Sustainable Information Technology Group (SITG)

Tuesday 31 January 2017, 2pm

Cuillin Room, Charles Stewart House

AGENDA

1	**Minute** To *approve* the minute of the previous meeting on 7 September 2016 and *raise* any matters arising	**A**
2	**Printing & Imaging** To *discuss* a paper from the Chief Information Officer	**B**
3	**Sustainable IT Implementation Plan** To *approve* a paper from the SRS Engagement Manager	**C**
4	**IT Energy Footprint & Prioritised Projects for Energy Savings** To *receive* an update from the Director of ITI	**Verbal**
5	**Utilities Programme Update – Pathways to 10%** To *receive* an update from the Convener	**Verbal**
6	**Climate Strategy & ICT Contribution** To *receive* an update from the Convener	**Verbal**
7	**Sustainable ICT Procurement & Supply Chains** To *receive* an update from the Procurement Manager	**Verbal**
8	**Energy Engagement in IS** To *receive* an update from the Engagement Manager	**Verbal**
9	**ICT in the Context of Reuse** To *receive* an update from the Engagement Manager	**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

UNIVERSITY OF EDINBURGH

MINUTE OF A MEETING *of the Sustainable IT Group held in the Cuillin Room, Charles Stewart House on Wednesday 7 September 2016.*

Present:	Dave Gorman (in chair), Director of SRS
	Rab Calder, Energy & Utilities Manager
	Fiona Carmichael, Computing Support Officer, Literatures, Languages & Cultures
	Kate Fitzpatrick, Waste & Recycling Manager
	Jenna Kelly, EUSA VP Services
	Bryan MacGregor, Director of User Services Division
	Caro Overy, Engagement Manager
	George Reid, Procurement Manager
	Ruaridh Stern-Mackintosh, EUSA IT & Systems Manager
	Tony Weir, Director IT Infrastructure
In attendance:	Bradley Richards, SRS Project Intern, for item 3
	Chris Litwiniuk, SRS Projects Coordinator, for item 6
	Joseph Farthing, SRS Communication Manager, for item 8
Apologies:	Michelle Brown, Head of SRS Programmes
	Paul Clark, Head of IT for CMVM
	Grant Ferguson, Head of Estates Operations
	Dave Gorman, Director of Social Responsibility and Sustainability
	Simon Marsden, Director IS Applications Division
	Fraser Muir, CAHSS Chief Information Officer
	Euan Murray, Development Team Manager, Learning Spaces Technology
	Bruce Nelson, College Registrar, College of Science & Engineering

1   Minute   **A**

The minute of the meeting held on 19 May 2016 was approved as a correct record.

SITG welcomed new members Kate Fitzpatrick, Waste & Recycling Manager, and Ruaridh Stern-Mackintosh, EUSA IT & Systems Manager.

2   Energy Engagement in IS

The SRS Communication Manager presented to the Group on the energy communications campaign and ways to increase the number of energy coordinators in IS. UoE emitted more than many of its Russell Group peers, and was currently due to miss targets outlined in the Climate Change (Scotland) Act 2009. The University had responded to this with a variety of programmes to reduce carbon emissions and energy costs (approaching £20M p.a. - equivalent to UK central government research funding, 500 academic staff salaries, or slightly less than total income from postgraduate fees). Reducing energy waste would free up more resource for everything else the institution did. The initial goal was to cut spend by 10% over two years, through an energy saving communications campaign, establishment of a Sustainable Campus Fund, and the Switch & Save campaign (predominantly targeted at reducing staff energy consumption).

There were currently 115 Energy Coordinators across the University, 3 of which were based in ISG. The energy impact of ISG was currently the third highest, behind labs and supercomputer infrastructure. Computing labs were increasingly taking up opportunities to make savings. However, there was substantially less engagement with staff in IS - overall and per head - compared with other non-academic units. The SRS Comms team welcomed feedback on how to modify the approach to better reach these staff. There was a risk of duplication if projects already running in ISG were not being shared, as well

as missed opportunities to collaborate on energy savings. ISG also offered valuable untapped datasets around swipe cards and PC use.

