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**Programme Area:** Bioenergy

**Project:** TEA Biomass Pre-processing

**Title:** Techno-Economic Assessment of Biomass Pre-processing Request for Proposals

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**Abstract:**

The Request for Proposals for the Techno-Economic Assessment of Biomass Pre-Processing project.

**Context:**

The techno-economic project will provide a greater understanding of the options available to modify or improve the physical and chemical characteristics of different types of UK-derived 2nd generation energy biomass feedstocks, that may otherwise reduce the cost-effective performance of conversion technologies.

# Request for Proposal (RfP)

## Title of Services for which Proposals are Requested

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# Techno-Economic Assessment of Biomass Pre-processing

## Request Issue Date

10<sup>th</sup> July 2014

## Deadline for Notification of Intention to Submit a Proposal

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1<sup>st</sup> August 2014 – 16:00 hrs

## Request for Proposals Submission Date

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29<sup>th</sup> August 2014 – 16:00 hrs

## Contact for Enquiries

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## Address for Notifications and Submission of Proposals

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Techno-economic assessment of Biomass Pre-processing RfP

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## **1. ETI INTRODUCTION**

### **1.1. Introduction to the Energy Technologies Institute**

The Energy Technologies Institute (ETI) is a public-private partnership between global industries – BP, Caterpillar, EDF, E.ON, Rolls-Royce and Shell – and the UK Government. Hitachi has joined the ETI as a Programme Associate for the SSH Programme.

Public sector representation is through the Department for Business, Innovation and Skills, with funding channelled through the Technology Strategy Board and the Engineering and Physical Sciences Research Council. The Department of Energy and Climate Change are observers on the Board.

The ETI is focused on accelerating the deployment of affordable, secure low-carbon energy systems for 2020 to 2050 by demonstrating technologies, developing knowledge, skills and supply-chains and informing the development of regulation, standards and policy.

Further information can be found on our web-site at [www.eti.co.uk](http://www.eti.co.uk).

### **1.2. ETI Approach to Health, Safety and Environment (HSE)**

The Health and Safety of those who may be affected by ETI Projects and the protection of the environment that may be impacted by ETI Projects is of paramount importance to the ETI and its Members. It is ETI policy to pursue best practice in the health, safety and environmental management of its Projects. The ETI therefore expects those who receive ETI funding to demonstrate a commitment to best practice in health, safety and environmental management as well as demonstrating that all applicable legal requirements are met.

## 2. PROJECT OVERVIEW

### 2.1. Background to the Bioenergy Programme and Project Context

If the future UK energy system is built without the use of bioenergy, it could cost the UK up to £78 billion per year more by 2050 to meet its climate change targets. The sustainable production of biomass captures large amounts of carbon dioxide (CO<sub>2</sub>) from the atmosphere which, when combined with Carbon Capture and Storage (CCS) to minimise the release of captured carbon back to the atmosphere, can result in a net removal of CO<sub>2</sub> from the atmosphere. Converting 10% of UK land (2.4 million hectares) could, if combined with CCS, remove over 50 million tonnes of atmospheric CO<sub>2</sub> per year. Even without CCS, bioenergy has been shown to deliver carbon savings compared with fossil fuels, and offers significant end-use flexibility.

Work by the Natural Environment Research Council (e.g. the TSEC<sup>1</sup> Bio-Sys Project), RELU<sup>2</sup>, and the SuperGen Bioenergy Programme, as well as in-house modelling at the ETI, has shown that the UK could potentially utilise reasonable volumes of domestically grown biomass to help fuel our energy future. As bioenergy generation increases, the UK can source that biomass from abroad or, through biomass grown in the UK. Developing a UK biomass production base would decrease our reliance on imports (whose sustainability is often difficult to confirm) and be beneficial for the UK economy and for UK energy security. This must, though, be done sustainably from both a land-use perspective (balancing food, feed, fibre, and fuel) and ecosystem services perspective (e.g. water, carbon and biodiversity management). Through one of our other Projects, Ecosystem Land Use Modelling (ELUM), we are assessing the direct land use change emissions associated with UK bioenergy production, in order to inform judgements of sustainability.

