



**Sustainable Laboratories Steering Group (SLSG)**

**Wednesday 14 September 2016, 2pm**

**Cuillin Room, Charles Stewart House**

**AGENDA**

- 1 Welcome, Introductions, Purpose and Aims of Meeting** **Verbal**  
The Head of SRS Programmes will outline the programme for the session
- 2 Minute** **A**  
To approve the minute of the previous meeting on 22 March 2016
- 3 Matters Arising**  
To raise any matters arising not covered on the agenda or in post-meeting notes.

**SUBSTANTIVE ITEMS**

- 4 Vision Statement & Metrics** **B**  
To discuss and approve a paper from the Labs Coordinator
- 5 Sustainable Labs Programme: 3 Year Plan** **Verbal**  
To receive a presentation from the Engagement Manager
- 6 Lab Equipment Resale Options** **C**  
To discuss and endorse a paper from the Waste & Recycling Manager and Labs Coordinator
- 7 Estates Development Guidance** **Verbal**  
To receive an update from the Labs Coordinator

**ROUTINE ITEMS (verbal)**

- 8 Sustainable Campus Fund**  
To receive an update from the Head of SRS Programmes
- 9 Expansion of Engagement**  
To discuss an update from the Labs Coordinator
- 10 Energy Audits**  
To discuss an update from the Engagement Manager
- 11 The Sustainable Public Procurement Prioritisation Tool**  
To discuss an update from the Labs Coordinator
- 12 Lab Energy Monitoring Project**  
To discuss an update from the Labs Coordinator
- 13 Any Other Business**  
To consider any other matters from Group members.

## UNIVERSITY OF EDINBURGH

**MINUTE OF A MEETING** of the Sustainable Laboratories Steering Group held in the Raeburn Room, Old College on Tuesday 22 March 2016.

**1 Welcome and Introductions**

The Convener welcomed attendees to the fourth meeting of the Group and outlined the agenda for the session, reflecting on activity across 2015 and looking ahead to 2016.

**2 Minute**

The minute of the meeting held on 17 November 2015 was approved as a correct record. A

**3 Matters Arising**

The sustainable labs programme was nominated for a [Guardian University award](#), won a [Green Gown award](#), and was through to the next round in the [ISCN awards](#). SLSG welcomed this recognition at national and global level that the University was performing well with regard to its laboratories, and stressed the need to raise awareness of and promote this success.

Action – MB to follow up with the SRS Communications Manager on making University branding on departmental communications stronger.

**SUBSTANTIVE ITEMS****4 Annual Report 2015** B

The Labs Coordinator outlined progress against the 2015 Plan. Objectives had been set against five broad topics.

*A. Evidence Building*

Evidence building had focused on three topics in detail, ventilation, cold storage and lab equipment, including the feasibility of converting fume cupboards to Variable Air Volume (VAV) across the estate, though principally at the Joseph Black Building. Converting just the two most suitable labs in Chemistry offered good payback periods and annual savings of £35-48K, and there should be similar opportunities elsewhere. Lessons learned from this initial conversion would be carried into future roll out. Members proposed setting up a team that could be invited in to assess other labs, streamlining the process. Savings could also be achieved by installing physical stops on sashes and ensuring alarms were maintained.

Dr Jane Hope, Principal Investigator on the Roslin freezer project, had developed a baseline protocol for samples and tests were imminent. The project would be a rich data source, with Brian McTeir's team gathering energy data. Though sample degradation data was locked for five years, this energy data could be shared more freely.

Action – AA to clarify if degradation data could be discussed in-house in the interim.

A desk-based study had indicated theoretical potential for DNA and RNA to be stored at room temperature. Given the impact this could have on energy consumption, the Labs Coordinator was following up to look for trials elsewhere or establish whether someone within UoE was prepared to carry out tests. The case studies from other institutions, listed under A4 and B4, were now available on the SRS [website](#). A pilot project monitoring the behaviour change impact of 'switch off' materials was at the planning stage.

*B. Training & Engagement*

A sample pro forma for induction and exit procedures was available on the SRS [website](#). The HEaTED / S-Lab event on professional registration for lab technical staff held on 18

March was well attended. Opening up Athena SWAN to look beyond academic roles should help achieve greater clarity on responsibility for professional development of lab technical staff at UoE.

