

Sustainable Laboratories Steering Group (SLSG)

Tuesday 22nd June 2021, 2pm

via Microsoft Teams

AGENDA

- 1 Minute** **A**
To approve the minute of the previous meeting on 19th January 2021 and raise any matters arising
- 2 Covid-19 Impact and Implications for Labs** **Verbal**
Discussion led by Deputy Director SRS
- 3 Sustainable Labs Programme Plan Update** **B**
To note and discuss a report from the SRS Projects Coordinator (AA)
- 4 Freezer Fund Update** **C**
To receive a report from the SRS Projects Coordinator (AA)
- 5 Update on funders approach to lab sustainability (LEAF?)** **D**
To receive a report from the SRS Projects Coordinator (AA)
- 6 Technician Commitment update** **Verbal**
To receive an update from Laboratory Technician Val Gordon
- 7 Easter Bush freezer farm** **Verbal**
To receive an update from the SRS Projects Coordinator (AA)
- 8 Any Other Business** **Verbal**
To consider any other matters from Group members
Congratulate SBS on successful SCF applications (£283k) for 2 projects which combined will save 190tCO₂e/yr.

Congratulate Procurement and others for the water-cooling system for the new national super computer, and for the dry heat steriliser to replace a steam autoclave in Chancellor's.

As a member or attendee of University committee meetings, we process and store your data in accordance with our privacy statement. Your involvement in a committee is public by default, but you may opt-out by contacting SRS.Privacy@ed.ac.uk or Jane.Rooney@ed.ac.uk

UNIVERSITY OF EDINBURGH

MINUTE OF A MEETING of the Sustainable Labs Steering Group held vis MS Teams on Tuesday 19th January 2021.

Present:

Chris Litwiniuk, Sustainability Innovation and Engagement Manager

Michelle Brown, Deputy Director of Social Responsibility and Sustainability

Andrew Arnott, SRS Projects Coordinator

Candice Schmid, Occupational Hygiene and Projects Manager

Matthew Sharp, BVS Deputy Director - Business

Kate Fitzpatrick, Waste Manager, Estates

Lee Murphy, Genetics Core Manager

Robert MacGregor, Energy Engineer, Utilities Management

David Brown, Estates and Technical Manager, Chemistry

Claudia Schaffner, Technical Services Manager, School of Biological Sciences

David Gray, Head of the School of Biological Sciences

Rachael Barton, SRS Projects Coordinator

Andy Kordiak, Procurement Manager

Dean Drobot, Energy Manager

Apologies: Grant Ferguson; Glen Cousquer; Brian McTier; Neil Johnston;; Sharon Hannah; Dave Gorman;

Minute

The minute of the meeting held on 16 September 2020 was approved as a correct record.

Covid-19 Impact and Implications for Labs

All attendees gave a short overview of impact of Covid lockdown on their areas of work.

Many of the labs have continued to be open throughout, albeit with lower staffing. Some of the impacts felt by colleagues representing labs included: increased individual workloads, particularly in research-support areas, potential negative long-term impacts on early-career researchers, critical importance of technical staff for continuing research, ventilation and concerns around increased environmental impacts as well as concerns about staffing and the impact of recruitment freeze. It was noted that the University of Edinburgh is contributing to many areas of Covid-related research.

Procurement Manager noticed significant impacts on pricing and availability of some key items. Energy Manager noted that increases in opening hours and ventilation regime led to significant increases in energy use.

Sustainable Labs Programme Plan Update

Andrew Arnott provided an overview of progress on the Sustainable Labs Programme Plan.

There was discussion on engagement with labs given current challenges. It was agreed that sustainability communication should be delayed, given how much information is being constantly provided to lab users.

There was a discussion about lab ventilation and heat recovery. Energy Office noted that CIBSE guidance for ventilation is being followed. Most heat recovery systems are also currently switched off to avoid the risk of cross-contamination.

Climate Emergency – University actions in response

Michelle Brown gave an overview of actions taken in response to Climate Emergency

Credit/Recognition for students participating in the Lab Sustainability Awards

Andrew Arnott presented a paper on student participation in the Lab Sustainability Awards, recommending that students should be made aware of the options available to them, and guided towards participation in the Student Pathways/Edinburgh Award, but also informed of the SLICC option to gain academic credit over a summer break.

The recommendation was approved by the Group.

Action

SRS should think about scaling up student participation.

Freezer Fund Update

Andrew Arnott provided an overview of performance of the Freezer Fund.

Colleagues commented that the incentive might not be big enough and since the overall figures are so good, a case should be made to UWG to relax the criteria slightly to allow for more generous support for freezers.

Lab plastics update

Andrew Arnott provided an overview of actions being undertaken to reduce lab plastic waste impacts.

Colleagues discussed the possibilities of reusing lab gloves, which is already being undertaken by some labs.

Additional guidance will be prepared by the Waste Office, with a stress on simplicity of the advice presented.

Technician Commitment update

Val Gordon provided an update on progress on actions taken as part of Technicians Commitment plan.

Sustainable Laboratories Steering Group

22nd June 2021

SLSG Programme Plan August 2020 – July 2025 – Progress Report

Description of paper *(to include Contribution to Strategy 2030)*

1. This document is intended to give an update on progress against the objectives of the 2020-2025 Sustainable Laboratories Steering Group Programme, which was drawn up to provide a structured approach to improving sustainability within laboratories at the University of Edinburgh over that time period, with a view to achieving wider University goals such as the Zero by 2040 target within the Climate Strategy.

