



## **The fourth project of the Research Hub**

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

**Tender Invitation Document**

## **EXECUTIVE SUMMARY**

Renewable Energy Assurance Limited (REAL) invites contractors, through a competitive process, to tender for the below outlined work.

### **Purpose of the tender**

The purpose of the tender opportunity is to appoint a contractor to develop and deliver the fourth project of REAL's Research Hub titled '*Evaluation of the potential for the improvement of the Residual Biogas Potential test and investigation of alternative test procedures for 'End of Waste' biofertilisers.*'

### **Tender timeframe**

Deadline for receipt of tender submissions: **Monday 03 January 2022**

Deadline for questions in relation to this tender: **Monday 06 December 2021**

Tenderers receive written notification of REAL's decision: **February 2022**

### **Work programme**

Contract start date: **May 2022**

Contract duration: **1 year** (to be agreed)

*\*REAL reserve the right to change this timetable*

<b>1</b>	<b>INTRODUCTION .....</b>	<b>4</b>
<b>2</b>	<b>BACKGROUND AND SCOPE OF WORK.....</b>	<b>5</b>
<b>3</b>	<b>THE TENDER SUBMISSION - INFORMATION REQUIRED .....</b>	<b>8</b>
<b>4</b>	<b>EVALUATION CRITERIA.....</b>	<b>10</b>
<b>5</b>	<b>APPLICATION PROCEDURE .....</b>	<b>10</b>
<b>6</b>	<b>TENDER PROCESS &amp; TIMETABLE .....</b>	<b>11</b>

## 1 INTRODUCTION

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

REAL's certification schemes include, but are not limited to, the Compost Certification Scheme (CCS), the Biofertiliser Certification Scheme (BCS) and the Compostable Materials Certification Scheme (CMCS).

REAL also administer the Compost and Biofertiliser Certification Schemes' Research Hub. The Research Hub has been set up as a tool to source funding from the composting and anaerobic digestion industries as a means, through research projects, of developing the technical and regulatory aspects of certified compost and digestate production, testing and usage, and further to maintain market acceptability.

REAL wishes to appoint a contractor to develop and deliver the fourth project of REAL's Research Hub titled '*Evaluation of the potential for the improvement of the Residual Biogas Potential test and investigation of alternative test procedures for 'End of Waste' biofertilisers.*' The appointed contractor will be required to work with the Research Hub's Project Management Team, the Research Hub's Research Panel and REAL.

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.

## 2 BACKGROUND AND SCOPE OF WORK

### 2.1 Background

REAL is the owner and administrator of the CCS and the BCS. The CCS and BCS provide assurance to consumers, farmers, food producers and retailers that compost produced from composting processes and biofertiliser produced through anaerobic digestion processes is safe for human, animal, and plant health.

In cooperation with the members of the CCS/BCS Technical Advisory Committee (TAC) and through liaison with the wider industry, it was the decision of REAL to establish, in the form of the Research Hub, a mechanism to generate research funds and further to sponsor research and development (R&D) projects.

REAL wishes to appoint a contractor to develop and deliver the fourth project of REAL's Research Hub, as outlined below.

The Residual Biogas Potential (RBP) test is one of the testing criteria specified in PAS110. REAL approve laboratories who undertake testing for certification purposes. The test requires a 28-day test period from receipt by the laboratory and the results are reported directly to the operators and the relevant certification body.

It is REAL's understanding that this test is currently subject to review as part of the EA-lead ADQP revision and as such may be subject to necessary change in the near future.

### 2.2 Services

2.2.1 The appointed contractor will develop and deliver the fourth project of REAL's Research Hub titled '*Evaluation of the potential for the improvement of the Residual Biogas Potential test and investigation of alternative test procedures for 'End of Waste' biofertilisers.*' Key elements of the research project include:

- To seek to identify any patterns with respect to test failures and non-responses, for example nature of feedstock, time of year, lab inoculum source, etc.<sup>1</sup>
- To investigate whether it is possible to predict the 28-day test result by analysis earlier in the RBP test procedure.<sup>2</sup>

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<sup>1</sup> To be achieved by data analysis from producers and lab service providers.

<sup>2</sup> Will require experimental analysis. Howell et al. 2019 J. Env. Mgmt 887-894 have investigated prediction of 28-day biogas production from analysis earlier in the experimental cycle for Municipal Biowaste. This will be repeated for PAS110 waste streams.

- To investigate the efficacy of using different inocula in the standard test to achieve greater reliability as a way forward if alternative tests cannot be identified.<sup>3</sup>
- To explore whether there are any alternative procedures which might replace the standard RBP test. The EU in its Fertilisers Regulation (EU) 2019/1009 specifies options for digestate stability testing and stability limits, one of which is an Oxygen Uptake Rate test ((*BS EN 16087-1:2020, Soil improvers and growing media. Determination of the aerobic biological activity. Oxygen uptake rate (OUR)) and associated limit*. Both 'fresh crop digestate' and other digestates are required to be stable and this applies to 'both the solid and liquid part of the digestate'. (The RBP test and an associated limit are an alternative option.)<sup>4</sup>
- To consider whether there are any alternative rapid procedures to evaluate digestate stability as measured by residual biogas potential testing.<sup>5</sup>
- To coordinate regular update meetings with the REAL Project Management Team.
- To present to the REAL Project Management Team the outcome(s) and recommendation(s) from this project.
- To produce a final report, for REAL's purposes, to detail:
  - I. the potential variabilities in the outcomes of the RBP test with liquid and solid digestates from a range of feedstocks and inocula, to provide a fuller understanding of the uncertainties which may occur with the test and inform the interpretations of test results;
  - II. the comparison of the RBP and OUR tests in order to provide the possibility of a robust alternative to the RBP test;
  - III. the efficacy of NIR procedures currently used in prior testing of feedstocks to evaluate gas yield potential to be investigated as a post digestion procedure to assess stability of the digestate;

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<sup>3</sup> Will require comparisons of the test outcomes using different inocula with digestates derived from differing feedstocks.