Staff in ISG were broadly aware and supportive of these activities. The key would be finding the correct approach for engagement. The profile of Energy Coordinators within IS needed to be raised. Low numbers did not reflect a lack of engagement with the issues or awareness of the need to reduce power consumption, but rather a lack of visibility of engagement opportunities. It had been recommended that energy engagement be included among the topics covered during staff inductions, but this had not been centralised, and so the recommendation was not always taken up. A potential mechanism to reach non-ISG staff would be through the recently reinvigorated IT Forum. It was proposed that the engagement team come along to IT forum events to promote these opportunities, including the Chief Information Officer's regularly scheduled all staff meetings held at JCMB and George Square, which would give access to at least half of staff overall, as well as representatives from almost every team across all divisions. This would give the opportunity to highlight programmes and initiatives including the Sustainable Campus Fund and PC Reuse projects. School plenaries could be used to give Energy Coordinators a specific locus or building.

Action – BM to reflect further on how to include SRS in ISG events and get back to CO.

Action – BM to ask Abdul Majothi to get in touch with CO on IT in ISG, the Schools and support units.

Action – CO to send TW & BM an email request to nominate Energy Coordinators.

The Communications Manager thanked members for their feedback.

3 ICT in the Context of Reuse   C

The Engagement Manager presented the final output report of the PC Reuse Project, funded by Zero Waste Scotland, which ran from January to June 2016. A Project Intern was hired to develop the process. 174 PCs were reused within this period, as well as 257 other IT items, saving £63K and 39,382KgCO$_2$e, based on an investment of £25K.

Key recommendations included: securing continuation and expansion of the internal process following strong support for the pilot from CAHSS; adapting the existing policy to incorporate the process; and exploring the possibility of including other IT equipment.

The reuse process only included PCs that were less than 5 years old, eliminating immediate concerns about elongating use beyond the useful lifetime. Older machines were sent to CCL North or Remade in Edinburgh. Once received, machines were checked for faults, stress tests were carried out on 1 in 10 using Blancco, and they were then uploaded to Warpit, where there was a strong market for PCs. Overall, the project achieved what it set out to do, exceeding the set targets.

The Engagement Manager outlined three options to operationalise activity. SITG recommended securing funding for a dedicated PC reuse post at UE04 to provide a centralised service, which would be absorbed by Information Services. Additional costs to factor in would include the Blancco software and secure storage space. The projected annual saving was £120K in avoided spend, in additional to considerable savings in staff time. There was some discussion on the exact calculation of the savings- with a need to write off the savings on a new purchase over the life of the asset, lowering savings calculated compared to what was presented, but then factoring in staff time savings from not having to collect, fit out and install new equipment. Savings were based on one model of desktop, and there was natural progression to other IT infrastructure such as printers. While savings went outwith the University when machines were passed on to Remade, this gave a community engagement return.

<u>Action – BM</u> to reflect on how best to integrate the initiative into IS. Meantime SRS will explore potential to extend current intern contract to February for continuity.

Members discussed approaches to extending engagement within CMVM and Science & Engineering, which was more sporadic due to the lack of a single point of contact. Reuse would be included in the new contract with CCL North. The Group stressed the need for due diligence in identifying a full range of partners. Further work was needed on resale, looking into liability and legal status.

The pilot had demonstrated that serious issues around process, waste, energy and regulation could all be resolved, and members agreed on the need to preserve momentum and not lose what had been gained. The Engagement and Waste & Recycling Managers were working with the Sustainable Business Initiative in the Business School on PC reuse business models.

| 4 | **Draft Climate Strategy & ICT Contribution** | D |

The Convener presented the Climate Strategy agreed by CMG on 30 August 2016, which would remain in draft form until approved by Court. SITG discussed what the contribution from IT would look like for future targets, assumptions about growth, opportunities, and new technologies. A Renewables Group chaired by the Director of Finance would meet in the autumn. While the targets may not appear to be the strongest in the short to medium term, the strategy demonstrated that UoE was working to get the necessary mechanisms in place in terms of its energy management, building standards, and approach to IT, as well as its first ever commitment to long term carbon neutrality. Underlying this was much more significant action than in many other institutions.

