
**Invitation to tender for REAL's Research Hub Project:**

*Statistical analysis and interpretation of performance data from the UK Tomato Plant Response Test and German Spring Barley Test on CCS Compost*

**Tender Invitation Document**

Research Hub TO SUPPORT THE ORGANICS SCHEMES

**EXECUTIVE SUMMARY**

Renewable Energy Assurance Limited (REAL) invites contractors to tender for the work outlined below. Following a competitive tender process, REAL will appoint the successful contractor to deliver the project.

**Purpose of the tender**

The purpose of the tender opportunity is to appoint a contractor to develop and deliver REAL's Research Hub project titled '*Statistical analysis and interpretation of performance data from the UK Tomato Plant Response Test and German Spring Barley Test on CCS Compost*.'

**Tender timeframe**

Deadline for receipt of tender submissions: **21st July 2025**
Deadline for questions in relation to this tender: **30th June 2025**
Tenderers receive written notification of REAL's decision: **First week of August 2025**

**Work programme**

Contract start date: **1st September 2025**
Contract duration: **12 months**

**REAL reserve the right to change this timetable*

## 1 INTRODUCTION

*This Section introduces Renewable Energy Assurance Ltd. and explains its work in administering the Organics Schemes and the Research Hub.*

Renewable Energy Assurance Ltd (REAL) is a wholly owned subsidiary of The Association for Renewable Energy and Clean Technology (The REA). REAL carries out a range of certification and consumer protection activities, all of which promote sustainable energy and circular resource use (organics recycling). REAL's activities fall under two headings; certification schemes and consumer codes.

Among other codes and schemes, REAL owns and administers the following quality certification schemes related to the organics recycling sector: the Compost Certification Scheme (CCS), the Biofertiliser Certification Scheme (BCS) and the Compostable Materials Certification Scheme (CMCS). The CCS and BCS enforce high quality standards for compost and biofertiliser (i.e., quality-certified anaerobic digestate), respectively. Together, these schemes provide assurance to consumers, farmers, food producers and retailers that quality-certified compost and digestate is safe for human, animal, and plant health.

In 2019, through collaboration with the CCS/BCS Technical Advisory Committee (TAC), REAL established the Research Hub. The Research Hub functions as a tool to source research funding from the composting and anaerobic digestion industries. With these funds, the Research Hub commissions projects aimed at developing the technical and regulatory aspects of certified compost and digestate production, improving testing and usage of certified compost and digestate, and reinforcing certified compost and digestate markets.

REAL wishes to appoint a contractor to develop and deliver project commissioned by the Research Hub titled '*Statistical analysis and interpretation of performance data from the UK Tomato Plant Response Test and German Spring Barley Test on CCS Compost*.'

The appointed contractor will be required to work with the REAL-appointed Steering Group, the Research Hub's Research Panel and REAL staff.

This document sets out the scope and parameters of the work which REAL wishes to commission and describes how contractors may tender to undertake this work for REAL. We are not providing a guide cost for this project, and whilst proposals are evaluated on value for money, at the same time the Research Hub is open to creative approaches to fulfilling this tender and will consider proposals that might differ widely in terms of their total prices.

# 2 PROJECT BACKGROUND AND SCOPE

*This Section explains project's relevance to REAL's work and the wider organics recycling industry and outlines the project's intended contributions.*

## 2.1 Project Background

The tomato plant response test (tomato PRT) is used in the Compost Certification Scheme (CCS) as a bioassay to screen for phytotoxins in finished composts. The test simultaneously assesses for 'weed seeds and propagules' and complements the PAS 100 specified compost stability/maturity test, the latter measuring the rate of carbon dioxide produced by microbes in the compost.