This document will be updated prior to each meeting of the Sustainable Laboratories Steering Group. A Gantt Chart using a traffic-light colouring system (Red/Amber/Green) has been used to communicate quickly and clearly the progress which has been or is being made. In general, this is taken to mean: green = on track, amber = delayed or problematic, red = objective is in danger of not being met, and grey = action scheduled for future work.

The RAG grading is applied to the Objectives and the Targets of the plan, but not the individual actions, which are described in the body of the text where appropriate.

2. Contribution to Strategy 2030 (from selection of pre-set statements):

- i) We will see our research having a greater impact as a result of partnership, international reach and investment in emergent disciplines.
- i) We will see integrated reporting of our whole organisational impact against the United Nations Sustainable Development Goals.
- ii) We will be on track to be a Carbon-Zero University by 2040.
- xiii) Our estate will be fit for purpose, sustainable and accessible. We will support learning, research and collaboration with our neighbours, businesses and partners.

Action requested/Recommendation

3. SLSG is asked to note the progress described in this paper and provide any advice or guidance for further improvement.

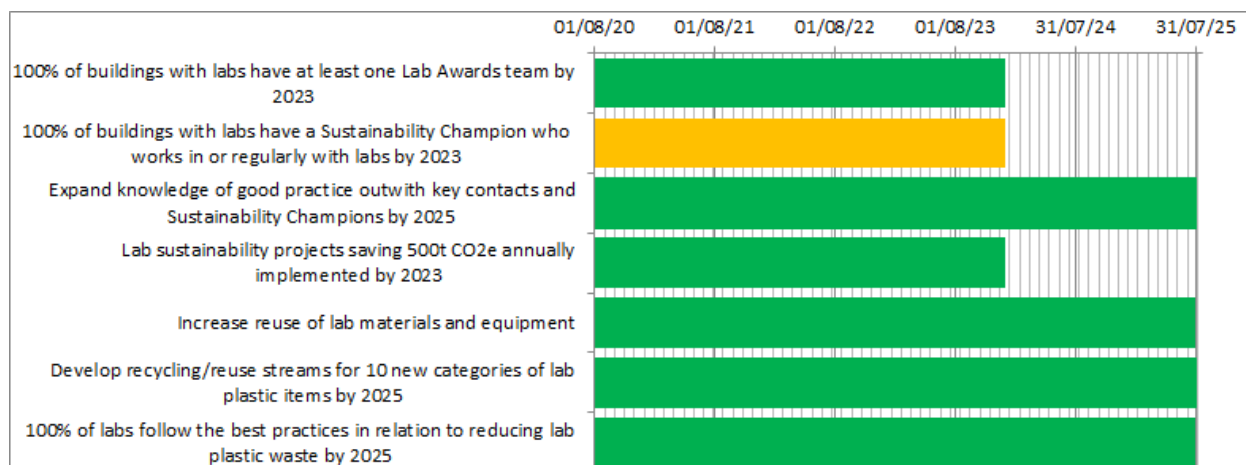
Background and context

4. Between October 2019 and May 2020 this 2020-2025 programme plan was developed and approved. This report notes the progress against this 5-year plan.

Discussion

5. Summary of objectives and targets:

1. Good practice behaviours adopted across all labs
 - a. TARGET 1: 100% of buildings with labs have at least one Lab Awards team by 2023
 - b. TARGET 2: 100% of buildings with labs have a Sustainability Champion who works in or regularly with labs by 2023
 - c. TARGET 3: Expand knowledge of good practice outwith key contacts and Sustainability Champions (as measured in biannual SRS staff and student surveys) by 2025
2. Funding is made available and used to support lab sustainability
 - a. TARGET 4: Lab sustainability projects saving 500t CO₂e annually implemented by 2023 (including ventilation/HVAC improvements in lab buildings)
3. Increase reuse of materials and equipment across University labs
4. Eliminate avoidable lab plastic waste through increasing options and increasing awareness
 - a. TARGET 5: Develop recycling/reuse streams for 10 new categories of lab plastic items by 2025
 - b. TARGET 6: 100% of labs follow the best practices in relation to reducing lab plastic waste that are practicable in their lab by 2025



OBJECTIVE 1: Good practice behaviours are adopted across all labs

TARGET 1: 100% of buildings with labs have at least one Lab Awards team by 2023

Action	Responsible	Timescale	RAG
Schools mandate that all labs achieve at least Bronze in sustainability awards.	SRS and School management	December 2021	Deputy Director and Director SRS has met most Heads of Schools (as of April 2021) for a conversation on “embedding” sustainability. This covered multiple topics, travel, research, climate change and the lab and office Sustainability Awards.
Lab-based PG students get amount of credits for working on a lab sustainability awards team (as part of their skills training outside of the curriculum)	SRS and School management	December 2022	Communications were sent out in early May 2021 to awards teams about eligibility for SLICCs (deadline for applications is end of May). SRS Student Pathways / Edinburgh Award were also included in the communication and will be promoted again in September 2021.
Develop an e-learning course	SRS	July 2021	Completed April 2020

specifically focussed on sustainable labs (as a spin-off from Be Sustainable)			<p>An online interactive workshop delivered quarterly over the period April 2020 to May 2021.</p> <p>The relevant section of Be Sustainable was updated in May 2021.</p>
Review the Awards processes making the awards more appealing / less burdensome for participants.	SRS	February 2022	<p>No work has yet taken place on this.</p> <p>A comparable Lab Awards framework known as LEAF (Lab Efficiency Assessment Framework) completed a second pilot project in 2020 and a review report is due in 2020/2021. A review of the feedback and outcomes of this pilot, and other similar schemes will be undertaken to compare with the SRS Lab Awards and identify possible improvements.</p> <p>Timescale still feels achievable</p>