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

The Director of ITI updated SITG on progress toward establishing baseline IT energy consumption. Members acknowledged the need to hold off on making significant interventions until this was fully understood. There had been a strong focus on reducing the energy usage of IT equipment in ISG over the last seven years (alongside the move to virtualisation). Work over the first 6 to 9 months had focused on refining measurements. Representing 60% of power consumption, the data centres would be monitored to make them as efficient as possible, offering the greatest benefit, recognising that national and international facilities were outwith UoE control.

The data centre at JCMB was designed for enterprise workloads; its PUE of 1.32 was based on actual monitoring. Appleton Tower, also for enterprise workloads, had a PUE of 1.4 – 1.5, based on best estimates. Additional monitoring would be put in place to confirm the actual PUE. The flow meter installation order had been issued. By November multiple temperature sensors would be installed in the data centres to refine cooling in-room. Plans in the medium term were to look at cold aisle containment, minimise bypass and circulation, reduce cooling and raise the chilled air temperature. The ACF, designed for research computing workloads, had a PUE of 1.2 – 1.3. The average PUE for a data centre was 1.7, and it was extremely difficult to get a figure below 1.15. PUE increased with the different facilities and redundancies in place. The focus would be on ACF for research computing, with the most growth expected in this area, and on reducing PUE in ISG data centres. There was a possibility of consolidating School and College infrastructure into the ISG data centres. IT Committee had been approached regarding running assessment of wider energy usage for IT across the University. Partial figures had been obtained, with data still outstanding. The first step in terms of improvements would be to develop a full University Data Centre strategy.

Desktops accounted for around 20% of consumption, with network around 15%. Only ISG managed infrastructure was included. Standby policies were being investigated on managed desktops and investigations were ongoing into different Select PC options. By

January 2017 Mac managed desktop services would deliver an auto-standby policy. Agents were in place on Windows managed desktops to collect real energy usage data. While some data centre projects should come forward in time to contribute to the 10% saving, gains would be marginal as so many efficiency measures had already been implemented. While consumption data was partial and there remained concerns about its accuracy, it played a valuable role in supporting outreach.

Significant savings were anticipated from cloud printing now that all Xerox models were set up to do this, enabling the CAHSS Chief Information Officer and Service Delivery Manager to get an overview of the current position.

The group congratulated the Director of ITI on progress made and agreed to assist with local data and insight where possible.

Action – FM to circulate a progress report on printing before the next meeting.

Post-meeting note: to be discussed under agenda item 2.

6 Sustainable Travel & Videoconferencing   F
SITG welcomed SRS Projects Coordinator Chris Litwiniuk, in attendance for this item. CMG had requested updated sustainable travel advice, particularly around aviation, which was presented to the Group in May. This would not lead to a centrally managed solution, but act as information on alternatives to consider, with cost, carbon and time implications. With the rising cost of flights, a 10% saving would be very worthwhile.

CMG had agreed while this was worth pursuing, not to launch a programme until reassurance could be made that the technology to support alternative solutions was in place and was reliable. An exercise would be carried out across the University to see what the videoconferencing needs were in each area, map this against infrastructure in place, and assess the cost of additional equipment and support. Members were asked to support this exercise, feed in their ideas, and work with Chris to implement it.

 Members noted a general trend for staff to prefer either travelling to meetings in person or remote access and the need to support staff in working out how to use both methods effectively. The University's three main VC suites (at the Main Library, KB and Holyrood) needed to be better promoted to enhance user awareness. User Services were working to update guidance on how to book and use these facilities. Increased use could cut Edinburgh to London travel, for example by alternating digital and face-to-face meetings. It would be cheaper to pay for a technician to provide support in the VC suite for each meeting until staff had confidence in the facilities, rather than cover the cost of travel. The Group noted SRUC's experience of the benefits of using Skype for Business. Technical staff were already using Skype in a local sense, and this could be widened. CAHSS had success setting up small tutorial rooms for remote interviewing. Work could be done to investigate which units had their own facilities and were willing to share, to produce an interactive map for the campus, and look at standardisation, as existing facilities varied significantly according to budget. Members recommended concentrating efforts around support groups rather than going into the Colleges.

