Living Laboratory for Sustainability - Embedding Students, Staff and Curriculum into the Campus Sustainability Strategy

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What is a living lab?
Living labs encourage students, researchers and university members to carry out projects that aim to work towards the enhancement of the institution’s sustainability.
Why a living lab?
Education for sustainable development

...to acquire the knowledge, skills, attitudes and values necessary to shape a sustainable future. (UNESCO, 2014)

Source: UN (2015)
Tangible contribution to environmental improvements. Living labs help meet policy and targets within the University setting.
Living Labs routes to participation
Curriculum

Applied Research

Volunteers

Internships

Clubs & Societies
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Curriculum and Applied research

MSc Dissertations and class projects

SLabs – Research Development Programme (RDP)

All projects and initiatives are credit bearing for students and researchers

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MSc Dissertations and Class projects:

Developed through good relationships with academic staff in:

- MSc Environmental Entrepreneurship
- MSc Environmental & Sustainability Studies
  Department of Civil and Environmental Engineering
- MSc Renewable Energy Systems and the Environment
  Department of Mechanical and Aerospace Engineering
Recruitment

Formal recruitment process, students apply through CV/Cover Letter to carry out projects under our Living Lab Scheme

Only high calibre students are selected to work with us

High quality projects

Effective use of staffing resources
Since our Living Lab Launch in 2013 more than 30 international and local students have taken part in the scheme.
Strathclyde Living Lab examples
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Results

Potential to start a spin-off company

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3.0 Research Findings

3.1 Literature Review
The literature review confirmed that a community garden at Strathclyde has a high potential to create positive ecological and social change within the university community and through the wider Glasgow urban area, through mutual learning with other existing community gardens, or by seeding gardens in new locations.

3.2 Gardener Surveys
From both surveys, four key concerns became clear;

- Attracting new volunteers to grow the group
- Planning for summer absences
- Seeding responsibility and ownership
- Curating a social and relaxing space

5.0 Implementation of Findings and Future Development

The site was cleared by the University of Strathclyde Grounds and Gardening team in March in preparation for use (Figure 2), and a representative from StudentEats made a site visit in March to advise on garden layout and volunteer engagement. The resultant site plan is below in Figure 3.

Figure 2: Site photographed mid-clearance from Northeast corner

Figure 3: Annotated community garden site plan detailing garden bed layout and features
Examples

Effective recycling signage – MSc Dissertation

Wasting Bad–Client-based project

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Examples
Towards the Enhancement of the university’s green Spaces - A vegetation survey study (Collaboration with industry project)

- Rottenrow gardens
- Sculpture gardens

Figure 3: Line chart showing comparative the number of habitats between Rottenrow and Sculpture gardens.
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And Many more!!…

- Asset share / reuse
- Keep cup feasibility study
- Sustainable procurement
- Food waste reduction
- Impact reduction through vegan options
- Campus Carbon Reduction study
- Carbon audits
- Effective Sustainability communication
- Sustainable Transport
- Energy efficiency
- Sustainable cafes
- Water footprint of food sold on campus

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Key enablers

Academic Staff

High calibre – motivated students

Grounds Team

Cleaning Staff

Staff and students volunteers
Useful tips

Start small – make use of your academic contacts

A formal recruitment process enhances quality (plus is great for CV!)

Let students/researchers propose ideas they are passionate about
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- Academic projects
- Voluntary projects
- Internships
- Award scheme
AIMS:

• **Impact**: Improve the University’s environmental sustainability
• **Innovation**: Test and research sustainability solutions using the University estate
• ‘**Intrepreneurship**’: support student opportunities to create change
Living Laboratory for Sustainability: Cambridge

OUTCOMES

- Effects on university operations
- Environmental impacts
- Culture change across the university
- Teaching and research
- Student experience
Internships

Features:
Summer - 8 weeks - Paid - Contributes to work of E&E

How to:
Full recruitment process
Advertise
Clear work plan with tangible outcomes
Induction and integration with team
Regular meetings
Wrap-up + presentation
Follow up on project outcomes
Internships: Case studies

Laura Briggs
Subject? Natural Sciences

Motivations? Wanted to work on sustainability issues from a non-student perspective and help to make changes within the University.

Worked on? Assessing the quantity and types of plug-in equipment across the University, as well as their energy consumption, to make recommendations for reductions in energy use.

“This project has helped me to improve my data handling and analysis skills. I also gained experience in building relationships with contacts in order to gain new ideas and data.”

Elsa Durieux
Subject? Land Economy

Motivations? Interested in urban planning, contributing to the issues of congestion in Cambridge and communicating about environmental issues.

Worked on? Understanding how different departments promote sustainable travel behaviour, to share best practice on promoting sustainable travel to University staff.

“I learnt about how to be effective in communicating environmental issues and the specific challenges of giving a central call for action in a decentralised context.”
Internships: contributions to work

- Katherine Hagemann
- Sophus zu Ermassen
- Ivelina Grozeva
- Tom Norris
- Harrison Bowers
- Laura Briggs

- Freezer replacement programme
- Energy dashboards – options appraisal
- Sustainable construction guidelines
- Green Labs programme
- Communications and engagement with staff

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Voluntary projects: “How to”

- Find allies/collaborators
- Understand what happens already if anything & link up
- Keep it time limited
- Show value e.g. tangible impact, skills development
- Keep the need and outcome in mind
- Recruit teams of students = more fun, more accountable, less risk of failure
- Do a face-to-face intro session including time for people to get to know each other
- Advertise, advertise, advertise! (Before and after)
Voluntary projects: Case studies

- Thermal imaging to inform energy efficiency improvements
- Working with student society, CUECS, and local charity, Cambridge Carbon Footprint
Voluntary projects: Case studies

- “Bin busting” – waste audit assessing amount being recycled to inform making improvements
- Working with University academic with a team of students
Questions and Answers