Under the CCS, an operator failing the tomato PRT is required to investigate the cause of the failure, apply corrective action to the failed batch of compost, and for a further three compost samples to pass subsequent tomato PRT tests to enable positive release under REAL's CCS rules aligned to BSI PAS 100:2018 requirements. The presence of weed seeds and propagules, or abnormalities of plant growth (e.g., due to herbicide residue), provide clear reasons for the cause of tomato PRT failure. However, it is harder to identify the cause(s) of tomato PRT failures on tomato seed germination and tomato plant top growth. If the cause of failure is not identified, operators may face challenges determining and implementing the appropriate corrective action(s). Assuming corrective action(s) can be applied, an additional 28 days must elapse before a set of tomato PRT results for that sample can be reported. This is due to the test duration itself being 28 days, and does not account for the additional time taken for the three requisite samples to be received and prepared for testing by the laboratory. Holding multiple compost batches onsite due specifically to tomato PRT failure can have a dramatic effect on operations.

Recognising the above issues REAL established the plant response test technical working group (PRT TWG) in 2021, comprised of CCS operator and national environmental regulator representatives. Subsequent to a proposal from the technical working group, the Research Hub is currently working with CCS-approved laboratories to investigate a spring barley plant response test (spring barley PRT, a methodology is available from REAL upon request) as a potential additional test to the tomato PRT. Perceived benefits of the spring barley PRT are its shorter duration (10-12 days rather than 28 days), comparative simplicity, and relevance to certain compost markets.

## 2.2 Project Scope

The aims of the project are to:

1. Compare the performance of the spring barley PRT with the tomato PRT on CCS composts with a view to adding the spring barley PRT in future versions of PAS 100.
2. Use the spring barley PRT results and compost sample characterisation analysis to better understand tomato PRT performance/failures.

To fulfil these aims, the project's key objectives are to:

1. Obtain the 110+ datasets from the CCS database with corresponding spring barley results.

2. Carry out statistical analysis on the above data to address research questions. The dataset will require statistical analysis (including linear regression analysis) to address most research questions. Competency in Bayesian statistics and/or multivariate mixed models may be required to address more challenging research questions given the nature of the expected dataset and the number of measured compost characterisation parameters.

## 3 SERVICES REQUIRED

*This Section describes the work which will be required of the contractor to deliver the project.*

The appointed contractor will develop and deliver REAL's Research Hub Project titled '*Statistical analysis and interpretation of performance data from the UK Tomato Plant Response Test and German Spring Barley Test on CCS Compost'.* The appointed contractor will be responsible for fulfilling the project objectives outlined in Section 2.2 of this Tender Invitation Document. Towards the fulfilment of these objectives, the contractor should develop and address appropriate research questions as suggested below.

### 3.1.1 Key Elements

The following are indicative rather than exhaustive research questions aligned to the aims of the project.

*Towards the use of the spring barley PRT in PAS 100:*

a) Range and variability of spring barley growth in the 'peat-only' media – is the range of growth observed in the spring barley PRT more, less or similar to that in the tomato PRT and is the variability more, equal or lower than that in the tomato PRT growth in glasshouse and controlled growth room environments?
b) Range and variability of spring barley growth in the 'compost+peat' media – is the range of growth observed in the spring barley PRT more, less or similar to that in the tomato PRT and is the variability more, equal or lower than that in the tomato PRT replicates in glasshouse and controlled growth room environments?
c) What is the range of spring barley growth considered 'good' or 'bad' in compost+peat, relative to 'peat only'?
d) Do compost samples always fail the barley test where they fail the tomato PRT test (i.e. when the result is < 80 % of the peat only control)?
e) Do compost samples always pass the barley test where they pass the tomato PRT test (i.e. the result is > 80 % of the peat only control)?
f) Compile and report statistics on compost samples, the results of which are:
    i. 'tomato PRT fail and barley PRT fail;'
    ii. 'tomato PRT fail but barley PRT pass;'
    iii. 'tomato PRT pass and barley PRT fail' (if there are any);
    iv. 'tomato PRT pass and barley PRT pass.'
g) What percentage of composts tested pass/fail each of the tests in terms of:
    - germination, as defined by the test methodologies;
    - top growth as defined by the test methodologies;

*Towards better understanding of the tomato PRT performance:*

h) Can results of the spring barley PRT help us to better understand tomato PRT performance/failures?
i) What is/are the reason(s) why specific composts don't perform well (in terms of top growth) in the tomato PRT?

