects all Windows desktops, open access labs and lecture theatre systems managed by IS. The power-saving from operation in standby mode has been modelled rather than calculated on actual machine configuration

There are also a number of missing items from this review, and further work is required to complete the baseline power use, such as mac and linux desktops, all laptops, mobile devices and telephony.

Next Steps

As noted, in calculating the initial footprint there are a number of estimated figures. Where possible these estimates should be replaced by monitored power use, or by further refining the estimation.

Those items not captured in the initial review should be included in the footprint calculation.

The Sustainable IT Group should agree an approach on how co-located or national service's power usage should be considered in calculation of the University's IT footprint.

This initial review was bounded to IS managed or managed equipment. Thought should be given to how a full data capture of University IT can be achieved.

THE UNIVERSITY of EDINBURGH

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SUSTAINABLE IT GROUP

7 SEPTEMBER 2016

Sustainable Business Travel Advice and Communications Plan

Description of paper

This paper provides information to inform sustainable travel choices by providing a copy of proposed Sustainable Travel Advice and an associated communications plan for discussion and agreement.

Action requested

The group is asked to note the Sustainable Travel Advice and approve or provide additional suggestions for the communications plan.

Background and context

Travel is an integral part of working in both academia and support groups, and international travel is key to the University enhancing its global presence. The level of University travel is expected to continue to rise in the period to 2025, especially in the use of flights. There are clear benefits to travel but also associated costs, risks and carbon implications.

Analysis of carbon emissions as part of the ongoing review of the climate strategy suggests aviation emissions are now our third most significant source of emissions after gas and electricity use. Additionally there are costs and risks associated with travel, meaning that if alternatives are available, then they should be considered where effective and appropriate. The annual cost of flights, for example, is expected to rise from £4.1m in 2014-15 to estimated £8.75m in 2024-25.

Emissions from business travel accounted for 11% of the University's total carbon emissions in 2013/14, and 10% of these were from domestic flights. If expected trends continue, business travel emissions could double by 2025, accounting for 22% of the University's overall carbon emissions. Stakeholders interested in sustainability will often attach significant weight to the ability of organisations to manage their use of aviation.

This approach is not about imposing inappropriate central control on a critical area of university business, but rather about raising awareness of the cost of carbon impact of existing travel choices, and seeking to promote various alternative travel choices when appropriate and available.

Increasingly, large companies and other public bodies are exploring alternative modes of transport and greater use of technology such as high-end videoconferencing, to supplement travel by air/trains and car when appropriate. These initiatives often report a variety of benefits which potentially include lower carbon emissions, financial and time savings and better work life balance.

A focused review of the current business travel guidance around the University took place in 2015 and various stakeholders were consulted including finance, procurement, international office, researchers and school administrators

The review reported that there is currently perceived to be a lack of clarity on what is permitted with regards to business travel. During the consultation, questions were also raised about whether there is appetite at the University for a clearer business travel policy. The proposed sustainable travel advice is seen as a useful first step on a process that would seek over time to improve technological options, develop complementary and alternative travel options, and improve data and incentives surrounding travel cost and risk management.

The proposed Sustainable Travel Advice is included as Annex 1. The purpose of the document is to offer advice on how to choose the most carbon efficient travel mode and promote non-travel solutions that help save time and costs. In October 2015 the SRS Committee endorsed the advice with a recommendation that this should be approved by Central Management Group alongside a communications strategy for the advice.

Discussion

As per requests made to the SRS Committee, a communications plan is proposed to communicate the Sustainable Travel Advice and ultimately contribute to reductions of CO_2e emissions from business travel:

- Encouraging more carbon efficient methods of travel within mainland UK. Use a varied approach including social media, and develop links with budget holders, travel bookers, and senior staff who can help to roll out messages and encourage action within their areas of operation.

- Support staff with clear asks through a pledge and other opportunities for staff to sign up to a voluntary commitment. Staff would pledge publicly to use alternatives to flying where possible or reduce or stop flying for a period of time. Pledges will be then advertised to raise awareness of the impact of flying.

- Integrate with other established University's sustainability activities, such as the Sustainability Awards and network of Sustainability Champions. ESA is part of a national scheme designed to recognise and reward good sustainability practices at universities, which attracted more than 40 teams.

