

Liverpool Living Lab

Project Brief

Project Name	Behaviour Change – Decision Making for Efficient
	Hazardous Waste Disposal
Project theme(s)	Waste Disposal
Associated sustainability target	50% reduction in waste sent for incineration by
	2025. Gold status on the Laboratory Efficiency
	Assessment Framework (LEAF) for 100% of eligible
	labs.

Project overview (challenge, inputs, desired outputs)

<u>Context</u>

The University of Liverpool has a waste target of 50% reduction in waste sent for incineration by 2025. The University has a total of 151 labs which deals with a range of materials and substances that are disposed of, thus contributing to the University's waste target.

The University adopted the Laboratory Efficiency Assessment Framework (LEAF), a sustainable labs accreditation, in 2023. A large aspect of the framework criteria focuses on proper waste management. To achieve gold status, labs must have completed the following criteria:

- The lab possesses required waste bins (possibly clinical, glass/sharps, hazardous etc.), as well as recycling/general waste bins with appropriate and clear signage.
- The lab has assessed its use of consumables and implemented realistic measures to reduce use. These efforts should target single-use plastics where feasible.
- There is a minimum contamination of recycling in clinical waste bins (no more than 10%), and lab members are aware of best practice.
- The lab has implemented some form of reuse of materials, e.g. reuse of consumables

Challenge

Although the appropriate waste receptacles are in place in labs, segregating each of the different waste streams, it is common in the industry for non-hazardous waste to be erroneously disposed of as hazardous waste through an overly risk-averse approach. This means that the University may be paying for more hazardous waste lifts than required, while potentially recyclable materials are being incinerated (with energy recovery).

The main impact of this involves a higher cost associated with the disposal of hazardous waste, missed opportunity for alternative management of non-hazardous waste, misleading hazardous waste data and the impact on the environment and carbon emissions.

The challenge is to establish the % of non-contaminated, recyclable material that is currently being disposed of as hazardous waste within a laboratory setting.

Procedures, signage and behaviours within labs could then be compared with best practice to identify opportunities for improvement.

If students wanted to develop these opportunities into initiatives or campaigns, we could trial these and measure the impact.

<u>Inputs</u>

The University's Environmental Sustainability team have hazardous waste data (weight) that can be used to compare and measure the impact of any initiatives.

<u>Outputs</u>

Assessment of processes and recommendations for process improvement. Behaviour change