Action – AA to pursue the issue with JP's contacts in the unions.

The Labs Coordinator was engaging with a wider range of laboratories around the University, but there was scope for much wider engagement.

Action – All members to share their ideas with AA on ways to open up communications and identify the scale of potential energy savings.

### *C. Utilities & Waste Efficiencies*

Air handling systems in rooms containing -80°C freezers were using various temperature settings. Based on investigation of practices around the estate, it was recommended that these not be set below 20°C. User confidence was the key issue. Replacement of mercury lamps in microscopes with LEDs depended on securing funding - the major saving being in consumables rather than energy consumption precluded applying to SALIX. The Engagement Team would take forward identification of areas for motion/daylight sensor controls as part of energy audits. A small lab equipment fund had helped bridge the gap in replacing some older -80°C freezers, drying ovens and chillers with eco models. Diversion of non-hazardous lab waste from landfill would be picked up through the Sustainable Procurement Prioritisation Tool (SPPT). A number of labs were independently looking at raising freezer temperatures. Without data from the Roslin freezer study, the Labs Coordinator could not push this further, but would ask these labs to share their data. Identifying opportunities to change fluorescent to LED lighting would be integrated into the energy audits. This would be a particularly important consideration in animal units. Packaging take-back schemes would be picked up within the SPPT. Access to funding streams would depend on the outcome of the Sustainable Campus Fund proposal. If agreed by Estates Committee, SLSG would need to reflect on the potential labs share.

### *D. Outreach & Securing Funding*

There were 18 months of SFC funding remaining for the labs sustainability project. Zero Waste Scotland were also supportive. The Universities Scotland Efficiencies Taskforce (USET) supported the idea of a Scotland-wide project on labs and were currently looking for case studies.

Action – AA to follow up with GB.

Outreach across the UK had included meetings, lab visits, and formation of a very active group of individuals in sustainable lab roles sharing ideas, information and case studies.

Action – AA to try to draw in colleagues at Sheffield and Liverpool.

Action – All members to share any other outreach suggestions.

### *E. Estates Design & Construction*

The draft design guidelines developed by S-Lab would be picked up under agenda item 7. A dedicated meeting would be set up to discuss opportunities to improve UoE processes. The Labs Coordinator was involved in meetings for the Darwin and Bioquarter developments and representation from Estates Development on SLSG had been secured.

Action – AA to pick up with Anna Stamp and Julia Laidlaw if an existing Estate Development project summary could be brought to the Group as a periodic update.

Overall SLSG noted good progress in 2015, learning points and considerable opportunity for future work. The Group agreed that SLSG and the Sustainable Labs Coordinator post should continue, with members commending Andrew Arnott on doing an excellent job, and

agreed to put greater emphasis on communicating the financial as well as environmental impact of this work. Advice on the environmental impact of travel would be shared with the Group.

## 5 **SLSG Implementation Plan 2016**

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In line with recommendations made at the final meeting in 2015, members reiterated the need to improve the Group's capacity to convert ideas into practical action, including greater engagement with budget holders. Members recommended broadening representation from students and academics. For 2016 the Labs Coordinator was planning a series of drop-in events across the campuses.

Action – AA to follow up with David Gray regarding securing a slot at the School of Biological Sciences forum meeting.

The first priority of the 2016 workplan would be achieving savings complementary to the 10% energy reduction target, followed by: developing design guidelines; gathering data on a model lab; embedding value engineering in design processes for the long term; updating SLSG on lab developments; energy metering; and delivering Labs workshops, campus-specific engagement to promote the Lab awards, and communications materials. There was an aspiration to develop a vision for labs that could be stated succinctly and a supporting video that could be shared with USET. Metrics would be developed to measure and communicate success. Input would be provided to the SPPT process to help identify those areas of UoE procurement that had the greatest environmental impact, which could then be used to engage and influence lab users.

SLSG discussed moving from calendar to academic year for the Implementation Plan, agreeing to retain the current format and also take a longer-term three year view.

Action – AA to tweak performance reporting to SLSG to align with that vision, and produce a scorecard summary for future meetings to report progress against the plan.

Action – All members to review the 2016 Implementation Plan and send their comments to AA.