TARGET 2: 100% of buildings with labs have a Sustainability Champion who works in or regularly with labs by 2023

Action	Responsible	Timescale	RAG
<p>Increase number of contacts/labs undertaking pilots to demonstrate that good practices are compatible with science</p> <p>Case studies to include details to contact the</p>	SRS	1 case study published each year (ideally on different topics).	<p>Pilots on lab plastics now taking place at Reagan Wallace lab (SBS) as well as Roslin.</p> <p>Case study on Roslin has been written (by the lab) and published in Access Microbiology.</p> <p>Case study of Reagan Wallace can be written later 2021, or early 2022.</p>

<p>participants. Including information on costs, staff time, buy-in from management and practicalities</p>			
<p>Colleges mandate that each School with labs has an appointed/nominated Sustainability Leader who heads up a committee of Sustainability Champions and coordinates sustainability actions across their School.</p>	<p>SRS and College management</p>	<p>First Schools declare their decision by July 2021</p> <p>50% of Schools declared by July 2022</p> <p>100% of Schools declared by December 2025</p>	<p>The outcomes of this work may not look exactly as described in the action plan – there are other ways for Colleges and Schools to integrate sustainability into their governance structures, e.g. Sustainability Committees.</p> <p>1 School by July 2021 seems challenging and the outcome is uncertain.</p> <p>50% and 100% targets seem currently quite a stretch.</p>
<p>Sustainability Champions encouraged to work with neighbouring labs, helping to spread good practice and information</p>	<p>Lab Users, SRS</p>	<p>November 2020</p>	<p>This is delayed but forms part of the various communications messages which are included in the planned SLSG communications via SRS channels (i.e. entering content in existing School/College newsletters rather than having a Sustainable Labs newsletter).</p> <p>This will most likely occur from summer 2021 onwards.</p>

TARGET 3: Expand knowledge of good practice outwith key contacts and Sustainability Champions (as measured in biannual SRS staff and student surveys) by 2025

Action	Responsible	Timescale	RAG
Publicise that the Sustainability Awards criteria is available to all lab users to inform good practice.	SRS	November 2020	<p>This is delayed but will form part of the various communications messages which are included in the planned SLSG communications via SRS channels (i.e. entering content in existing School/College newsletters rather than having a Sustainable Labs newsletter)</p> <p>This is also included in the lab sustainability training webinars which many people have attended this year.</p>
Link communications about lab sustainability to academic research e.g. Horsfall Labs' work on complete life cycle analysis / Bio Technology and Circular Economy ('theme' within CSE) / Chemistry's work on global mineral scarcity/ capacity	SRS with input from key academics and lab users	July 2022	<p>This will form part of the various communications messages which are included in the planned SLSG communications via SRS channels (i.e. entering content in existing School/College newsletters rather than having a Sustainable Labs newsletter)</p> <p>This specific action will also involve our SRS Comms team building relationships with School Comms teams</p>
Restrict procurement options/	SRS and Procurement with input from lab users	July 2022	An introductory meeting was held between SRS and Procurement relating to the incorporation of sustainability into the new procurement

<p>heavily promote better options</p>			<p>systems. Follow up meeting mid June [verbal update].</p> <p>Information about suppliers who use more sustainable packaging materials/take-back schemes is included in the lab sustainability training webinar.</p> <p>Procurement have cautioned that restricting procurement options may not be wise right now as for some items (e.g. gloves) just getting hold of them is hard enough due to supply chain disruption from Covid, Brexit and recently revealed forced labour practices in the world's largest glove manufacturer (TopGloves in Malaysia).</p> <p>At this time the July 2022 target still seems achievable.</p>
<p>Undertake more face to face lab audits/advice visits to give targeted and personalised advice</p>	<p>SRS</p>	<p>3 new labs visited each year, with follow up advice and support provided where appropriate.</p>	<p>Due to Covid19 disruption and restriction of lab time to urgent priorities it is not currently thought justifiable for a generic lab audit/advice visit to take place.</p> <p>As restrictions and advice related to Covid19 develop, this position may change, but 2020-2021 is highly likely to miss this target.</p> <p>The planned SRS communications includes promotion of video tours of labs for sustainability audits.</p>
<p>Identify the top 5 initiatives that labs are working on and develop into</p>	<p>SRS</p>	<p>December 2020</p>	<p>Data gathering was completed in November 2020. Poster</p>

posters and other communications to prompt spread of good practice.			completed May 2021 and published on website.
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OBJECTIVE 2: Cost effective lab sustainability improvement projects are identified, funded and implemented

TARGET 4: New lab sustainability projects implemented between August 2020 and July 2023 save 500t CO2e annually (including ventilation/HVAC improvements in lab buildings)

Action	Responsible	Timescale	RAG
Assess labs to optimise ventilation rates and controls, including night set-back	SRS, Estates, Lab users, H&S	Ongoing	<p>K.J. Tait have just been appointed for the second phase of the Lab Ventilation Effectiveness programme. Included buildings will be contacted shortly to arrange site visits and to request information from lab users and Health and Safety teams.</p> <p>Proposals for improvements to ventilation for IVCs at SCRUM are in development (K.J. Tait + Contractor). This involves ducting the extract from IVC AHU directly into the room extract.</p> <p>Other BRFs will be reviewed for possibility of similar changes.</p> <p>Building Ventilation in response to COVID continues to be led by the Building Services Group following the published guidance.</p>