Action – FM & BM to run workshops to gather views and put a business case together.

Action – BM to provide CL with the appropriate contacts in Information Services.

7 Utilities Programme Update – Pathways to 10% & Sustainable Campus Fund
£2.75M of funding for the SCF had been secured over 3 years. While progress to date was around 2-3% of the targeted 10%, an energy saving culture was beginning to be developed. Building understanding and getting the necessary measuring structures in place would take time. The Sustainable Campus Fund had also been useful in terms of signal value and in flushing out projects that, while not suitable for the Fund itself, could

be redirected elsewhere. Funds would need to be put aside this year to invest in the data centres. Projects were ongoing to make power consumption visible in buildings, with the Meterology system as a starting point. It was anticipated that IT projects would form a significant component of Year 1 spend.

Action – RC to follow up with FC on data for 50 George Square.

8   Sustainable ICT Procurement & Supply Chains

The Procurement Manager updated the Group on the sustainable procurement tool, ICT workshops and Fairphone. The team had met to go through the tool, look at priorities, and identify next steps. London Universities Purchasing Consortium (LUPC) had made a single use tender for Fairphone (which was not available through the Vodaphone agreement) and investigation was ongoing into its potential use at the University, including a trial in CAHSS which would look into the actual cost and benefits. Though more expensive than a standard phone, a discount was available as part of the deal with LUPC. There had been significant press interest in the University's Conflict Minerals Policy and adoption of Fairphone could have a positive reputational impact. Salary sacrifice options for personal use were also being investigated.

Action – FM to bring a progress report to the next meeting.

Action – DG to consider running a Fairphone trial in SRS.

9   Sustainable IT Implementation Plan   B

The Engagement Manager updated SITG on developments. While not every planned action had been completed, useful progress had been made - particularly around PC reuse and conflict minerals - and not all relevant activity was captured in the Plan. The Group had been set up, membership was in the right place, and progress had been made on sustainability metrics and data centre strategy. Materials were available around energy efficiency improvements, and more could be done using the Be Sustainable guide, existing videoconferencing facilities, further investigating intelligent power consumption and standby policies, and to link in to the Waste strategy. It may be that a shorter, more focussed plan was needed for 2017.

Action – CO to meet with members individually, update the Plan and apply RAG status, and report back at the next meeting.

Post-meeting note*: covered under agenda item 3.*

10   Any Other Business

The Group noted the role of the SRS Department in capturing and promoting University research, such as work on gold reclamation from WEEE.

A bid for £7M had been made to the SFC, which could cover a lot of Estates-related work around CHP, IT and videoconferencing.

The SRS Department had raised £100K over the last 3 years, without a dedicated resource. A post had been agreed for one year at grade 7 to try to bring in £½M in external funding, working in partnership with ERI.

The University of Edinburgh

Sustainable Information Technology Group (SITG)

Tuesday 31 January 2017

Print & Imaging

College of Arts, Humanities and Social Sciences
Sustainable IT
Print and Imaging

Introduction

The following report for the Sustainable ICT group demonstrates the energy and other savings by moving to multi-function devices (MFD) and cloud printing[1]. It draws on information sources within the University as well as the University print suppliers, Xerox.

The report proposes a number of recommendations; for policy to encourage moves to smaller numbers of larger MFDs and to provide support to local staff against pressure for local printers, for strengthening of Estates strategy and planning in this area and for some technical changes to be implemented to the configuration of existing devices.

Benefits of centralised/shared MFDs via SelectPrint

- Reuse, Xerox policy

Use of MFDs on the University contract can assist with our ambitions on reuse and the circular economy, by leveraging Xerox's commitment around sustainability especially in their supply chain and commitment around reuse of equipment when they reach the end of life within UoE[2].

- Reduced energy consumption

Larger MFDs, per page printed, consume less energy, contain less embodied energy and use less consumables than smaller devices.

- Reduce paper wastage

Cloud-enabled devices enable in a reduction in paper usage and wastage through the use of duplex by default and print release.

