



Workshop Summary: 'How do we make a University of Cambridge 'Living Lab' a reality?'

25th July 2023,

Cambridge Institute for
Sustainability Leadership

Report commissioned by the
University of Cambridge
Decarbonisation Network



1 - Lucy Bruzzone, CISL, opening the workshop.

Contents

Summary.....3

Living Labs4

Challenges5

How we can overcome the challenges7

Opportunities, needs and issues we face.....9

Key Stakeholders..... 11

What would success look like? 12

Action plan..... 12

List of Attendees 13

Acknowledgements..... 13

About the organisers 14

Appendix: Existing Living Labs 15

Summary

On 25th July 2023, Cambridge Zero, the University of Cambridge Decarbonisation Network and Cambridge Institute for Sustainability Leadership (CISL) hosted an event at CISL's Entopia building to investigate and explore the question, "How do we make a University of Cambridge 'Living Lab' a reality?"

The event was built upon previous and ongoing University Living Lab initiatives and an internal report produced by Dr Bart Roose for Cambridge Zero: 'West-Cambridge Living Lab Feasibility Study' (December 2022).

The event included presentations giving an overview of existing Living Lab(s) at the University of Cambridge and a current example at the University of Birmingham – '[Living Lab: Net Zero Carbon Lodges](#)'. The presentations highlighted some of the challenges and ways that they were overcome. Breakout group discussions then built on these presentations.

Participants were asked to reflect on the following questions:

- What needs to happen to make this living lab(s) project a reality?
- Would you be interested in being part of a Living Lab project? What benefit would you gain?



2. Attendees discussing in break-out groups.

The key themes resulting from the event can be summarised in four phrases:

- The need for a governance framework across the University for Living Lab initiatives,
- The importance of and challenge of data access, ownership, and use,
- Considering living lab platforms to enable ongoing testing not just one-off experiments,
- Use the lab approach to research the process for change not just new products.

Living Labs

The purpose of a university or college Living Lab is to address real-world institutional problems using a dynamic partnership between all the institution's stakeholder groups. It facilitates and enables collaborations that liberate intellectual potential and address practical challenges. A Living Lab does not necessarily demand significant additional resources, it simply helps identify existing ones and redirects them to the right areas.¹

There is huge potential for Living Labs to formally address global sustainability challenges. A Living Lab encourages the co-creation and co-implementation of transformations through transdisciplinary efforts, over a series of learning loops, to sustainably develop a geographically bounded testbed.

Examples of current and previous Living Labs at the University of Cambridge include (but are not limited to):

- Student research
 - Including a hydroponics project in the Dyson Centre, a carbon literacy project and a glove recycling scheme
- Cambridge Zero Demonstrators Laboratory, at the Maxwell Centre
- Wolfson College's Living Lab
- The Entopia building
- National Research Facility for Infrastructure Sensing
- Autonomous Vehicles on the West Cambridge Site
- There is a lot of expertise in processing and visualising data at the University of Cambridge.
- Dr Bart Roose's report for Cambridge Zero – interviewed several stakeholders and there was a consensus that a workshop was needed to bring people together to take this approach forward.

¹ 'Universities as the engine of transformational sustainability toward delivering the sustainable development goals: "Living labs" for sustainability', Wendy Maria Purcell, Heather Henriksen, John D. Spengler, [online], [International Journal of Sustainability in Higher Education](#), ISSN: 1467-6370, Open Access. Article publication date: 20 June 2019

Challenges

The workshop participants identified several challenges in setting up a Living Lab(s). These can be grouped under several categories or types:

Building constraints

- Building size or physical constraints (e.g., listed building status; conservation)
- Health and Safety or related policies and regulations (e.g., fire, town planning)
- Site access and security (timings, authorisations, monitoring)
- Insurance
- Lab hosting vs lab management

Data

- Storage
- Access, sharing and management
- How data is captured / how frequently it is updated / how 'live' the information is
- Ownership and IP

Strategic planning and organisation

- Continuity challenges with student-led projects
- Lots of separate projects run by individuals with no connectivity/scaling or knowledge sharing potential
- Building in specific innovation opportunities at the design phase - need to be clear about what areas can be 'innovative' in
- Risk management
- Customer/end-user engagement - involving people from across the full value chain, including end users and external stakeholders
- No single authority at the University to go to for advice/permission/data etc
- Whether to focus on buildings and data providers, or emergent challenges / non-physical data, knowledge exchange vs locational, physical projects
- Difficulty in scaling up existing projects
- Having a way to keep asking questions i.e., an innovation officer
- Procurement and contractor experience