Lab users are trained in ventilation risk assessment	H&S, Estates, Lab users	Ongoing	Estates Building Services and Controls teams remain extremely busy and do not have time to support any non-priority activities.
Pilot projects funded for novel approaches such as LILEE	SRS, Lab users, Estates	2 more pilots by 2023	Disruption from Covid19 will impact this, but it's still possible to achieve within the timescale described. Lab plastics re-use/substitutions may be one area which could be suitable for this.
Identify replicable actions which are cost effective, impactful and broadly relevant across labs.	SRS, Lab users, Estates	By February 2021	This will be covered in planned SRS communications – not by Feb 2021 though. More likely to be completed around summer 2021.
Roll out replicable actions identified (e.g. drying ovens)	SRS, Lab users, Estates	By July 2022	Once the above action can be undertaken to develop the list of key technologies/investments required, then this can begin. It would be best done by setting up a fast-track SCF application process (if funds are required).
Work on ensuring the Sustainable Campus Fund is available until 2025	SRS, Estates	Ongoing	<u>Director SRS to give verbal update on Estates Committee.</u> Tighter budgets due to the impacts of Covid19 will make this task harder, but hopefully still achievable. At the moment the Sustainable Campus Fund is undergoing change. It is believed that proposed changes will result in a smaller (perhaps £200k/yr) fund for 'bottom up' projects, e.g. equipment replacement/upgrade. Carbon

			costs from successful lab SCF projects are around £250/t, so if we manage to spend £200k/year we should hit the target of 500t/year carbon savings by July 2023. This will be entirely dependent on getting enough good quality applications.
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OBJECTIVE 3: Increase reuse of lab materials and equipment

Action	Responsible	Timescale	RAG
Identify any gaps in the departments/Schools which use Warpit, and target these to increase participation	SRS	July 2021	AA to undertake desk-based analysis from Warpit data June + July 2021
Raise awareness of Warpit and promote external sale/donation with Lab managers/Stores/those with purchasing responsibilities	Procurement	July 2021	<p>This is covered in the lab sustainability training webinar, and on the newly relaunched lab sustainability website.</p> <p>This will be covered in SRS communications channels</p> <p>SRS are in communication with Procurement (Andy Wright, Colin Miller and Kirsty Hughes) about incorporating various sustainability messages and 'nudges' into the new procurement system which will be embedded in People and Money.</p> <p>Procurement have advised that the People and Money</p>

			implementation for procurement won't now happen before end of this calendar year.
Provide greater clarity on what is and is not allowed on Warpit (e.g. plasticware and consumables can be included), processes and guidelines	SRS	December 2020	This will be covered in the SRS communications channels but not until summer 2021.
Provide more case studies of successful usage of WARPit, including savings.	SRS	March 2021	This will be covered in the SRS communications channels but not until summer 2021.
Adopt a policy requiring people to show evidence of trying to source from Warpit or 2 nd hand before purchasing new equipment/resources.	Procurement	July 2022	See above notes about SRS contact with Procurement regarding implementing sustainability into the new procurement system on People and Money. Procurement are developing a project considering options for managed equipment services which is now moving on and should involve novel approaches to equipment acquisition and keeping the technology leading-edge, without the usual scrap and replace cycle. If this comes to fruition procurement will ensure sustainability objectives are built into strategic agreements.
Increase visibility of information about Warpit e.g. the main page of the	SRS, Waste and Procurement	July 2021	This will be included within the new version of the SRS Labs website.

Procurement website, clearly on SRS and Waste websites, and as a reminder box on SciQuest.			See notes above about P&M. AA to work with Procurement to develop text for inclusion in P&M.
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OBJECTIVE 4: Eliminate avoidable lab plastic waste

TARGET 5: Develop recycling/reuse streams for 10 new categories of lab plastic items by 2025

Action	Responsible	Timescale	RAG
Hold a workshop to bring suppliers and waste contractors together to share challenges on both sides, and to prompt development of new lab plastics waste streams.	Procurement Waste SRS NHS EAUC ZWS	April 2021	<p>A workshop with stakeholders is not ruled out, but is not in planning currently as we may be able to make progress without it. It did not happen by April 2021.</p> <p>A working group on lab plastics in Scotland has been established by AA, using EAUC to advertise it, with members from Aberdeen, Glasgow, Glasgow Caledonian and Napier. Lab plastics were also covered in a recent EAUC-S waste TSN.</p> <p>At present this group is sharing best practice and barriers.</p> <p>Once Napier can undertake a site visit of the Enva facility to confirm it genuinely recycles their used lab</p>

			<p>plastics, we will be in a better position to consider our options.</p> <p>AA has had discussion with lab supplier and is pressing them to make better information available about plastic types, as well as to encourage them to work with Procurement/IS to highlight 'environmentally preferable' options within UoE purchasing systems (P&M).</p> <p>Separately, UoE is now seen as quite 'expert' on the topic of lab plastics and we have been asked to speak at 7 events (some international) over the period between January and May 2021.</p>
<p>Identify the most commonly used lab plastic items and confirm which plastic types they are.</p>	<p>SRS</p>	<p>December 2020</p>	<p>A desk-based assessment of the lab consumables procurement spreadsheet was undertaken, which identified tips, stripettes, tubes, plates and syringes as the most common. Resin-code information was not often included in the spreadsheet. However, where it was available it showed that PP (5) and PS (6) were the common types. (see note above about working with suppliers to get better resin code data).</p> <p>In a recent EAUC TSN a colleague from the Life Sciences College in Dundee shared their findings</p>

			<p>describing which items are commonly produced using which plastic types.</p> <p>This information can be used in discussions with waste contractors in future.</p>
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TARGET 6: 100% of labs follow the best practices in relation to reducing lab plastic waste that are practicable in their lab by 2025.