- Print avoidance

The use of MFDs to scan to email results in less photocopying and as a result less paper and consumable consumption.

The case studies later in this paper provide evidence to support these assertions.

---

[1] http://www.ed.ac.uk/information-services/computing/desktop-personal/printing/cloud-printing
[2] https://www.xerox.com/corporate-citizenship/2014/sustainability/environment-health-and-safety/enus.html

- Reduced cost to users

No reduction in per-page costs for end-users but there is a reduction due to jobs sent in error not being printed automatically. Purge figures presented later suggest this can be substantial.

Free quota allocation doesn't necessarily result in wastage as the amount is still valued like cash by the student.

Larger devices have a substantially reduced page cost in comparison to personal or desktop printers. Total cost of ownership per page is lower, reducing costs overall to cost centres making use of the service.

All funds recouped by Information Services and reinvested in services.

- Confidentiality and security

Cloud printing enables easy and secure print release ensuring that any confidential or secure information is only printed with the user present.

LLC case study

In summer 2014 the School of Literature, Languages and Cultures (LLC) moved from DHT and a number of smaller sites across the central area to 50 George Square. At that time, the School took the opportunity to standardise on a number of larger, centrally positioned MFDs, one or two devices per floor.

Energy consumption
Using the SusteIT evaluation tool we have estimated the before and after position as follows:

	2013	**2016**	**Reduction**	**%**
Energy consumption (KWh)	36086	22665	13421	
CO$_2$ (kg)	16214	10184	6030	37
Cost (£)	4330	2719	1611	

This overall reduction is within the context of a modest reduction of personal printers (78 to 54), highlighting some of the challenges in encouraging particularly academic staff in cellular offices away from a local device they are used to. The figures above include a substantial number of desktop printers that technology and support colleagues in the School have struggled to remove.

Main library case study

Between 2013 and 2016 the main library migrated all devices to Xerox under the new contract but more importantly for this case study, implemented cloud printing across the fleet. This case study is particularly valuable as it highlights the potential for reductions in paper consumption as a result of this.

Energy consumption
Using the same model as for the LLC case study:

	2013	**2016**	**Reduction**	**%**
Energy consumption (KWh)	54864	32165	22699	
CO_2[3] (kg)	24652	14452	10200	41
Cost[4] (£)	6583	3859	2724	

In the context of increased printing, from just over 3m pages in 2013 to 4.1m in 2016 and overall student numbers increase of approximately 10%[5].

Paper consumption
We have also been able to evaluate the following additional metrics available to us as a result of implementing cloud printing:

	2013	**2016**	**Difference**
Pages purged from system	0[6]	1135536	1135536
Pages scanned to email	45922	216036	167114

Highlights:

- 167,114 more pages were scanned to email in 2016 saving students £8355 in photocopy costs
- 1,135,536 pages were purged from the system that previously would have printed immediately.

Follow up

Further follow-up case studies would be possible in the following areas to draw out further data:

- CAHSS College Office
- CMVM

---

[3] Using a conversion factor of 0.44932 for both calculations to ensure we attribute savings to implementation of new kit and not just improvements in electricity generation.
[4] Assuming £0.12/kWh
[5] Based on data published at http://www.ed.ac.uk/governance-strategic-planning/facts-and-figures/university-factsheet
[6] This facility was not available and as a result, no pages were purged from the system without being printed.

Recommendations

The group is asked to discuss and endorse the following recommendations.

1. A policy is needed to help drive change and to give service providers in IS and Schools the leverage and backing to start to implement any change in culture required:
   - MFD first approach
   - Largest device possible shared amongst as many as possible
   - Cloud first approach
   - Local printers of any kind as a last resort.

2. Any MFDs are cloud enabled by default with exceptions only following discussion and agreement and in addition:
   - Double-sided/mono only with temporary exemption
   - Default settings applied to all MFDs for duplex and mono printing with exceptions applied on a temporary basis.

3. Estate strategy in this area could be strengthened:
   - Early discussions with School/ISG/Estates on print and imaging planning at a stage in the estates work that allows for this to be accommodated in the final design
   - Emphasis and support of policy in design phases
   - Location for MFD in every new build/refurb by default.