Funding

- Incentives – could outputs feed into Research Excellence Framework (REF)?
- Economic modelling of the project/s
- Sponsorship (and then issues around communications)
- Asset holders/banks

Cultural challenges

- Navigating the system efficiently
 - Cambridge colleges can compete although are quite collaborative in this space
- Risk and insurance challenges may hinder the integration of un-tested products/services within a specific Living Lab
- Governance structures: partnerships and collaboration
 - Who leads?
 - How is collaboration achieved?
 - Which stakeholders are involved and when?
 - Maturity of the business model - How is this measured?
 - Finding and convincing the right people
 - Different understandings – broad terms allow for different interpretations
 - Gatekeeping
 - Role of commercial partnerships
- Industry/academic/professional services divide
 - How accessible is university research to industry? – knowledge of research/language used
 - Capacity of researchers and operational staff and their relationships/expectations of one another

Changing perceptions

- A perceived lack of investment return - could create large-scale projects through 'bundling'
- Narratives around financial stability and (long-term) success
- Not an electable issue
- Perception of Living Labs to be messy and risky
- If public-facing, more likely to get funding

How we can overcome the challenges

Several of the workshop's groups identified that a common framework across the University would be valuable, not only in establishing boundaries and processes or procedures but in creating a licence to operate when further projects arise. There is presently no single authority within the University structure that has the remit to operate or exercise responsibility in this area.

It was also noted that the focus must not solely lie on testing new technologies or products, but also include scope for testing processes. Policy, governance, and the lived experience of operations must not get forgotten. Trade-offs are likely in addressing the challenges.

Important factors to consider:

Scoping:

- Clear scope
- Contract and project duration – make it meaningful and long-term
- Business case development — identify the mutual benefits that all stakeholders will gain from participating
- Transparency of process and timeline
- 'Innovation watchtowers' built into the investment from the outset
- Specific innovation opportunities included in the design phase
- Data can be used for predicting areas of need
- Innovation vs risk profile; identifying and mitigating risks at scoping stage
- Inclusion of external stakeholders to make any project relevant to a wider context beyond the University. Early discussion with industry can make projects more applicable and replicable beyond the University context with the potential for wider systems change

Collaboration

- Common framework – currently there is no single authority/approach
- Clear roles for members – leadership and ownership
- Clear alignment of values and objectives early on
- Data considerations – IP (including any terms and conditions set by the funder/s)
- The opportunity for win-wins from stakeholder involvement – doesn't have to be cash funded. Potential for greater impact through skills/in-kind contributions/knowledge sharing and leverage
- Geographic scaling opportunities – think and engage beyond the University estate
- Retain the vision of the project throughout

- Share knowledge and lessons learned
- Academic and public community engagement

Scaling beyond an initial experiment

- Affordability and scalability – can projects be made replicable?
- Governance structure(s) needed – how to test new approaches?
- Streamlining the storage, access and scope of data collected would unlock a lot of opportunities for further analysis and research
- Test building – for example, think more about Living Lab platforms rather than just one-off experiments
- Housing crisis, affordability, fit for purpose – need to overcome commercial as well as sustainability constraints
- Insurance and risk considerations
- Continued learning as the project develops
- Opportunity to launch commercially viable products and services



3. Hannah Baker summarising group discussions.

Opportunities, needs and issues we face

The University of Cambridge is well placed at the juncture of academic research, an active city and pioneering industry to take advantage of the opportunities offered by a series of Living Labs projects.

Within the University of Cambridge, there are departments, organisations and networks already focussing on research, innovation, and development, and who have experience in data visualisation, process management, shared data, and learning. These teams of academics and students could be tapped into effectively to accelerate the growth of Living Labs projects within the University community. An example mentioned in the workshop is the Cambridge Centre for Smart Infrastructure and Construction (CSIC) and its experience in smart infrastructure, data analysis and sharing.