3.1.2 Project Deliverables

- Regular meetings with the Steering Group to provide project updates and agree project milestones.
- An interpretative report including statistical analysis with key conclusions and recommendations for REAL.
- A final meeting with REAL to discuss the project in its entirety, during which the appointed contractor shall present the findings enclosed in the final report.

**3.2** Competence requirements

REAL will appoint a contractor (an individual, organisation, or consortium) with experience of and/or expertise in the following:

- PAS 100 and CCS test methods (including plant response test methods), or the capacity to gain familiarity with these methods sufficient to produce project deliverables on schedule.
- Statistical analysis (including linear regression analysis). Competency in Bayesian statistics and/or multivariate mixed models may be required to address more challenging research questions given the nature of the expected dataset and the number of measured compost characterisation parameters.
- Developing clear informative conclusions from the interpretation of statistical analysis and reporting to a standard that can inform the sector.

## 4 TENDER REQUIREMENTS

*This Section provides instructions for preparing tenders.*

**4.1** Your tender should be submitted by email and should be limited to no more than 10 x A4 sides at minimum 10pt font (excluding appendices).

**4.2** Your tender must include the following information in the order indicated:

**I. An executive summary**

This should be no longer than one side of A4 paper, outlining the proposed work and including the total cost of the proposed work, **inclusive** of Value Added Tax ("VAT") and anticipated expenses.

**II. Company/Organisation details**

Please include the following information:

- The name of the Company submitting the tender;
- The registered office name, address, VAT number (if applicable) and company or charity registration number;
- The name of the nominated contact person within the tenderer's organisation;
- Contact details including address, telephone number and e-mail address

REAL will accept tenders from both individual companies and from consortia. Should you decide to tender as part of a consortium, you will need to identify one member of the consortium (the "Lead Contractor") to act as the contracting party. All other consortium members will be sub-contractors to the Lead Contractor.

**III. A description of your working methods**

You will need to make clear how you intend to deliver the work and provide estimated timescales for delivery.

**IV. A description of the project team who will manage and deliver the work**

This should include a list of individuals, their respective roles within the organisation and, for the purposes of this work, their relevant skills and experience including any relevant professional qualifications.

**V. An identification of any sub-contractors to be used**

You should include a list of any sub-contractors you intend to use to deliver the work.

**VI. Evidence of a track record in undertaking work similar to that described in this document**

**VII. Breakdown costs (<u>exclusive</u> of VAT) including;**

- Individual day rates and number of days of each staff member involved in delivering work
- Expenses

**VIII. Identification of any conflicts of interest**

Please disclose any conflicts of interest which might arise if you were selected to undertake the work. Please also include a contingency plan for addressing any identified conflict(s) of interest, should conflict(s) arise. Where you tender as part of a consortium, all members of the consortium should be considered.

**IX. A copy of your Environmental Policy and evidence of any accredited Environmental Management System.**

**X. Written confirmation that you have the necessary permits, licences or exemptions required for the services.**

**XI. Appendices**

Tenderers should include the following documents as appendices:

- Audited or management accounts for the last 2 financial years;

  REAL reserves the right to reject bids from Contractors where the accounts show that the Contractor might be at risk of insolvency.
- A statement of any material litigation, pending or threatened, or other legal proceedings;

  REAL reserves the right to reject bids from Contractors subject to legal proceedings where in REAL's reasonable opinion such proceedings could impact upon the Contactor's ability to deliver the services required.
- Evidence of the level of professional indemnity, public liability and property damage insurance cover held.