<sup>4</sup> Will investigate the OUR test which is identified in the EU Fertilisers Regulation as an alternative to the RBP test as a determinant of the stability of the digestates. Assessments of the stability of liquid and solid digestates from a range of feedstocks should be compared using the two test methods.

<sup>5</sup> Will investigate procedures that are available to rapidly predict biogas potential by detailed analysis of digested materials (e.g., Bullet BMP). These procedures take homogenised samples and use Near Infrared (NIR) technology which measures the molecular bond vibrations in the sample to determine Biomethane Potential of fresh digester feedstocks against a calibration model.

- IV. Calibration data/a calibration model capable of being applied by all laboratories with the appropriate NIR equipment and any company who manufactures suitable NIR machines.

2.2.2 The appointed contractor will report findings (and appropriate analysis and/or written comments) to REAL.

### 2.3 Deliverables

- Regular meetings with the REAL Project Management Team to provide an update on project progress and to agree the completion of project milestones.
- A final report to cover the project elements as outlined in 2.2.1 of this tender, to be understood by both the anaerobic digestion and composting sectors, laboratories who perform digestate stability tests, as well as those not directly involved in the aforementioned industries.
- A final meeting with REAL to discuss the project in its entirety and within which to present the final report as outlined in section 2.2.1 of this tender.

### 2.4 Competence requirements

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

- Anaerobic digestion knowledge, or involvement in related industries (related industries to provide insight on potential technology transfers).
- Direct or indirect involvement with the RBP test. Knowledge of /involvement with the OUR test and the NIR procedure is desirable.
- Experimental and data analysis.

### **3 THE TENDER SUBMISSION - INFORMATION REQUIRED**

**3.1** 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).

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

**(1) An executive summary** of no more than one side of A4 in length, outlining the proposed work and including the total cost of the proposed work, inclusive of Value Added Tax (“VAT”) and anticipated expenses.

**(2) Company/Organisation details.** REAL will need 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.

**(3) 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.

**(4) 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.

**(5) An identification of any sub-contractors to be used**

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

**(6) Evidence of a track record in undertaking work similar to that described in this document**

**(7) Breakdown costs (exclusive of VAT) including;**

**a. Individual day rates and number of days of each staff member involved in delivering work**

**b. Expenses**



- (8) Identification of any conflicts of interest** which might arise if you were selected to undertake the work and if such a conflict were to arise, an indication of how this conflict would be addressed. Where you tender as part of a consortium, all members of the consortium should be considered.
- (9) A copy of your Environmental Policy** and evidence of any accredited Environmental Management System.
- (10) Written confirmation** that you have the necessary permits, licences or exemptions required for the services.
- (11) As appendices**, tenders should include:
- 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 Contractor'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.

**3.3** Should you have any questions in relation to the type of information required by REAL, please contact the person identified in Section 5 of this Tender Invitation Document to discuss.

**3.4** 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.

## 4 EVALUATION CRITERIA

- 4.1 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.
- 4.2 The process REAL will use to select its contractors is a competitive one. 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:

<b>Evaluation criteria</b>	<b>Weighting</b>
Cost of work	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%

## 5 APPLICATION PROCEDURE

You should send one electronic copy (via email) of your tender submission to:

Olivia FursseDonn, Renewable Energy Assurance Limited  
Email: [olivia@realschemes.org.uk](mailto:olivia@realschemes.org.uk)

Emails containing Tender submissions should clearly state the following in the subject field: 'The fourth project of REAL's Research Hub – Tender Submission Document'

If you wish to ask any questions relating to this tender, please contact Olivia in writing only.\*

*\*NOTE: All questions submitted to REAL will be uploaded as a Q&A to the Research Hub website, one week prior to the deadline for tender submissions.*

## 6 TENDER PROCESS & TIMETABLE

- 6.1 All tender submissions must remain valid for a minimum period of 90 days following the deadline for receipt of tender submissions.
- 6.2 All tender submissions will be competitively assessed against the evaluation criteria, (stated in Section 4 of this document).
- 6.3 The target timetable for this process is as follows:
- Deadline for receipt of tender submissions: **Monday 03 January 2022**  
Deadline for questions in relation to this tender: **Monday 06 December 2021**  
Tenderers receive written notification of REAL's decision: **February 2022**
- 6.4 All tenderers will receive written notification of REAL's decision and tenderers will be given the opportunity to discuss feedback on their tender submission.
- 6.5 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.
- 6.6 Any contract entered into as a result of this tender process shall be in accordance with REAL's terms and conditions of contract.
- 6.7 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.