4. James Cole shares the story of the CISL Entopia retrofit.

A significant opportunity with the Living Labs project is the chance to leverage professional and academic staff alongside the student body to take practical and demonstrable action to deliver sustainable outcomes at the University. By aligning the overall Living Lab programme with sustainability objectives of the University estate the Living Lab could be used as a vehicle to deliver on these objectives in a practical and inclusive way. By integrating this approach into existing operations the initiative has a greater chance of being sustained and delivering impactful outcomes for all.

This is a crucial issue which also affects long-term funding. Workshop participants identified there is a perceived lack of investment return on Living Lab projects. Beyond integrating projects into the University's own objectives there is the opportunity to deliver wider benefits and income through the scaling trials in 'real-life' environments beyond the University's estate and commercialising outputs from Living Lab initiatives. By sharing stories of how existing Living Labs projects have or will afford financial stability and improved quality of life at the University and beyond will help to develop the University's own narrative around this strengthening its own proposition.

In addition, one discussion group noted a disconnect between the amount that many investors could offer and the amounts required by individual research and innovation projects. This discussion group considered that grouping innovation projects or 'bundling them' within a Living Lab framework may make funding and investment applications easier and the funding amounts within reach.

Participants identified that the scale of the living lab(s) varies substantially. The concept can include smaller-scale experiments to larger-scale construction projects, such as the retrofit of the Entopia building. Lessons can also be learnt from mapping decision-making processes including design phase, construction, and use. At the building scale, new products or processes can be trialled in a real-life environment with the data from sensors, systems, processes, and shared/lived experiences of those within the buildings

providing valuable feedback for the designers and all involved. Pushing this concept further, a suggestion by one group was for the University to develop a 'testbed building' for trials.

Another need identified by the workshop participants is to develop the University's impact beyond Cambridge – there are core infrastructure limitations around existing college or department buildings and the regulations or culture surrounding them – but this opens opportunities for partnership with the scientific, industrial, and business communities around the city. The challenge of industry bodies accessing university research was already noted, and it was observed that a Living Lab's core structure had the potential to bring together industry and those working in related academic fields.



5. Steve Davidson and Amy Munro-Faure discuss Cambridge Zero projects.

Key Stakeholders

A key challenge identified was the alignment of values/priorities and the need to address governance structures. Participants noted the importance of including external stakeholders early in the scoping process to draw upon their ideas and inspiration and enable a successful and complete systems-level change. The stakeholder groups identified include:

- University Estates team including operations and procurement
 - Academics
 - Students (particularly MPhil and Postdocs)
- Staff and researchers
- Industry
- Funders
- Banks
- Asset owners/institutional investors
- In kind contributors of skills/products/services/knowledge beyond the academic community
- Consumers (the community or users who would benefit from the project)

Additional stakeholders may include:

- Cambridge colleges and/or University departments
- Local authorities and councils



7. Jess Cunningham from the Cambridge University Estates team.



6. Pieter Desnerck describes the UKCIC National Research Facility for Infrastructure.

What would success look like?

A key indicator of success for the Living Lab would be that the projects themselves are continually optimised and refined using the data and information they generate. This ties into an earlier discussion of the workshop, that a Living Lab is as much about 'process as well as product' and would require the feedback loop to be highly visible. Each Living Lab project would use the data produced to identify improvements and adjustments within the project process and structure itself, thereby incorporating the ongoing learning into the Living Lab as well as disseminating that learning to collaboration partners and the wider community.

Action plan

The next steps of developing a Living Lab(s) on the University estates may include:

Implementing a governance structure and framework, including:

- both 'top-down' and 'bottom-up' initiatives
- an institutional inventory of potential projects
- a minimum of a 5-year funding plan so that a long-term approach is available
- allocating resource
- a consideration of project scope, data ownership & analysis
- intended narrative outcomes
- a consideration of how to support the navigation of intellectual property and data ownership associated with any project

Mapping out and scoping deep learning from other Living Lab projects

Mapping out and comparing existing University of Cambridge projects, particularly those that are similar (e.g., retrofitting), to establish benchmarks and collate learning

Reaching out to the non-University city community and involving them in the framework design processes

Pilot projects and proof of concept - opportunities to test in real life



8. Shared learning and research.

List of Attendees

Number of attendees: 38

Please note only delegates that agreed to be named are shown in this list.