Action	Responsible	Timescale	RAG
Develop case studies on swapping to use glassware instead of plastic.	SRS	March 2021	<p>The group at Roslin undertaking a pilot published their own write-up in Access Microbiology in October 2020.</p> <p>The online version is available here: https://doi.org/10.1099/acmi.0.000173</p> <p>When further information becomes available from Reagan Wallace lab a case study can be written.</p>
Communicate to provide clarity on what can (and cannot) be recycled in a lab setting	SRS Waste Lab users	December 2020	<p>This has been covered in the lab sustainability training which has been conducted quarterly since April 2020.</p> <p>This was also covered in the website launch May 2021.</p>
If new recycling streams/ recyclable items become available	SRS Procurement	July 2024	Action will be taken if/when this occurs. This is dependent on outcomes from discussions with Waste

promote these options to lab users.	Waste Lab users		Contractors (Biffa) - which will happen after our colleagues at Napier have audited their decontaminated waste contractor, Enva. Take-back schemes are highlighted within the quarterly lab sustainability training.
Work with labs to undertake trials/pilots to phase out non-recyclable / reusable plastics, and help designing experiments to reduce waste.	SRS Waste Lab users	2 labs undertake trials by July 2023	The work of the Reagan Wallace group means we now have 2 pilots underway/completed. Further pilots are always welcomed, and SLSG members are encouraged to promote this in their area.
Share the findings of the trials/pilots	SRS	December 2023	The Access Microbiology paper from Roslin was shared with the SLSG in October 2020.
Encourage labs to rethink the location of bins and consider allowing recycling bins in labs to facilitate ease of segregation.	SRS Waste Lab users	July 2023	No action taken to-date but the long timescale of this means it's still on track.

Resource implications

7. No resource implications are related to reporting on progress against this plan. Implementation of the plan will have wider resource implications, which have been detailed elsewhere.

Risk Management

8. No risks associated with reporting on progress against this plan. No items on the plan are currently at risk of failure (red graded).

Responding to the Climate Emergency & Sustainable Development Goals

9. Climate Emergency: the actions in this plan will reduce either direct or indirect carbon emissions (or sometimes both) through reducing energy consumption, water consumption, waste production (and high impact hazardous waste streams), and resource consumption.

10. SDGs: the various actions in this plan will contribute positively to the following SDGs:

3 – Good health and wellbeing

Many sustainability actions also improve health and wellbeing, for example good practices with fume cupboards, or substitution of hazardous chemicals.

4 – Quality education

A quality education requires incorporation of the global challenges we face (as set out in the SDGs) and also the practical actions which can be taken to combat these challenges.

6 – Clean water and sanitation

Sustainable lab practices promoted by this plan will reduce potable water consumption.

9 – Industry, innovation and infrastructure

Some of the actions which might be taken in relation to sustainable labs will fall into the categories of innovation and/or infrastructure.

11 – Sustainable cities and communities

Actions to make UoE labs more sustainable will contribute to making the city of Edinburgh more sustainable.

12 – Responsible consumption

Sustainable lab practices promoted by this plan will reduce material consumption.

13 – Climate action

Sustainable lab practices promoted by this plan will reduce greenhouse gas emissions.

14 – Life below water

Actions on lab plastic waste reduction will help to reduce negative impacts on aquatic and oceanic life.

15 – Life on land

Reducing our material consumption reduces the amount of raw materials which must be mined, extracted, or grown – all of which have negative impacts for life on land.

Equality & Diversity

11. No foreseen impacts.

Next steps/implications

12. A further progress report will be provided at the next SLSG meeting by the SRS Project Coordinator – Labs (or appropriate substitute). During that time further actions will be taken towards the outcome objectives of the plan.

Consultation

13. This document has been reviewed by:

Head of Programmes – SRS

Sustainable Innovation and Engagement Manager – SRS

Further information

14. Author and Presenter

Andrew Arnott SRS Projects Coordinator - Labs

Department for Social Responsibility and Sustainability

May 2021

Freedom of Information

This is an open paper.

Sustainable Laboratories Steering Group

C

22nd June 2021

Performance of the Freezer Fund

Description of paper

1. This paper describes the financial and carbon performance of the Freezer Fund, a ring-fenced section of the University of Edinburgh's Sustainable Campus Fund.

Note – at the time of writing (28th May 2021) no change to the performance of the fund since September and January's papers.

Two new applications have recently been received, decisions pending (these are therefore not yet reflected in the figures): CVS (QMRI) application for 4 replacement ULTs; and Institute of Immunology and Infection Research (Ashworth) for 1 ULT to replace 2 existing units. For the latter application we are investigating if more funding can be provided to reward the ULT fleet reduction.

The freezer fund has around £8k left. The CVS application for 4 ULTs could require £6k. The IIR application would qualify for at least £1,500 under the normal assessment scheme, not taking into account the additional benefit of the fleet reduction they are committed to. Thus the fund is likely to be liable for at least £7,500 in the next few weeks. Both applicants are also working on further applications for multiple ULT replacements.

Consequently the fund will shortly be completely spent. It is recommended that the fund be topped up with £20k as it performs well in terms of finance and carbon and is an effective engagement tool

2. Contribution to Strategy 2030 (from selection of pre-set statements):
 - i) We will see integrated reporting of our whole organisational impact against the United Nations Sustainable Development Goals.
 - ii) We will be on track to be a Carbon-Zero University by 2040.
 - xiii) Our estate will be fit for purpose, sustainable and accessible. We will support learning, research and collaboration with our neighbours, businesses and partners.

