



Horizon Europe Brokerage Event Cluster 6 Calls 2025

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Rural and city organic waste up-cycle into nutrition demonstration

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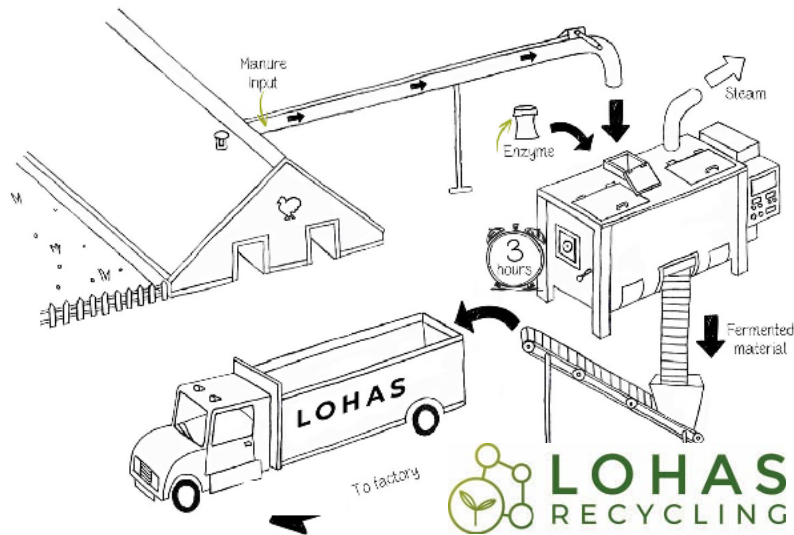
Topic addressed:

[HORIZON-CL6-2025-01-CIRCBIO-07:](#)

Demonstration, deployment and upscaling of circular systemic solutions in cities and regions (Circular Cities and Regions Initiative)

Other topics of interest:

- [HORIZON-CL6-2025-01-ZEROPOLLUTION-07:](#)
Reducing pollution from the food and drink industries
- [HORIZON-CL6-2025-01-ZEROPOLLUTION-03:](#)
Environmental biotechnology applications in service of remediation of polluted ecosystems
- [HORIZON-CL6-2025-01-CIRCBIO-10:](#)
Support to the EU Biotechnology and Biomanufacturing Initiative: scoping action



During the spring fertilisation season, rural towns and villages are often plagued by foul odours, severely impacting residents' health and quality of life. Our goal is to establish an environmentally friendly local economic and nutrient recycling system connecting urban and rural areas. The odour's sources, such as food waste and agricultural waste, can be addressed using proteolysis technology to rapidly decompose and stabilise organic waste within three hours, ultimately producing high-value carbon-sequestering fertilisers.

Nutrient Recycling:

This process not only reduces air pollution from foul odours, toxic substances, and greenhouse gas emissions but also mitigates nutrient overload caused by waste, alleviating river eutrophication. What were once pollutants or toxins are transformed into high-value nutrients (e.g., amino acids and humic acids) that serve as plant growth promoters. The resulting fertilisers can be locally applied to farms or exported to regions facing nutrient shortages.

Economic Recycling:

Producing organic fertilisers eliminates the high carbon emissions associated with chemical fertilisers and reduces dependency on Russian natural gas. Utilising locally produced fertilisers also minimises transportation and import-related carbon footprint emissions.

Project idea



Main expertise offered / sought

We provide **proteolysis** technology and tailored solutions, and we seek to establish demonstration sites in various cities as part of our project. The partners we are looking for are not limited to farms and waste management companies. We aim to collaborate across the entire industrial supply chain, including retailers, fertiliser wholesalers and users, carbon credit trading platforms, and academic institutions with the necessary equipment and expertise to study greenhouse gas emissions and ammonia toxicity from farm fertiliser application.

Additionally, we are seeking partners for:

- **Lifecycle Impact Assessments:** Evaluating the environmental effects across the product's lifecycle.
- **Agricultural Economists:** Developing economic models to demonstrate the system's feasibility.
- **Local Governments:** Addressing organic waste issues.
- **Regulatory Authorities:** Creating, supervising, or enforcing relevant legislation.
- **Financial Institutions:** Supporting investments in sustainable solutions.
- **Carbon Trading Organisations:** Facilitating the trading and management of carbon credits.



Innovation validated through 5 InnovatedUK funded projects

1. Mid Wales Challenge-led Launchpad : *Solution to reduce environmental impact from organic agricultural waste: poultry manure*
2. *Improving energy efficiency in organic-based fertiliser manufacturing for Net Zero UK* Competition: Fast Start: Innovation. Funding body: Innovate UK
3. *Enzyme-based Process for Sustainable fertiliser from poultry manure* Competition: Sustainable bio-based materials and manufacture: Feasibility Study
4. *Reducing Ammonia Emissions by Stabilising Nitrogen in Manure with an APHA-Approved Enzyme-Based Process* Competition: SBRI: Reducing pollution resulting from domestic burning or agricultural practices: Phase 1
5. *Farm to Fert* Competition: Farming Innovation Programme: Research Starter Round 3



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