

UNIVERSITY OF EDINBURGH

MINUTE OF A MEETING of the Sustainable Laboratories Steering Group held in the Balcony Room, Old Moray House on Tuesday 27 January 2015

1 Welcome and Introductions

The Convener welcomed attendees to the first meeting of the Group, noting how positive it was to see a high turnout and so much interest in laboratories, and outlined the programme for the session.

2 Review of Lessons Learned from Previous Sustainable Labs Work

Engagement Facilitator Chris Litwiniuk gave an overview of engagement and facilitation work carried out by the SRS Department to date including:

- delivering training, setting up induction and exit policies
- running the Lab Awards scheme and peer audits
- submitting funding applications for water chillers & LED microscope systems
- building evidence as part of a long-term cold storage study
- investigating helium recovery and alternative lab ventilation strategies
- Facilitating networking to share best practice.

In their research, policies, equipment and structure of management every lab is different. However technical staff often face similar challenges and can learn from the approaches of others. Collaboration, given a solid research and evidence base, can also drive new solutions. There was at present no University-wide forum to debate and resolve these issues. With an emphasis on not constraining the core business of the University in terms of science, research and teaching, this Group would bring together multiple perspectives. The Programme Facilitator – Laboratories outlined potential areas for the Group to discuss.

Lab. Ventilation Strategy

The main issue was the energy cost (c. £1,650 annually) involved in the loss of treated (heated or cooled) air expelled. Controls designed by suppliers were often based on standards that were years out of date. Research still needed to be done, reflecting the wide variety of uses fume cupboards were put to – e.g. Biology had different air extraction requirement to Chemistry. However there was potential for significant savings through altering operational hours or air flow. Fume extraction was typically interlinked with whole air handling systems and could not be addressed in isolation.

Procurement

Members could collaborate to support ongoing work by the Procurement team and SRS Department on whole life costing, end-of-life buy-back, reducing packaging and centralised consumables purchasing, thereby reducing costs and waste. The UoE equipment sharing website [WARPit](#) was highlighted, having in its first year of operation saved over £20K, 8,000kg CO_{2e} and 1,000kg of waste. The scheme would be promoted more widely following completion of the start-up phase. It had taken some time to get the terms and conditions in place to be able to include laboratory and IT equipment and a further set would need to be in place before the scheme could be expanded beyond UoE.

Action – JR to circulate SOAG WARPit paper to the Group.

Waste

SLSG noted that the School of Chemistry had won an S-Lab award for its chemical management system and a GreenOvation award for its glove recycling scheme - initiatives that could be picked up by other schools.

Lighting

During refurbishments efforts could be made to move away from bench level lighting across the board, control lighting to reduce energy consumption and make better use of natural daylight, lighting technology and low energy alternatives.

Freezers

A number of areas for improvement had been identified. Installations of alarms to alert to temperature drops could help persuade researchers to reduce buffer zones and move from -80°C to -75°C. Streamlining of contents, exit procedures to avoid abandoned samples and replacing older units could all lead to savings.

Action – JR to circulate evidence on -80 freezer savings and sample safety.

Water

A move from open to closed loop chilling and behavioural changes were discussed.

Sub-metering

Members noted work undertaken by Energy Office to get an ever-improving picture of energy consumption in labs, monitoring labs within mixed use buildings, and monitoring individual or groups of items to build up evidence of the impact of any pilot projects or identify the impact of increased activity/changes to equipment.

The SRS Department offered its services working with areas to improve operations and work towards University targets, and urged colleagues to get in touch if they had any ideas relating to sustainability that they would like support with.

Action – JR to circulate the presentation to the Group.

General Discussion and Q & A

Members discussed outcomes of former learn energy initiatives and acknowledged the need for widespread cultural change. The Universities Scotland Efficiencies Taskforce was noted as a driver for change and a point of contact for garnering greater cross-sector support. SLSG recognised the need to address large scale large impact strategic issues, such as potential expansion of laboratory facilities, rather than individual pieces of activity.

Members discussed framing a set of recommendations for new laboratory buildings and refurbishments, recognising that while guidelines did exist, they needed to be constantly updated and required flexibility built in to facilitate improvement and ensure that solutions were a good fit for intended tenants. Understanding the science and what the growth would be was essential in future-proofing. SLSG recognised the need to challenge potential projects before adding to the estate to ensure that new laboratory facilities would be heavily used. The Group recognised the work being done in the Technical Engineering Manager's team to review design guidelines and look at designs more critically. A small task group within SLSG could be set up to feed in views.

S-Lab was noted as a valuable resource in terms of expertise and a gathering place for case studies and examples, bringing in operational issues and efficiencies to balance the focus on aesthetics, and allowing for awareness raising on what was happening within the market.