Action requested/Recommendation

3. SLSG is asked to note the performance.

It is recommended that the fund continue, as it performs well and provides a useful and impactful incentive to lab users to remove old inefficient freezers and replace them with energy saving equivalents. As well as an energy benefit, there is often a science benefit too, with more consistent and reliable temperatures and better racking/organisation making samples quicker and easier to find.

Background and context

4. The freezer fund was set up as a ring-fenced section of the Sustainable Campus Fund shortly after the fund was established in 2016.

Discussion

Using the SCF Project Tracker spreadsheet the following analysis was produced using figures up to end of April 2021:

1. Total spend £41,928 (from SCF grants, not including the amounts spent by the recipients - we haven't been tracking this. For example we give a maximum grant of £1,500 per ULT freezer but we don't track if that freezer cost £6k or £9k)
2. Total annual electricity cost savings £12,935
3. Simple payback 3.2 years
4. Average NPV is £2,998
5. Average IRR is 30%
6. Average ROI is 361%
7. Total annual CO₂e savings 38.6tonnes
8. Average £/tonne CO₂e saving is £86
9. 29 applications have been received (mostly for a single ULT, two for a pair of ULTs, two for a single -20 freezer). Two applications (one for a pair of freezers) were an 'eco top up' for someone purchasing additional freezers, which obviously we try to discourage unless absolutely necessary.
10. More than half of all applications (18) have come from only 4 applicants (with 9, 4, 3 and 2 applications each)

Resource implications

11. The grants given (maximum £1,500) are relatively small, compared to the cost of the ULT (c.£6-9k). There has been a steady but not excessive increase in use of the fund over the past year or so. The usage of the fund is deemed to be within the capacity of the SCF to support.

Risk Management

12. Discontinuation of the freezer fund could risk reducing the number of new contacts SRS makes through this fund, as well as disincentivising engagement in wider SRS activities from existing contacts.

Responding to the Climate Emergency & Sustainable Development Goals

13. Climate emergency: the replacement of inefficient cold storage freezers with more efficient models makes a substantial impact on the electricity consumption of the units, and also reduces the cooling-load on the building's HVAC system. In addition, the new units must be confirmed to have low GWP refrigerants before they can receive funding.

14. SDGs: the actions in this plan will contribute positively to the following SDGs:

9 – Industry, innovation and infrastructure

The provision of good quality, energy efficient cold storage is an example of sustainable infrastructure.

13 – Climate action

The replacement of inefficient cold storage units with more efficient units reduces electricity consumption, and associated carbon emissions. In addition, the new units must be confirmed to have low GWP refrigerants before they can receive funding.

Equality & Diversity

15. No Equality and Diversity implications have been identified relating to this fund.

Next steps/implications

16. It is recommended the fund continue to be reviewed and 'topped up' as and when the ring-fenced funds are exhausted.

Consultation

17. The Deputy Director SRS and Head of SRS Programmes, as well as the Sustainability Innovation and Engagement Manager have been consulted.

Further information

18. *Author and Presenter*

Andrew Arnott

Project Coordinator - Labs

Sustainability Innovation and
Engagement Team

Department for SRS

05/05/21

Freedom of Information

19. This is an open paper.

22nd June 2021

Funders approach to sustainable labs – specific reference to LEAF

Description of paper

This paper provides an update on the approach being taken by the National Environmental Research Council to sustainable lab reporting from their funded facilities. It confirms that, although NERC will mention LEAF as a lab sustainability assessment tool to their funded facilities, other methods for demonstrating lab sustainability are also acceptable at this stage.

Contribution to Strategy 2030 (from selection of pre-set statements):

- i) We will see integrated reporting of our whole organisational impact against the United Nations Sustainable Development Goals.
- ii) We will be on track to be a Carbon-Zero University by 2040.
- xiii) Our estate will be fit for purpose, sustainable and accessible. We will support learning, research and collaboration with our neighbours, businesses and partners.

Action requested

SLSG is requested to note the information in this report for awareness, as other funding bodies may soon begin to adopt similar approaches.

SLSG members are asked to make appropriate colleagues in their schools/colleges aware of the information in this paper.

SLSG members are asked to let SRS Project Coordinator (Andrew Arnott) know of similar conversations they have/had with funders.

Recommendation

Participation in the University of Edinburgh sustainable labs awards scheme would seem to be a good way to respond to funders' requests for information on sustainable lab practices, so it is recommended that academic members of SLSG encourage all labs in their areas to join the awards scheme as soon as possible, to enable them to have something to report when requested by their funder(s).

Background and context

Lab sustainability assessment methods

University of Edinburgh has been running a successful awards scheme for sustainable lab practices since 2011 ("Edinburgh Sustainability Awards, or ESA"). The criteria and methods have been reviewed regularly and have evolved over time, reflecting changes in our knowledge about good lab practices.

University College London developed a Lab Efficiency Assessment Framework (LEAF) tool in 2017-18 with input from members of the Lab Efficiency Action Network (LEAN). University of Edinburgh is a founder member of LEAN.

Both LEAF and ESA are based upon the NUS Green Impact Labs criteria, which in turn are based upon the S-Lab criteria. Consequently LEAF and ESA are very similar in their criteria. There are some differences, and these have been described to SLSG previously in a paper in October 2018 – see appendix 1 of this paper for a detailed comparison of the two schemes.

