

The Research Hub Annual Report 2021

Background

The Research Hub (the Hub) was established in 2018, motivated by a need for current research to support the continued improvement of the Schemes (i.e., CCS and BCS) and associated Standards (i.e., BSI PAS100 and BSI PAS110, respectively).

The Hub continues to deliver important projects relevant to the Schemes, Standards, and composting and anaerobic digestion industries. These projects have been used by a variety of stakeholders to inform discussions.

Governance

REAL set up the Research Hub Governance Committee to review the Research Hub's development and manage the funds.

REAL also set up a Research Panel to ensure that the Research Hub meets its objectives in an efficient and effective manner. The Research Panel is responsible for deciding which research projects the Research Hub will fund. The Research Panel consists of independent stakeholders with expertise in the composting and anaerobic digestion sectors, including representatives from the Environmental Regulators, Government, Trade Bodies, and CCS/BCS participants.

About the Hub

The Hub's Objectives:

The Research Hub's objectives are to:

- Maintain and improve the robustness of the Schemes and related Standards
- Reinforce confidence in the compost and anaerobic digestion markets; and
- Contribute to development of new markets, including identifying barriers

These objectives are achieved by commissioning a wide range of research projects and industry data collection, the costs of which the Research Hub will either fully or partially fund.



How Projects are Commissioned

Each January, the Hub issues a Call for Proposals to source research ideas from any party who wishes to submit a proposal. In May, BCS and CCS participants are invited to provide feedback on the submitted research proposals via an online survey.

The Research Panel then meets to evaluate and shortlist the research proposals according to the Phase One Evaluation Criteria. In June, REAL's advisor further develops each shortlisted proposal. In July, the Research Panel meets for a second time to evaluate the shortlisted and further developed proposals according to the Phase Two Evaluation Criteria. Following this evaluation, the Panel decides which project(s) will be funded.

How Contractors are Appointed

A unique Project Management Team (PMT) is appointed for each newly commissioned research project. The PMT's remit includes appointing a contractor via a competitive tender process. Upon completion of the tender process, the PMT appoints the successful tenderer and provides feedback to all tenderers.

Funding

Funding for the Hub is generated through the Research Fee paid annually by CCS and BCS participants. The Research Fee is calculated on a case-by-case basis according to the annual input tonnage (tpa) of each plant. The Research Fees are ring-fenced.

Research Hub Funds at 31 December 2021
- £326,210.

More information about the Hub's operations and objectives can be found at www.realresearchhub.org.uk/about

Projects Completed in 2021

'To develop a Research Library for the Organics Recycling industry'

Contractor NNFC and subcontractor Vital finished 'building' the virtual Organics Recycling Research Library in January 2021. The Research Library collates research conducted across the composting and anaerobic digestion industries and highlights 'research gaps' – areas where research is currently limited or absent. The Research Library can be found at www.realresearchlibrary.org.uk.

Users must have an account to access the Research Library. CCS and BCS Participants can request login credentials to use the Research Library free of charge. All other parties can request access to the Research Library for a fee.

'To develop a 'data pack' on the properties, characteristics, and content of digestate that will provide context for the development of new uses of outputs from Anaerobic Digesters'

Upon completion of the project in December 2021, the Solidsense Ltd Consortium produced two reports: a standalone Digestate Data Pack and an associated *Digestate Valorisation Report*.

The Digestate Data Pack contains database analysis of key digestate characteristics (e.g., macronutrient content, dry matter content, etc.) by input feedstock and output type. In addition to desktop data analysis, the Digestate Data Pack contains novel laboratory-based findings on plastic contamination in UK digestates including analysis of microplastics and dewaterability of digestates derived from food wastes.

The Valorisation Report provides a comprehensive examination of viable alternative uses for digestate. The report evaluates digestate valorisation options which have been demonstrated under 'real world' conditions (i.e., at a Technology Readiness Level of 7 or higher). It includes a 'roadmap to market,' where valorisation options are assessed within the context of the UK regulatory and financial landscape to identify the most commercially promising options. Further, the report identifies 'waypoints' – recommended areas of focus and action for regulators, policy makers and the anaerobic digestion industry, respectively.

CCS and BCS Participants and government employees can request access to the Digestate Data Pack and Valorisation Report free of charge. All other parties can request access for a one-time fee of £216.

To request access to the Research Hub's projects, including the Research Library and Digestate Data Pack and Valorisation Report, please email info@realschemes.org.uk

Projects Selected in 2021

'Evaluation of the potential for the improvement of the Residual Biogas Potential test and investigation of alternative test procedures for PAS110 biofertilisers'

In September 2021 the Research Panel commissioned a project to explore improvements to the Residual Biogas Potential (RBP) test, the only digestate stability testing regime currently recognised under PAS110. The Hub has identified the following motivations to undertake this research:

- Test failures and nonresponses result in considerable operational challenges for producers and undermine operator confidence in test results. Improvements to stability testing can alleviate such frustrations and logistical challenges for operators.
- This research may be used to inform important decision-making about environmental and quality standards required for certification, including PAS110 and ADQP revisions

The total cost of work is £70,369 (excl. VAT). The project is expected to be completed by May 2023.

'Plant Response Test Failures: Investigation of contaminants and phytotoxins in 'End of Waste' composting feedstocks and finished composts'

In September 2021 the Research Panel commissioned a project to explore improvements and alternatives to the Plant Response Test (PRT), a test method specified in PAS100. The cost of the project was estimated to be £120k.

The project did not receive any tender submissions in 2021. Informed by feedback provided by Research Hub stakeholders, the project proposal has since been revised. The revised project is currently under review for 2022.