Aga Iwasiewicz-Wabnig, Maxwell Centre Director,
University of Cambridge

Akihiko Suzuki, Marubeni Europower Ltd

Amy Munro-Faure, Cambridge Zero, University of
Cambridge

Anna Chechel, Judge Business School, University of
Cambridge

Arsalan Ghani, Institute for Manufacturing-Engage,
University of Cambridge

Cressida Strachan, Innovation Gateway

Dawn Birch, Estate Management, University of
Cambridge

Debbie Bondi, Starling Technology (via Plethos
Consulting)

Dominic Chivers, Cambridge Enterprise, University of
Cambridge

Eldrid Herrington, Centre for Climate Engagement,
Hughes Hall, University of Cambridge

Erik Mackie, Cambridge Zero, University of Cambridge

Fiona Smail, University of Cambridge

Grace Redmond, Innovation Gateway

Hannah Baker, Decarbonisation Network, University
of Cambridge

Hui Ben, Newcastle University

James Cole, Cambridge Institute of Sustainability
Leadership, University of Cambridge

Jan Ponsford, Heliosphere Consult Ltd

Jess Cunningham, Estates Management, University of
Cambridge

Joanne Cornish, Cambridge Institute of Sustainability
Leadership, University of Cambridge

Lucy Bruzzone, Cambridge Institute of Sustainability
Leadership, University of Cambridge

Matt Bailey, EcoSync

Matthew Punshon, University of Cambridge

Max Langtry, Energy Efficient Cities Initiative

Patrick Osborne, Perpendicular Architecture

Petia Tzokova, University of Cambridge

Pieter Desnerck, Department of Engineering, Civil
Engineering, University of Cambridge

Rachel Evans, Department of Materials Science and
Metallurgy, University of Cambridge

Ruchi Choudhary, Department of Engineering,
University of Cambridge

Sam Goodall, Cambridge Cleantech

Sam Stranks, Department of Chemical Engineering
and Biotechnology, University of Cambridge

Sarah Carden, Estate Management, University of
Cambridge

Shafiq Ahmed, Energy IRC, University of Cambridge

Shaun Fitzgerald, Centre for Climate Repair,
University of Cambridge

Shelley Arora-Tailby, Cambridge Zero, University of
Cambridge

Sophy Bristow, Centre for Climate Engagement,
Hughes Hall, University of Cambridge

Steve Davison, Cambridge Zero, University of
Cambridge

Suzanne Donovan, Royce@Cambridge, University of
Cambridge

Zoë Loughlin, Cambridge Institute of Sustainability
Leadership, University of Cambridge

Acknowledgements

Thank you to all participants, presenters, and facilitators of the Workshop on the 25th of July 2023 at the Cambridge Institute for Sustainability Leadership (CISL). This report is a summary of your contributions, discussions, and work.

We are thankful to the CISL, Cambridge Zero and the University of Cambridge Decarbonisation Network for co-leading the workshop, and for CISL for hosting.

Photographs included in this report are by Julian Peters

Presenters:

What is a 'Living Lab'?

- What has been done in Cambridge so far? ([Lucy Bruzzone](#), CISL)
- Cambridge Zero (Dr [Amy Munroe-Faure](#) & [Steve Davison](#), Cambridge Zero)
- Cambridge University Estates - Transport ([Jess Cunningham](#), Estates)
- CISL Entopia building ([James Cole](#) & [Zoë Loughlin](#), CISL)
- UKCRIC National Research Facility for Infrastructure Sensing ([Pieter Desnerck](#), Department of Engineering)

What can we learn from other universities?

- Net Zero Carbon Lodges, University of Birmingham ([Cressida Strachan](#), Innovation Gateway)

Facilitators

- [Lucy Bruzzone](#)
- [Joanne Cornish](#)
- [Erik Mackie](#)
- [Shafiq Ahmed](#)
- [Amy Munroe-Faure](#)
- [Hannah Baker](#)

Rapporteurs: [Lucy Bruzzone](#), [Joanne Cornish](#) & [Hannah Baker](#)

About the organisers

Cambridge Zero

Cambridge Zero exists to maximise the University of Cambridge's contribution towards achieving a resilient and sustainable zero-carbon world. They do this by acting as both a hub and an umbrella, integrating and enhancing the University's activities, through:

- research and innovation to drive technological and social change,
- education and training to provide the skills needed to deliver a different future,
- engaging with a broad coalition of stakeholders to develop solutions collectively, and
- leading by example by supporting ambitious decarbonisation

Contact Details.

info@zero.cam.ac.uk

www.zero.cam.ac.uk

Decarbonisation Network

The Decarbonisation Network provides a forum for academics, industry, and the public sector to identify accelerated routes to decarbonisation through Special interest Groups (SIGs), and is currently working alongside the School of Technology, Cambridge Zero, the Energy Interdisciplinary Research Centre and the Maxwell Centre.