## 6 **S-Lab Conference Report**

A number of representatives from UoE had attended the S-Lab conference in Strathclyde. A speaker from the University of Colorado Boulder reported on their freezer efficiency project, clearing out unneeded samples, upping routine maintenance, and transitioning from -80 to -70°C. A spreadsheet detailing samples they deemed safe to store at -70 was available for download from their [website](#) or on request from the Labs Coordinator.

A speaker from the University of Aberdeen presented on their experiences with freezer efficiency. Following a catastrophic loss of samples, a working group on freezers had been set up which decided to standardise at -70 across the institution, installing alarms to alleviate users concerns. 99 of 120 units moved to the higher temperature, the remainder being linked to projects at other institutions and needing to preserve parity. Presentations from the conference were available from the S-Lab [Dropbox folder](#) or from the Labs Coordinator. Discussions outwith the formal sessions were equally productive, including plans to work cooperatively with Peter James of S-Lab and Alan Fox of Aecom to provide a test bed and feedback on design guidelines. Members were encouraged to consider attending in future. The only drawback had been the need to be quite selective in attending talks – shorter sessions covering a greater range of topics would be preferable.

## 7 **Breakout Session – Forthcoming Developments**

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Members split into three groups to address the set topics.

1. *Review of S-Lab guidelines & general views on design guidelines*

Members felt that the performance of buildings was not always prioritised in these systems. SFC funding was predicated on BREEAM status. If adopted with the right approach, BREEAM was a mechanism to drive good utilisation, but it could be reduced to a tick box exercise. The sub-group recognised the stakeholder influence that came with funding, and the need to bring in other standards as they arose, such as Demand Based Ventilation (DBV), now it had secured Health & Safety approval. The reputational impact of these schemes was considerable, and UoE needed to ensure they were being used to their full potential. As with Investors in People (IiP), there was a cost in securing the standard, and it was important to be clear about why UoE was pursuing it. There was potential for UoE to tweak existing frameworks to design its own standard driven by institutional priorities such as energy efficiency and weighted accordingly. The S-Lab guidelines were recognised as non-prescriptive, allowing for a flexible approach to space and future-proofing.

## *2. Extending Labs Contacts & Engagement*

This sub-group emphasised promotion of the Lab awards as helping with other objectives. Competitions, either within UoE or with other Universities, were suggested as a good hook for student engagement, providing funding could be secured. The Labs Coordinator could also present on the programme to staff and students at School forum meetings.

## *3. Estates changes impacting labs*

Development spending was expected to average £150M per annum. Estate development strategy included assessment of space requirements and potential for shared facilities, including teaching labs.

Action – AA to share a summary of development updates by area to be circulated with the minute.

## **ROUTINE ITEMS**

### **8 Thematic Workshops & Utilities Working Group meetings**

The Labs workshops series would follow the same topics as 2015. Due to staffing changes the waste and procurement session had not gone ahead. Upcoming workshops would focus on: lab design; energy and utilities; and lab technical staff. There would also be engagement with lab users on the SPPT, as well as the campus-specific lunchtime drop-in events.

The Utilities Working Group would have a plan in place by August to implement the 10% energy saving target and would look to this Group for advice on the labs component.

### **9 Any Other Business**

If the Sustainable Campus Fund proposal was successful there would be £750K available in the first year, rising to £1M in the second and third. It was crucial to be able to demonstrate that this initial £750K was well spent. A light touch, iterative approach to the application process, facilitating a quick decision, would see initial assessment by the Climate Policy Manager and the Engagement Team, escalation to the Utilities Working Group, and final sign off by the Directors of Estates and SRS. Periodic reports on packages of work would go to Estates Committee. Collective as well as individual projects would be encouraged (e.g. on lighting and labs). Notionally, 80% of projects should be focused on energy.

Action – MB to circulate the Sustainable Campus Fund proposal paper to the Group.

***Post-meeting note: paper circulated for information on 22 March.***

Action – All to share their views on the application process.



## Sustainable Laboratories Steering Group (SLSG)

Wednesday 14 September 2016, 2pm

### Vision Statement

#### Description of the paper

This paper will give a suggested Vision Statement for the SLSG and sustainability within labs at University of Edinburgh.

#### Action requested

SLSG is asked to discuss and approve the paper.

#### Background

A Vision Statement will help the SLSG and the labs sustainability programme in general to communicate the aims of the activities we are taking in a succinct way which can be used to develop support for our activities.