Action – JR to add all members to the circulation list for the S-Lab newsletter, unless

they indicated a wish to opt out.

SLSG discussed the expectations of funders in terms of restrictions, incentives and guidelines, noting a variety of approaches (the Wellcome Trust did have space guidelines and expect a BREEAM excellent rating, the SFC did not).

3 Membership and Remit

A

A draft remit and membership for SLSG had been approved by the Sustainability Operations Advisory Group on 5 November 2014.

It was proposed that a core steering group be established with additional representatives joining for themed meetings which would help develop strategy and advise on activities for the Labs Facilitator. A wider mailing list of interested supporters would be maintained.

It was felt that technical support and functional expertise were well represented. Members acknowledged that energy champions within a building could bring about transformational change. SLSG highlighted the need to engage with PhD students and also with technical staff, as those providing the core training that stayed with lab users throughout their careers.

Action – JR to invite a research student to join the Group.

As the highest HVAC users, representation should be sought from the animal facilities.

Action – JR to invite Graham Thomas to join the Group.

Post-meeting note: Graham Thomas accepted the invitation to join SLSG.

Action – DG and SRS Department to reflect on the membership and circulate a proposal.

Action – All to send in their thoughts.

4 Priorities for 2015 and Beyond

Attendees discussed in groups both immediate and longer-term priorities including:

Evidence, Research and Data

- Getting a clearer understanding of utilisation and the research to back up any proposed changes (including accurate metering)
- Case studies on existing exemplar locations.

Engagement/Behaviour Change / Training

- Widening engagement and securing buy-in from staff, PIs and PhD students, getting those who run, maintain and use laboratories to advocate on the Group's behalf
- Empowering and investing in technical staff through training schemes and personal development opportunities
- Working with strong academic champions to bring about culture and behaviour change
- Widening participation in the Labs Awards (the audit group was noted a valuable tool to share best practice and the element of competition was a strong motivator).

Standards, Guidelines and Procedures

- Producing guidelines delineating departmental and operational responsibilities
- Standardising operating procedures (e.g. induction and exit policies, procurement)
- Producing guidelines on good practice when designing and refurbishing laboratory facilities, framing common standards as a starting point for discussions with budget

holders, and ensuring that guidelines are monitored and kept up to date. SLSG recognised a need to challenge and gather supporting evidence before adding to the estate. Input from the Estates Department would be needed, working with laboratory users and their representatives. The Technical Engineering Manager's Team were currently engaged in a review of design guidelines and a small task group of SLSG could be set up to feed in to that process.

Procurement/Waste

- Standardisation of suppliers and consumables, beginning with audits and investigation of potential savings / efficiencies
- Asking suppliers for data on the cost and carbon footprint of deliveries in order to move away from piecemeal approaches, consolidate orders and develop improved processes
- Engaging with suppliers to minimise packaging
- Raising awareness of WARPit and addressing the legal and H&S issues involved in expanding the scheme beyond UoE.

Funding

- Researching opportunities for specific funding for sustainability in labs and identifying how wider funding opportunities integrate sustainability criteria
- Securing a guaranteed fund to cover any ideas arising in this space
- Providing incentives for schemes that would make a difference in terms of health and safety, efficiency, cost or performance
- Providing funds to help push research forward.

5 Funding Opportunities and External Collaboration

B

The Head of SRS Futures gave an update on SFC funding and outlined other funding and collaboration opportunities.

Peter James of S-Lab was noted as a contact to discuss appetite for collaboration and support. A number of institutions including Napier, Strathclyde, Glasgow and Aberdeen had expressed interest in using the scheme to foster good practice and identify opportunities.

A number of themes had been identified to improve laboratory operations, use space more effectively and develop technical staff. The University of Strathclyde were covering the fees for their technical staff to achieve chartered status – UoE could establish a similar scheme. Building multi-purpose science labs would increase utilisation and improve space management. SLSG noted a number of HEFCE initiatives around shared teaching space. However, concerns were raised regarding the impact of expansion and ensuring that provision kept up with projected levels of undergraduate recruitment.

The original S-Lab bid to SFC had been referred on to the Universities Efficiencies Task Force. In collaboration with other institutions, a proposal could be made for £180K over two years to cover the Programme Facilitator – Laboratories' time and support the development of a piece of work.

Action – JR to circulate the original bid for members to share with their networks.

6 Agree Dates of Meetings in 2015

Members agreed to meet again in the spring, after the summer, and towards the end of the year.

Action – DG & SRS Department to start to put ideas into strategic categories and blocks of work and circulate for views.