Fiona Carmichael   Fraser Muir   Robert O'Malley
Computing Officer, LLC   CIO, CAHSS   Service Delivery manager, IS USD
January 2017

Sustainable Information Technology Group (SITG)

Tuesday 31 January 2017

Sustainable IT Implementation Plan

Description of paper

This paper reports progress against the Sustainable IT Implementation Plan 2016 and proposes a Sustainable IT Implementation Plan 2017 for discussion and feedback from the Sustainable IT Group.

Action requested

SITG is asked to note the report and provide feedback on suggested recommendations on the proposed Sustainable IT Implementation Plan 2017, including actions assigned.

Resource implications

There are no resource implications beyond how Sustainable IT fits within core business.

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

Following feedback from the Group, the Sustainable IT Implementation Plan 2017 will be edited accordingly and circulated for confirmation.

Consultation

This paper has been developed by the SRS Engagement Manager.

Further information

Author & Presenter

Caro Overy, SRS Engagement Manager

Freedom of Information

This paper may be included in open business.

THE UNIVERSITY of EDINBURGH

Sustainable IT Implementation Plan 2016 Progress Report

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**	**Progress**
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.	Membership and remit determined, although not currently with student representation
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.	Tony Weir responsible for establishing understanding of data centre energy consumption and other IT included in whole energy and waste figures. However, IT scope not yet fully determined.
A3. Set realistic and measurable baseline and	Dave Gorman &	SITG	September	Agreed targets (relative or absolute?) and outline	Overall carbon and energy targets set through Climate

12

targets for carbon emissions associated with IT (taking account of anticipated growth) & agree reporting mechanism.	SRS team with College reps?		2016	reporting structures through SITG to ITC & SRSC.	Strategy but baseline for It still in development
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.	Not yet done. To be carried over to new plan.

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	SRS Dept. Joe Farthing	SITG	July 2016	New electronic materials to promote energy efficiency in IT,	Included on SRS website in Computing theme

				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.	Incomplete. Useful to carry over to new plan?
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.	Fraser Muir convenes EAUC Green IT Community of Practice. No event delivered as no business need identified.
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	Information on sustainable IT available on SRS website along with information on electronics waste and reuse

				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)	Funding bid submitted to Scottish Institute for Remanufacture from Sustainable Business Initiative (UEBS). Further action expected following start of new SRS recruit.
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	Not done. To be carried over to new plan.
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.	Work carried out to map baseline, awaiting recommendations on specific agents
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.	Done as standard although wider promotion would have more impact

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.	Resources available online via SRS channels and IS information, but could be more heavily promoted
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.	Work not funded/carried out. To be carried over to new plan.
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	SITG	April 2016	All staff with IT procurement responsibilities have a list of sustainability criteria, which are then embedded into procurement process.	SPPPT process complete and IT brief produced. Could be more widely disseminated.

	representatives				
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).	Done as part of background research for upcoming Waste Policy refresh
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.	Event not held but strong engagement with UEBS and ECCI on development of a research network and Innovation Hub
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.	Case studies available
C6. Conduct a pilot project monitoring PC cascading within CHSS.	SRS Dept. – Alan Peddie	SITG	August 2016	Summary report showing methodology and impacts.	Project funded by ZWS and carried out. Outcomes under review with hope to enable longer term sustainable process.
C7. Investigate potential savings and risks associated with circular economy / resource	Fraser Muir & Alan Peddie	SITG	July 2016	Develop and deliver solutions to issues around secure data erasure, storage and time	Savings and risks associated with PC desktop reuse understood, including data erasure, with software

					constraints to drive greater reuse. Make recommendations regarding the acquisition of a commercial product to cleanse PCs to a set standard.	in place, although less detail on takeback schemes.
efficiency / internal and external reuse; advise on and facilitate schemes (including packaging take-back schemes)						
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.	Work carried out with SPPPT brief available
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	Not done, to be carried over to new 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.	Issues raised as needed across committees. Further opportunity with Turing Trust to be explored in new plan.
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.	Conflict Minerals Policy and resources available, although further and wider engagement possible.
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.	Fairphones now included in University contract. To be carried over to new plan

Proposed Sustainable IT Implementation Plan 2017

Following the above review of progress against the Sustainable IT Implementation Plan 2016 and taking account of other relevant governance, including the ongoing work of the Utilities Working Group and the recent launch of the University of Edinburgh Climate Strategy, below is the proposed Sustainable IT Implementation Plan 2017.