This Vision should be read in conjunction with the agreed remit of the group (agreed by Sustainable Operations Advisory Group 5<sup>th</sup> Nov 2014, and later agreed at the first meeting of the SLSG on 27<sup>th</sup> January 2015):

*“The main purpose of the Steering Group would be to provide expert guidance and direct the expanding remit of work associated with sustainable laboratories. It would ensure that work on sustainable laboratories is continued through a coordinated approach. The proposed Steering Group would:*

- *Provide expert guidance to the Programme Facilitator – Laboratories*
- *Contribute towards setting future objectives and monitoring progress*
- *Identify funding opportunities to support sustainable laboratories work*
- *Achieve buy in from academic schools, support groups and research centres*
- *Link sustainable laboratories agenda with University-wide strategic plans and objectives.”*

The 2016 Sustainable Labs Implementation Plan includes a requirement for a vision statement (and metrics) to be developed between May and July 2016.

#### Discussion

##### ***Vision for SLSG***

We shall be a respected and effective agent for change and improved sustainability within the University of Edinburgh. Our broad base of members shall include all relevant stakeholders impacted by sustainability improvements discussed and promoted by the Group.

*The Sustainable Labs Steering Group shall debate laboratory sustainability best practice, where all members of the Group shall have an equal voice. These debates shall be*

*informed by input from across the Group. The outputs of debates shall be such protocols, policies and practices as will inform and enable the necessary changes within University of Edinburgh in order to improve sustainability. These protocols, policies and practices shall be recommended to appropriate stakeholder groups and individuals across University of Edinburgh in order to turn informed discussion into positive action. All members of the Group shall promote best practice in their own areas of influence. The outcome from this process shall be a continual improvement in the sustainability of University of Edinburgh's laboratory facilities.*

### **Vision for University of Edinburgh labs**

University of Edinburgh laboratories shall be among the most sustainable globally, recognised as leading examples of energy, water and resource efficiency while continuing to support and enable world class science teaching and research in a healthy working environment. We will also strive to improve the various social impacts of laboratory practices locally and globally.

*We will achieve this by working with a broad range of stakeholders to identify where we can improve practices, equipment and buildings services. We will engage with, inform and inspire staff and students working in laboratories to promote best practice and encourage continuing improvement and participation. We will make use of the research capabilities and knowledge within our organisation to operate a 'living lab' approach to testing new ideas for sustainability improvements.*

### **Single Vision Statement**

We shall be a respected and effective agent for change within the University of Edinburgh, and further afield through collaboration both nationally and internationally. Our broad base of members shall work together with experts within the University of Edinburgh in a 'living labs' approach to identify and execute such changes as may be necessary to enable University of Edinburgh laboratories to be among the most sustainable globally. The aims and activities of the Group shall align with and complement the scientific and research aims of the University of Edinburgh.

### **For noting / discussion**

1. Should we have 2 separate vision statements or one single statement?
2. Should the text in italics be included?
3. What metrics should be used to measure progress?

### **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.

### **Further Information**

Author & Presenter: Andrew Arnott, Labs Sustainability Coordinator, 8 September 2016

### **Freedom of Information**

This paper may be included in open business.





## **Sustainable Laboratories Steering Group (SLSG)**

**Wednesday 14 September 2016, 2pm**

### **Update on lab equipment re-use / re-sale**

#### **Description of the paper**

This paper will give an update on actions taken and the current status of investigations into lab equipment re-sale options at the University of Edinburgh.

#### **Action requested**

SLSG is asked to discuss and endorse the paper.

#### **Background**

An unknown amount of equipment is currently taking up valuable space in crowded labs because it is no longer needed but still has too much value to be consigned to waste and no other user can be found for it within the University of Edinburgh.

Lab space is some of the most expensive space within the University of Edinburgh and as such this represents an opportunity for efficiency improvement.

Lab users and managers would welcome the opportunity to remove unwanted equipment via resale options which would return value to the lab.

#### **Discussion**

The University of Edinburgh has been approached by at least two organisations to date offering services along these lines – UniGreenScheme and Mitie “Waste Match”. There are likely other organisations offering services of a similar nature.