Contact Details.

decarbnetwork@admin.cam.ac.uk

www.decarbnetwork.hub.cam.ac.uk

Cambridge Institute for Sustainability Leadership (CISL)

CISL is a globally influential Institute developing leadership and solutions for a sustainable economy, working with business, government, and finance leaders in over 250 organisations including consumer brands, global banks, and national governments, attracting more than 1,200 delegates into our programmes.

Contact Details.

info@cisl.cam.ac.uk

www.cisl.cam.ac.uk/

Disclaimer

This report has been made available for information only. It does not constitute professional advice and should not be relied upon for that purpose. The accuracy and completeness of any factual content have not been verified; any views/ opinions expressed are the participants' own and do not necessarily represent the views of the University of Cambridge or the organisations to which the participants are or were affiliated.

Appendix: Existing Living Labs

Projects in Cambridge

Greater Cambridge Partnership (GCP) - Innovation Prospectus

<https://www.greatercambridge.org.uk/asset-library/Smart/Innovation-Prospectus.pdf>

The Entopia Building retrofit.

- Summary webpage: [The Entopia Building | Cambridge Institute for Sustainability Leadership](#)
- Short case study: [cisl entopia report short version.pdf \(cam.ac.UK\)](#)
- Full case study: [entopia case study 12 12 22.pdf \(cam.ac.UK\)](#)

National Research Facility for Infrastructure Sensing - <https://www.nrfis.cam.ac.uk/making-sense-civil-engineering-building-instrumented-five-sensor-packages-support-performance-based>

[Cambridge Zero Demonstrators Laboratory](#), at the Maxwell Centre

[Wolfson College's Living Lab](#)

[Autonomous Vehicles on the West Cambridge Site](#)

At Universities or Colleges in the UK

Environmental Association of Universities and Colleges.

They maintain a Living Lab community of practice and any member institutions can be involved (The University of Cambridge are members). They have produced several supporting documents as guidance to setting up and running living labs and have regular meetings and a community of practice mailing list.

- [EAUC Living Labs resources page](#)
- [Better Student Outcomes through Sustainability:](#)
- [This is the recent article published in The Conversation by York St John University](#)

University of Birmingham

The University of Birmingham is embarking on a collaboration with industry to turn five properties into unique, fully functional, living labs, and zero or low-carbon demonstrator houses. (The [Net Zero Carbon Lodges - Innovation Gateway](#))

- [The Smart Campus – A Platform for Innovation](#)
- [Delivering the world's Smartest Campus. Living Lab: Net Zero Carbon Lodges](#)

University of Edinburgh

The University of Edinburgh has set up a process and a series of resources to assist researchers and supervisors in setting up and undertaking their Living Lab projects.

A webpage details how past Living Lab projects have led to positive impacts, results and policy changes, all categorised under the relevant Sustainable Development Goal - [Positive impacts of Living Labs](#).

They have also created a [Sustainable Development Goals data library](#) to enable further research.

A current project is investigating '[What is the psychosocial effect of volunteering on a large urban food growing project](#)'.

University of Greenwich

The University of Greenwich has many different examples of living lab projects run by staff, academics, and students.

They provide datasets for researchers upon request.

Some of the staff projects include living wall projects, a digital twin project to map and digitise a Grade 1 listed building, student-led subject materials, BIM modelling buildings for energy efficiency, investigating nature-based tourism in the Royal Parks and social sustainability.

Some of the student projects include creation of sustainable prizes for the Annual Staff Awards, using data analytics to save energy and improve space utility, supporting bee and other pollinator populations, developing a new carbon negative road building material and a circular textiles initiative.

University College London

There have been several Living Lab projects carried out at UCL. These include:

- [Living lab for smart energy systems on campus](#)
- [Living lab for energy reduction](#)
- [Living lab for Wi-Fi consumption](#)

University of Leeds

The University of Leeds has a Living Lab with four current projects that bring together students, staff, and city partners.

They also provide a [Living Lab Toolkit](#) and a list of research project ideas.