University of Edinburgh's School of Chemistry hosted a pilot of LEAF in 2018-19 and fed back to UCL to help improve the LEAF tool. Subsequently UCL have launched v2 of LEAF on a fee-paying basis. University of Edinburgh's Department for Social Responsibility and Sustainability determined that it was not worthwhile to pay to use LEAF as the differences between LEAF and ESA were deemed to be small, and our existing scheme was deemed to meet our needs well. In addition, there is in-house support for the ESA programme from SRS, so it is considered that the additional benefits of LEAF are not worth the cost in our case.

Funders and lab sustainability

Awareness of the Climate Emergency and Ecological Emergencies has been rising rapidly since 2018-19, with many institutions 'declaring' in 2019. This is reflected in the sustainability ambitions of many funding bodies now, for example Wellcome Trust allow funding recipients to use funds to offset the carbon emissions from travel, and UKRI have developed an Environmental Sustainability Strategy which declares that by 2024 all recipients of funding will have to demonstrate sustainable practices.

University of Edinburgh, and the LEAN network are engaging with funding bodies to help them define what 'good' looks like in terms of lab sustainability.

Director of SRS is on the UKRI environmental strategy implementation advisory group chaired by the NERC CEO.

Discussion

In April 2021 a Geosciences lab contacted SRS to ask for information about LEAF. The lab is NERC funded and NERC had recommended to the lab that they use LEAF to demonstrate lab sustainability practices. This raised concerns in SRS that NERC (and possibly other funders) might only accept LEAF, forcing UoE to adopt the fee-paying LEAF scheme.

A discussion was held between the SRS Project Coordinator – Labs and two NERC staff who had originally been recommending LEAF to the Geosciences lab. In the discussion it was concluded that NERC had recommended LEAF as they had been using it in their own in-house facilities and had found it to be beneficial. When they were made aware of ESA they said they would be happy to accept that as a demonstration of sustainable practices. They also pointed out that accreditation to bronze, silver or gold of a particular scheme was not particularly important to them (at this time – this may change) – what they wanted to know was what actions are being taken for sustainability. They agreed that for a lab who has not previously engaged with sustainable practises either LEAF or ESA would provide a good description of what 'good' looks like, and steppingstone progression for continuous improvement. So even if accreditation is not sought, engagement with ESA or LEAF would help the lab identify action they should prioritise.

This information has been passed to the initial Geosciences contact, as well as two other NERC facilities in Geosciences. This should help them to complete their annual Benefit Realisation Report for NERC.

It is possible (or even likely) that similar communications between other funders and funded facilities/grant recipients will occur across all disciplines over the next couple of years.

Resource implications

Responding to requests from funders for information on sustainability practices will take some resource. Initially this may well fall quite heavily on SRS, but as colleagues in Schools and Colleges become more familiar with the procedures they should be able to cover most of the responses in-house.

In order to have some actions to report, labs will need to be taking sustainability actions. This will often have a positive impact on energy, water and waste costs. There may be additional requests for funds to replace old inefficient equipment (e.g. via the Sustainable Campus Fund).

Labs who can report impressive actions on sustainability will have a competitive advantage in terms of grant applications.

Risk Management

There is a risk of loss of competitive advantage for funding bids if our labs do not adopt sustainable practices which can be reported to their funders.

There is a risk that other funders will exclusively accept only LEAF as a demonstration of lab sustainability. In the 2020-21 cost structure this would be a 'recommended contribution' of £2,000 per year, for an institution with 10+ participating groups. This would currently be difficult to fund from SRS budgets, and so other funding arrangements would be investigated.

There might be a small risk of some labs wanting to adopt LEAF independently, which could result in duplication of effort and inefficiencies. For that reason, it is recommended that ESA remain University's only recommended labs sustainability assessment.

Responding to the Climate Emergency & Sustainable Development Goals

Climate emergency: if the influence from funders encourages more labs to adopt sustainable practices this should help to reduce our institutional greenhouse gas emissions.

SDGs: the actions in this plan will contribute positively to the following SDGs:

3 – Good health and wellbeing

Many sustainability actions also improve health and wellbeing, for example good practices with fume cupboards, or substitution of hazardous chemicals.

4 – Quality education

A quality education requires incorporation of the global challenges we face (as set out in the SDGs) and also the practical actions which can be taken to combat these challenges. Sustainable lab practices in teaching labs will contribute to this SDG.

6 – Clean water and sanitation

Sustainable lab practices promoted by this plan will reduce potable water consumption.

9 – Industry, innovation and infrastructure

Some of the actions which might be taken in relation to sustainable labs will fall into the categories of innovation and/or infrastructure.

11 – Sustainable cities and communities

Actions to make UoE labs more sustainable will contribute to making the city of Edinburgh more sustainable.

12 – Responsible consumption

Sustainable lab practices includes actions to reduce material consumption.

13 – Climate action

Sustainable lab practices includes actions to reduce greenhouse gas emissions.

14 – Life below water

Actions on lab plastic waste reduction will help to reduce negative impacts on aquatic and oceanic life.

15 – Life on land

Reducing our material consumption reduces the amount of raw materials which must be mined, extracted, or grown – all of which have negative impacts for life on land.

Equality & Diversity

Equality and Diversity impacts related to the Climate Emergency and SDGs have been noted above. No other impacts on Equality and Diversity are foreseen.

Next steps/implications

SLSG members should promote adoption and documentation of sustainable lab practices among their labs. It is recommended that participation in the ESA provides a well structured and supported means of doing this.

