Green Impact Universities and Colleges

The **Labs Tab:** Explained

Laboratory operation has many significant environmental impacts ranging from energy and resource consumption to chemical and equipment disposal. Working with HEEPI (Higher Education for Environmental Performance Improvement), we have been able to add a new tab of criteria to your existing workbook, utilising their S-Labs[1] work to empower labs across the country to better their environmental behaviour and performance.

This enables lab teams to work through the normal bronze, silver and special criteria for accreditation within the university, but also to complete their own tab of criteria to gain recognition for the impacts they have been able to achieve as departments.

"When I was working in labs I saw many opportunities for environmental improvements but without a body of knowledge it was difficult to make progress. These new assessment criteria provide a systematic way for lab users to identify what the key issues are and how they can improve their practices."

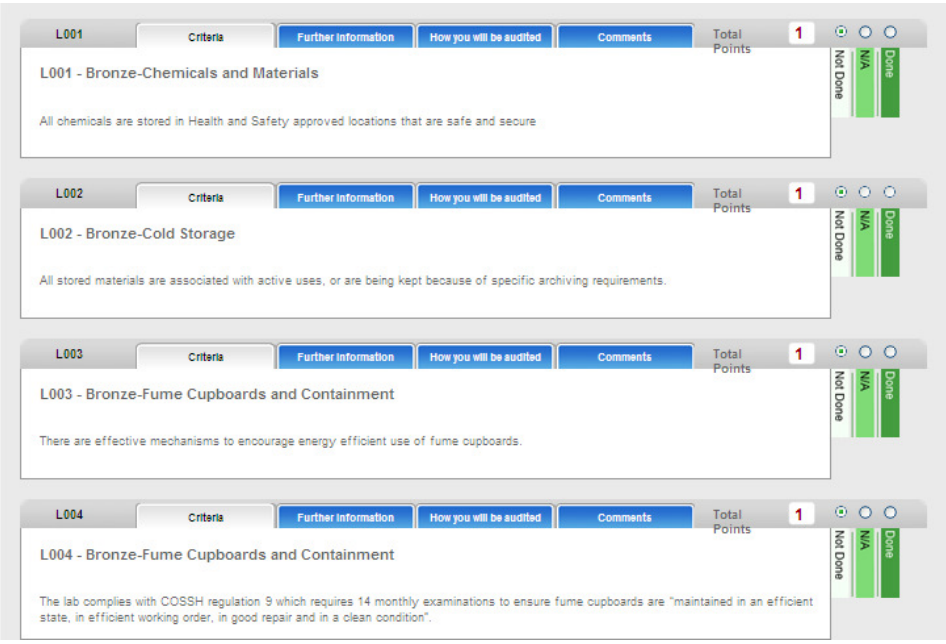
Dr. Arthur Nicholas, Laboratory Sustainability Coordinator, University of Manchester

We think this will add great value to Green Impact and its reach at institutions, and provide a great opportunity for labs teams to tackle the very unique challenges facing them to make some real financial and environmental impacts.

The criteria cover a wide variety of sustainability and environmental improvement strategies, and are supported by a team of NUS Green Impact Project Officers to ensure teams can gain the most from the programme. Each criterion has further information and case studies attached, to enhance understanding and learning, and examples of what evidence auditors will be looking for when assessing progress upon completion.

Labs can work together or split up responsibilities and form competing teams across a department or school. The programme is flexible and is designed to improve practice and bring teams of people along with it to embed good environmental practice and behaviours within an institution.

Here is a glimpse of what your labs criteria look like:



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[1] To view the full suite of case studies and supporting information, you can visit the S-Labs website at www.goodcampus.org

The case for working with laboratories' environmental procedures:

- Laboratories consume large quantities of energy, often more than three or four times the rate for offices on a square metre basis. This translates into bills approaching or **over £1 million a year** for larger facilities. Generally, 40-60% of this cost is related to conditioning and moving air in the ventilation system.
- The energy-related **carbon emissions** from laboratory buildings is well over 50% of the total from the non-residential Estate of a number of research-intensive universities.
- A large chemistry laboratory will have 30,000 or more chemicals, with a stock value of **over £400,000**. There are opportunities to reduce costs and wastage (which is expensive as it is often classified as hazardous) through better use of these stocks.
- Labs can produce large quantities of waste, some of which is hazardous. Often uncontaminated waste gets mixed in with this hazardous material, requiring **costly and unnecessary treatment**.
- Laboratories often use 2-3 cubic metres of **water** a year for every square metre of space.

The potential benefits and outcomes of working with the Green Impact framework:

- Lower **costs** for utilities, chemicals, materials and waste
- Longer equipment lifetimes and more **effective use of space**
- Improved **health and safety**; Less and better understood risk
- Better research and teaching
- **Awareness** of what environmental issues are relevant to labs and what can be done to mitigate them.
- Opportunity to **benchmark** with other labs.
- Broader recognition for good practice and **innovation** within individual labs
- A better **understanding** of the building and its operations (with non-energy benefits such as identification of broken or malfunctioning equipment).
- Assurance of **compliance** with regulations and policies.
- **Strengthened relationships** between laboratory users, Estates and other stakeholders.

For more information, please contact your Green Impact Project Officer or Jo Kemp, Green Impact Project Manager, on jo.kemp@nus.org.uk or visit our website at www.nus.org.uk/greenimpact

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