  REAL will require minimum cover levels of:
  - £1 million professional indemnity;
  - £2 million public liability;
  - £2 million property damage.

  To be considered for evaluation, Contractors must have this cover in place at the time of bidding or must include (as part of the tender submission) a commitment to take out such cover in the event of being appointed.

**4.3** Should you have any questions in relation to the type of information required by REAL, please contact the person identified in Section 6 of this Tender Invitation Document to discuss.

**4.4** All tender submissions will be treated on a confidential basis by REAL and its advisers, subject to the provisions of the Freedom of Information Act 2000.

## 5 EVALUATION CRITERIA

*This Section specifies the criteria REAL will use to evaluate the tender submissions and appoint a contractor.*

**5.1** REAL must be satisfied that each potential contractor has the appropriate capabilities and resources available to undertake the work to REAL's requirements and provide the necessary services.

**5.2** REAL will select its Research Hub contractors through a competitive process. Your tender submission should be written to address the key requirements and scope of the work and demonstrate how it meets the evaluation criteria below:

| **Evaluation criteria** | **Weighting** |
|---|---|
| Value for money | 20% |
| Methodology proposed to deliver required services | 40% |
| Authority of allocated personnel, their skills and technical capability | 20% |
| Corporate environmental commitment – submission of credible environmental policy and/or environmental management system details | 5% |
| Relevant experience | 15% |

In addition to the evaluation criteria above tender submission itself will be taken into account as an indication of the competence of the contractor.

## 6 SUBMISSION INSTRUCTIONS

*This Section provides instructions for submitting tenders.*

Please send one electronic copy (via email) of your tender submission to Jackie Robinson, Research Hub Project Manager at Renewable Energy Assurance Limited at **jackie@recc.org.uk**

Emails containing Tender submissions should clearly state the following in the subject field: '*Statistical analysis and interpretation of performance data from the UK Tomato Plant Response Test and German Spring Barley Test on CCS Compost* – Tender Submission Document'

The deadline to submit a tender for this project is: **21st July 2025**

If you wish to ask any questions relating to this tender, please contact the Research Hub Project Manager in writing only. *

**NOTE: All questions submitted to REAL about this Tender Invitation Document will be anonymised and uploaded to the Research Hub website as a Q&A at least one week prior to the deadline for tender submissions.*

## 7 TENDER PROCESS & TIMETABLE

*This Section explains the tender process and outlines the expected timeline.*

**7.1** All tender submissions must remain valid for a minimum period of 90 days following the deadline for receipt of tender submissions.

**7.2** All tender submissions will be competitively assessed against the evaluation criteria, outlined in Section 5 of this document.

**7.3** The target timetable for this process is as follows:

- Deadline for tender submissions: **21st July 2025**
- Deadline for questions in relation to this tender: **30th June 2025**
- Tenderers receive written notification of REAL's decision: **First week of August 2025**

**7.4** All tenderers will receive written notification of REAL's decision and will have the opportunity to discuss feedback on their tender submission.

**7.5** This information is offered in good faith for the guidance of interested parties, but no warranty or representation is given as to the accuracy or completeness of any of it. REAL and its advisers shall not be liable for any error, misstatement, or omission. No aspect of this procedure shall constitute a contract or part of a contract. Tenderers participate in the process on the strict understanding that the procedure may be altered or that REAL may not proceed for any reason. REAL reserves the right not to follow up this Tender Invitation Document in any way and in particular not to enter into any contractual arrangement with any of the tenderers. REAL does not bind itself to enter into negotiations or proceed with or accept any tender. Any decision to tender is at the sole discretion of the tenderer and REAL excludes all liability in respect of any tendering costs incurred.

**7.6** Any contract entered into as a result of this tender process shall be in accordance with REAL's terms and conditions of contract.

**7.7** Tenderers taking part in this process acknowledge and accept that REAL may publish details about the winning bid (such as the contract value and the name of the winning bidder) on appropriate webpages under its control.