#### **About UniGreenScheme (UGS)**

University Green Scheme (<http://www.unigreenscheme.co.uk/>) is a private company set up by a former post-grad student from University of Birmingham, Michael McLeod. UGS were set up around 18 months ago and have clients across the UK now, including Glasgow Caledonian University. They are based in south Wales currently but are working with Zero Waste Scotland to identify if there would be enough business in Scotland for them to set up a base here and thus reduce transport costs.

#### **UGS business model and services**

UGS will:

1. come to a site, inventory the equipment (optional service - if requested),
2. remove equipment and other items (e.g. lab furniture) which is deemed sufficiently valuable for resale (they state that typically they can re-sell 80-90% of a typical collection/clear out),
3. store that equipment in their warehouse,
4. identify which is the best network to use to sell the item(s)
5. advertise the equipment on that network



6. wait for a buyer
7. sell the item
8. return half of the profits (once overhead costs of inventorying and collection are taken off) to the donor
9. in the rare occasions where items do not sell, UGS will dispose of the item in a legal and environmentally responsible manner

Legal liability for the item of equipment transfers to UGS when they collect it.

### **Mitie – Waste Match**

This service (<http://www.wastematch.co.uk/>) offers internal-reuse. In many ways it seems very similar to WARPIT but extending wider than just University of Edinburgh. Waste Match differs from the UGS service in that it does not involve a 'sale' but rather exchanging unwanted items with other organisations within a network, so there is no financial benefit. One concern is that while the UGS group specialise in lab equipment, the same may not apply for Mitie and their network may not include people looking for second hand lab equipment.

Waste Match will also provide a collection and recycling.

Waste Match offer a re-engineering service where they would fix, alter or mend items. Again, the focus in their promotional text is on office furniture, so it is unclear if they could apply this to lab equipment.

### **CCL North**

CCL North are the University of Edinburgh's existing contractor for Waste Electrical and Electronic Equipment (WEEE). WEEE basically includes anything with a battery or a plug. They remove WEEE from the University of Edinburgh free of charge (gaining financial benefit later when they dismantle items into their constituent parts and recover valuable materials). The University of Edinburgh has a contract with CCL North (since April 2016) which emphasises re-use. Partnership agreements with CCL North and a third party contractor (such as Mitie, UGS, etc) would be considered.

For reference, from May to July 2016 University of Edinburgh disposed of 104 items of lab equipment to CCL North, equating to 1.6 tonnes. Approximately half of this was reused rather than broken down into constituent materials.

### **What has been done so far at UoE and key decisions**

Waste and Procurement representatives have met with Mitie, and Waste, Sustainability and Procurement representatives have held meetings with UGS where details of the service were discussed as well as case studies and the legal aspects of any potential agreement. Currently all three departments are working together to determine how best to proceed, specifically concerning the following:

- **Contract value**
  - o This will depend on the value of items sold, so is hard to estimate, but will influence the procurement route to follow
  - o A pilot study (perhaps limited to under £50k) may be a sensible first step
- **Single supplier/competitive market**

- It must be assumed that there are other companies in this market
- Research shows that mineral extraction (precious metals) and circular economy opportunities may exist
- ***Type of contractual arrangements required***
  - Currently Procurement are advising that one likely scenario is a Concession Contract
- ***Existing waste and recycling agreements/contracts***
  - The requirements of these existing contracts must be honoured and not contradicted by any new agreement.
- ***Requirement for these services***
  - To be monitored as it evolves and reviewed strategically to ensure our waste and recycling/refit contracts and services are fit for purpose now and in future.
  - This should be influenced by and harmonious with the outputs of the year-long sustainable procurement analysis being undertaken by SRS and Procurement in 2016
- ***Other stakeholders***
  - The suggested equipment resale service(s) interacts with Estates Strategy. Estates should be involved in decision making to ensure cross campus services are in place, if deemed to be a priority in their own strategic Analysis.

In addition, a Labs Workshop was held on 25<sup>th</sup> August to consult on this matter with lab users, who responded favourably to the idea of the UGS business model (or similar).

### ***For noting / discussion***

This topic discussion is ongoing between Waste, Sustainability and Procurement. This paper is designed to advise the SLSG of this activity, but also to seek any views the group may have on this.

### **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.

### **Further Information**

Author & Presenter: Andrew Arnott, Labs Sustainability Coordinator, 8 September 2016

### **Freedom of Information**

This paper may be included in open business.