Sustainable IT Group is asked for feedback, additions, and confirmation of actions assigned.

A Energy	Maximise energy efficiency in IT across the University
B Resource Efficiency	Maximise resource efficiency in IT across the University
C Social Responsibility	Ensure Social Responsibility risks are identified and managed within IT at the University
D Communications & Engagement	Ensure resources on Sustainable IT are available and communicated to all staff and students, with good practice communicated to external stakeholders and relevant networks activated

A Energy: Maximise energy efficiency in IT across the University			
Objective	Colleague(s) responsible	Timeline	Outputs
A1 Continue to develop an understanding of the energy consumption of IT infrastructure and equipment to establish scope for future measuring, monitoring and targeting	Tony Weir, Dave Gorman	Scope established in time for 2017/18	Scope for energy consumption of IT infrastructure and equipment reporting established
A2 Promote the Sustainable Campus Fund to all IT practitioners across the	All	April 2017	Projects developed and submitted to Utilities Working Group for funding

University			
A3 Report actions taken on energy efficiency to the group and make report available to Utilities Working Group	Include as standing agenda item to be collated and reported to Utilities Working Group	Include in ongoing business	Reports to Utilities Working Group to align with 10% energy reduction goal and projects tracking
A4 Carbon Scope?? – SRS to develop with Climate Strategy Implementation Plan	Dave Gorman, Liz Vander Meer	TBC	

B Resource Efficiency: Maximise resource efficiency in IT across the University			
Objective	Colleague(s) responsible	Timeline	Output
B1 Establish sustainable systems for internal and external reuse of IT equipment	Bryan MacGregor? Information Services, SRS to advise	March 2017	Sustainable model for IT reuse with process for review in place
B2 Work with Waste to identify new routes for reuse and (where needed) recycling of IT equipment	SRS, Waste	Ongoing	Ensure joined up University of Edinburgh approach to IT reuse and (where needed) recycling
B3 Report IT waste figures quarterly, including internal and external reuse, recycling, and carbon and cash value	Information Services, Waste	Quarterly	Quarterly report to SITG

B4 Establish scope for reporting on printing/paper use and monitor, including usage of MFDs	Information Services	TBC	Understanding of printing behaviours and paper usage across the University, starting point for reducing paper use

C Social Responsibility: Ensure Social Responsibility risks are identified and managed within IT at the University			
Objective	Colleague(s) responsible	Timeline	Output
C1 Maintain the University's membership of Electronics Watch	Liz Cooper, Dave Gorman	Ongoing	Ongoing
C2 Monitor the procurement of Fairphones through the University contract and report to the Group	George Reid		
C3 Promote Conflict Minerals Policy and the SPPPT brief on IT to all IT practitioners across the University	Information Services		
C4 Work with the Turing Trust to promote their work reusing IT equipment in Africa	Tony Weir, SRS	Ongoing	Increased local and global engagement on sustainable IT

D Communications & Engagement: Ensure resources on Sustainable IT are available and communicated to all staff and students, with good practice communicated to external stakeholders and relevant networks activated

Objective	Colleague(s) responsible	Timeline	Output
D1 Promote usage of Fairphones through University contract and develop a case study with a Fairphone user	SRS	August 2017	Case study of Fairphone usage
D2 Ensure information and tips on sustainable IT (energy saving, resource efficiency, social responsibility) are up to date and available through SRS staff and student facing channels	SRS	Ongoing	Be Sustainable resources and other information
D3 Draw on existing Circular Economy network currently in development to ensure opportunities are applied within IT	SRS, Business School/Sustainable Business Initiative	Dependent on other stakeholders	IT aligned with Circular Economy development