SRS will continue to respond to requests for information, which at the moment are unpredictable and ad hoc as we have limited awareness of when each funding body will start to ask for this type of information. We can be confident, however, that most if not all funding bodies will start to ask for this information over the next few years, and as such we will develop scalable practices for responding to requests for information – for example via our College and School benchmarking reports.

Consultation

This document has been reviewed by:

Director – SRS

Head of Programmes – SRS

Sustainable Innovation and Engagement Manager – SRS

Further information

Author and Presenter

Funders approach 2021

Andrew Arnott SRS Projects Coordinator

Department for Social Responsibility and Sustainability

May 2021

LEAF vs ESA

Rachael Barton SRS Projects Coordinator

Department for Social Responsibility and Sustainability

October 2018

Freedom of Information

Open paper.

Appendix 1

Summary of the LEAF tool

LEAF provides a standardised format for lab groups to take part in a structured Awards scheme and be able to record measurable impacts from their actions.

There are 2 elements to the tool:

- Calculators which measure the impact of lab equipment by looking at energy use by equipment, waste produced and CO₂e emissions.
- A set of actions/criteria to complete in an Award format over three progressive levels.

There is a calculator for each of the main types of lab equipment and waste which is used to record a lab's baseline usage, subsequent improvements and the total lab savings. Covered by individual calculators are: waste, fume cupboards, safety cabinets, IT and cold storage.

The calculator's accuracy depends on the lab being able to determine a number of constants and assumptions including but not limited to: the cost of electricity, DEFRA CO₂ factor for Grid Electricity, the unit price of a ULT freezer etc.

There is also a section to record purchases and other initiatives which demonstrate a commitment to sustainability in procurement and other areas not covered by the calculators.

Overall, the LEAF tool is similar to the existing Lab Awards, in terms of aim and what is asked of lab users, however is more condensed and incorporates a method to record quantitative impacts.

Comparison of LEAF with the ESA Lab Awards

Participation accessibility:

LEAF may allow more types of labs (such as engineering labs) to participate to higher levels, as the criteria are broader and there are fewer criteria which may not be

applicable to them (several N/A criteria would make a team ineligible for the award in ESA Lab Awards).

Topics:

The two assessment schemes broadly cover the same topics and require labs to carry out similar actions.

The current ESA Lab Awards cover nine topics, while the new LEAF tool covers eight topics. The topics covered by the two schemes are roughly equivalent as detailed in the table:

The current ESA Lab Awards cover 9 topics:	The new LEAF tool equivalent topics:	LEAF topics with no clear match
Fume cupboards and biosafety cabinets (BSC)	Ventilation	Research Quality
Cold storage	Equipment	People
Chemicals and gases	Sample & Chemical Management	Procurement
Scientific equipment	Equipment	IT
Water		
Waste and recycling	Waste	
Heating, ventilation and air conditioning (HVAC)	Ventilation	
Lighting		
Awareness and training		

Criteria:

The ESA Lab Awards for the most part has communication focused criteria such as putting up posters and stickers within Bronze level, then more infrastructure and process changes (and more personal commitment from individuals) at Silver level. At Gold level the actions are more advanced and involve external groups such as Estates more, there is also more of a time demand.

The LEAF tool takes a roughly similar approach to building the commitment through Bronze/Silver/Gold but there appears to be a need for more Estates involvement from Bronze Level. For example, Bronze requires that: “The lab is aware of any negative (or positive) pressure required and these are correctly maintained. Users have reported any issues with pressures, excess heating or cooling, or any other relevant issue to estates.”

Number of criteria:

The number of criteria in the ESA Lab Awards is much higher than in the LEAF tool, and LEAF is overall a condensed version of the ESA scheme. Many of the LEAF criteria are covered by multiple ESA criteria, e.g. the LEAF Bronze criteria 'All samples and chemical containers are legible, or there is a system in place to ensure that going forward all samples will be consistently labelled.' is covered by 4 separate ESA Gold criteria. This could be more user friendly and reduces the repetition within ESA but means less detail is provided to clarify the requirements in LEAF.

Each level in the two schemes have the following number of criteria:

Scheme	Bronze	Silver	Gold	Total
Lab Awards	16	25	37	78
LEAF	16	16	12	44

Criteria focus:

LEAF does not contain criteria which specifically focus on Health and Safety actions (such as COSHH and spill training) and is less specific about requiring maintenance. LEAF instead requires actions on Research Quality and IT, which the ESA Lab Awards does not.

Main gaps in each scheme which are covered by the other:

Not covered by ESA Lab Awards	Not covered by LEAF
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Research Quality	Health and Safety (COSHH and spills)
Sharing of samples and chemicals externally	Evidence of regular equipment and fume hood maintenance
Reduction in total waste produced/improved recycling rates	Disposal via drains
Reducing travel by lab staff	Water efficiency (although it covers chiller recirculation)
IT	Safe Chemical storage
	Sharing freezer space and replacing inefficient freezers
	Ice machines
	Lasers
	Plastic waste recycling

Evidence Requirements:

The ESA Lab Awards are very clear and specific about what actions to take and what type of evidence is used to assess each criteria. The LEAF scheme is less explicit and takes a more flexible approach to documentation/evidence - where teams are told what to achieve and they must decide what the right approach is. This could be beneficial to teams as they are worried less about finding evidence, but could mean they are unsure what actions to take.

User support:

There are detailed descriptions of how to use each scheme available, including what details are required to complete each calculator in LEAF. Both LEAF and the Lab Awards provide a good explanation of why each criteria is important and what it achieves in terms of sustainability.