The current projects include:

- [Living Lab for Net Zero](#)
- [Living Lab for Biodiversity](#)
- [Living Lab for Air Quality](#)
- [Living Lab for Food Waste](#) and <https://sustainability.leeds.ac.uk/preventing-food-waste/>

Newcastle University

There are several projects at Newcastle University that fall into the Living Lab category.

- Insights from the newly built [Urban Sciences Building](#) (which uses renewable energy and contains over 4000 digital sensors) are used in the Urban Observatory for research.

- The [School of Engineering are working with the RAF](#) to help them reach net zero
- The [National Green Infrastructure Facility](#) investigates and implements Sustainable Drainage Systems, focussing on 'grey' infrastructure.
- The 'OME' - a self-contained apartment as part of the [Hub for Biotechnology in the Built Environment](#) enabling research on domestic waste to useful energy and material conversion.

University of Plymouth

The University of Plymouth has developed several Living Labs focussed on the marine sector. Two of them are in partnership with the local authority, Plymouth City Council. These include:

- [Marine e-Charging Living Lab \(MeLL\)](#), in partnership with Plymouth city council and industry leaders.
- [A 'digital park in the sea'](#)

Another Living Lab project aims to redefine the future of green space in Plymouth. The [Green Minds project](#) uses digital sensors in parks and green spaces to monitor wildlife activity, air quality, temperature, humidity, and the number of visitors. The data is freely available to all researchers.

Anglia Ruskin University

Anglia Ruskin University in Cambridge has several [Living Lab projects](#) aimed at developing students and creating change – however, they are more impact and project-based rather than research-led and thus fall under a different definition of Living Lab. These projects include:

- Training staff at local schools to teach about environmental crises.
- Planting a local orchard
- Sustainable procurement
- Sustainable Sainji
- Reconnecting with nature

Planned projects at UK universities.

University of Bristol

The University of Bristol has created a [platform](#) for academics and students to suggest research projects that are integrated with the sustainability of the physical laboratories, research outputs or the behaviours that take place within them. There are no projects running yet.

University of Sheffield

The University of Sheffield is keen to set up some Living Lab projects, with the proposal for one to investigate how they can [improve the sustainability of the food consumed by the Sheffield Students' Union](#).

University of St Andrews

The university-led initiative 'Transition St Andrews' has set up the space for Living Labs to be conducted by students, staff, and researchers. They have created [a list of available projects](#).

Global Living Labs

The University of British Columbia (UBC) have done some strong integration: [CLL | Campus as a Living Lab \(ubc.ca\)](#)

University of Melbourne - Living Labs are a priority area in their [Sustainability Plan 2030](#) (released May 2022) and they will be reporting against this annually. The [report for 2022](#) describes what has been done but not really where they are headed yet because SP2030 was released mid-last year. The landing page for their sustainability approach is <https://about.unimelb.edu.au/priorities-and-partnerships/sustainability/framework> (see also PDF presentation of the framework in development)

The University of Toronto - John Robinson who was responsible for the UBC model is now in Toronto, and K. Bard is looking at the next steps in terms of developing John's model in Toronto.

References

Projects and context were mentioned during the workshop.

- [Living Lab from Catapult | Design, Test & Launch Energy Innovations](#)
- The [University of Birmingham Living Lab Net Zero Carbon Lodges - Innovation Gateway](#)
- [EAUC](#) – Living Lab community of practice and associated supporting guidance and case studies.
- The Entopia Building | Cambridge Institute for Sustainability Leadership
- [The Wolfson Living Lab | Wolfson \(cam.ac.uk\)](#)
- [The Adaptive City Programme - Trust & Technology Initiative \(cam.ac.uk\)](#).
- [National Research Facility for Infrastructure Sensing](#) - a new building on the West Cambridge site, with sensors put in.
- [Energy Demand Observatory and Laboratory](#) (1000 homes included)
- [University of Manchester Living Lab](#)
- [Governing University Living Labs for Sustainable Development: Lessons from International Case Studies \(monash.edu\)](#) – 18 international university case studies.
- <https://www.monash.edu/msdi/news-and-events/events/events/2023/governing-university-living-labs-for-sustainable-developmen>
- The University of Melbourne Sustainability Plan 2030
- [Living Labs examples | Sustainability Exchange](#) - they list the Universities of Leeds and Plymouth, with presentations to download on each