- Expand and promote existing links with travel management companies and rail providers to promote and incentivise low carbon travel. An example can be the recently negotiated deal with Virgin East Coast for rail travel to London.

Proposed Timeline and Next Steps

The proposed communications plan lasts for 15 months, commencing May 2016 and completing in July 2017. There has been significant interest to date in the development of advice and support in this area.

Timeline	Audience	Communications	Who
Phase 1: Planning May 2016 – July 2016	Senior Staff	• Develop materials for roll out • Link and ensure alignment of messages • Identify 'carbon pledge volunteers' who will document their low carbon business travel over the next year	• SRS / CAM
Phase 2: Launch August 2016	All staff, particularly senior managers and sustainable travel enthusiasts	• Launch event in August 2016 to showcase carbon pledge volunteers	• SRS
Phase 3: Implementation August 2016 – July 2017	Senior managers /	• Sustainable Business Advice rolled out to Senior Managers and Administrators with provision of print materials for cascading	• SRS
	Sustainability Awards teams	• Face-to-face meetings to explain Sustainable Business Travel plan, encourage participation as 'carbon pledge volunteers', and to provide print materials to share in workspaces • Invite to launch event in September 2016	• SRS
	Academics	• Promote Sustainable Business Plan through the existing SRS Academic network • Email to all staff • Invite to launch event in September 2016 • Social media campaign • Print materials in workspaces • Internal news campaign	• SRS • Heads of Schools and Units • HR • CAM
	All professional staff	• Email to all staff • Invite to launch event in September 2016 • Social media campaign	• SRS • Heads of Schools and Units

		• Print materials in workspaces • Internal news campaign	• HR • CAM •
	External stakeholders – local Government, the EAUC	• Opinion pieces focusing on individual stories of the Carbon Pledge Volunteers, showcasing the University's encouragement of individual actions	• SRS / CAM
Phase 4: Evaluation August 2017	Senior Managers	• Presentation of results • Invite to summary event in August 2017 • Encourage senior manager buy-in of Sustainable Travel advice • Invite to summary event in August 2017	• SRS • CAM • Heads of Units • Staff champions
	All staff and academics	• Presentation of results through internal news • Encourage senior manager buy-in of Sustainable Travel Advice • Invite to summary event in August 2017	• Staff champions • HR • SRS • CAM
	External stakeholders	• Press release announcing Sustainable Business Travel Advice • Invite to summary event in August 2017	• CAM • SRS

Resource implications
Implementation and promotion of the advice will come from existing resources. Over time, the University may wish to invest to develop improved technological options. Experience from elsewhere suggests there may be opportunities to reduce the growth in transport costs otherwise expected/

Risk Management

Communication of the advice with support from key leaders, managers and administrators is crucial to avoid inappropriate messages being delivered. The presented guidance seeks to support the University in mitigating reputational risk associated with carbon impacts of business travel and to manage rising cost implications of travel.

Equality & Diversity
Due consideration for equality and diversity issues has been integrated in the development of the sustainable travel advice and the associated communications plan. No direct equalities risks have been identified and promotion will take into consideration how gender or gender identity, religion or belief, disability, religion or belief, pregnancy or age may impact on choices and opportunities available.

Next steps/implications
Pending formal endorsement of the Sustainable Travel Advice (Annex 1) and any feedback on the proposed communications plan, the SRS department and CaM will work to develop and deliver the communication outlined above and identify 'carbon pledge volunteers' who will document their low carbon business travel over the next year.

Consultation

SRS Committee including Directors of SRS, Corporate Services, Estates, Finance and the Senior Vice-Principal. The original advice based on consultation with: ; procurement; Transport Manager, Insurance Office, Health and Safety ; Deputy Director, International Office; (previous) Director, Development & Alumni; Director, Finance Transaction Services; Vice Principal International; Head of Administration, School of Biomedical Sciences; Health & Safety Manager, School of GeoSciences; , Assistant Principal Research Development; Environmental Coordinator, EUSA; Learning and Teaching Spaces Technology Manager, Human Resources; Director of GESA

Further information

Author and Presenter: Dave Gorman, Director of Social Responsibility and Sustainability

Freedom of Information
This is an open paper.

Annexes

Sustainable Travel Advice 2016 PDF