In order to identify the best use of any sustainable feedstock produced, we have developed a value chain modelling tool to consider the economic impact of different combinations of feedstock, pre-processing and conversion technologies, on the UK bioenergy sector. However, to inform this (and other) analyses, a greater understanding of the options available to modify or improve the physical and chemical characteristics of different types of UK-derived biomass feedstocks, that may otherwise reduce the cost-effective performance of conversion technologies, is needed at various stages of the value chain.

A parallel Project is aiming to quantify the nature, scale and causes of variability in UK feedstock characteristics – the outputs of this parallel project should inform this techno-economic Project. The aim of this Techno-Economic Analysis is to assess the relative merits of approaches to manage, or modify, these characteristics along the conversion pathway.

#### **Project Context**

This Project will be delivered under the ETI's Bioenergy Programme. This Project's outputs will be used to inform a potential future ETI demonstration Project.

### 2.2. Commissioning Approach

The ETI plans to procure this Project via an open tender and is now seeking responses from interested parties. A Prime Contractor will be appointed and the Project is expected to start of October 2014 with a project duration of around 9-10 months. The Prime Contractor may choose to Sub-contract some elements of the work. This must be detailed in the Respondents' submission.

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<sup>1</sup> Towards a Sustainable Energy Economy

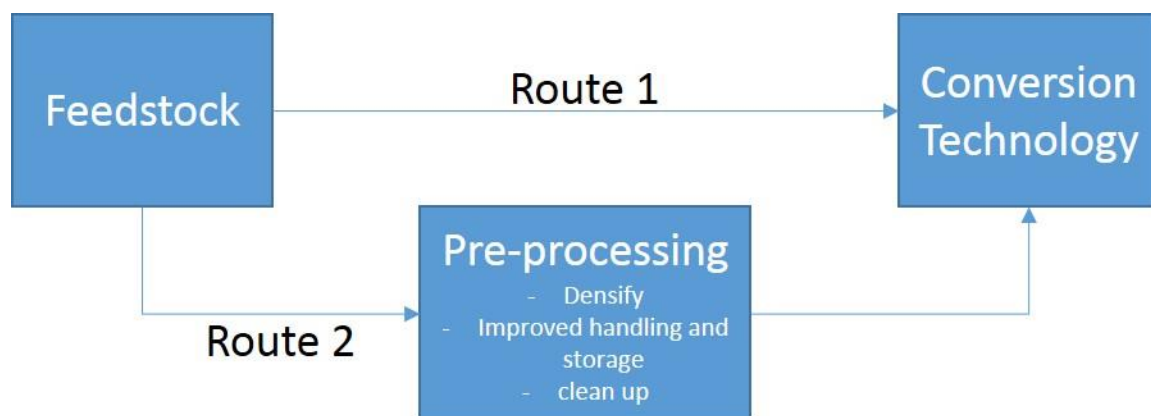
<sup>2</sup> Rural Economy Land Use

### 3. BIOENERGY TECHNO-ECONOMIC ASSESSMENT– OBJECTIVES, OUTCOMES AIM AND SCOPE

#### 3.1. Project Objectives

While a lack of consistent quality UK feedstock has been reported as a major barrier in terms of wider UK biomass conversion technology deployment, the variability in feedstock and the technical challenges this raises are also not clear. Nor is there a clear understanding of the most cost-effective solutions to dealing with this variability. The overarching aim of this Project is to undertake a Techno-Economic Assessment of two different bioenergy system approaches: one without any pre-processing steps between feedstock production and energy conversion (“Route 1”); and one with intermediate pre-processing step(s) of some description (“Route 2”) – see Figure 1 below. For clarity – ‘pre-processing’ refers to activities and processes that may be used to **densify, improve handling, and/or clean-up** raw biomass feedstocks. The focus of this Project is specifically on second generation feedstocks, i.e. Miscanthus grass, Short Rotation Coppice Willow, Short Rotation Forestry (both coniferous and deciduous), and (imported) wood pellets as a benchmark<sup>3</sup>.

**Figure 1: Alternative routes for biomass to energy conversion**



The fundamental requirements of this work are, therefore, to:

- provide a Techno-Economic Assessment of existing biomass to energy conversion systems (focusing on dedicated gasification and dedicated combustion technologies) at micro, small, medium and large scale (i.e. micro is <1MWe; small is 1-10MWe; medium is 11-49MWe; and large is >50MWe); see Table 1 for example technologies to be considered.
- identify potential solutions to improve the overall system performance at the conversion plant itself (“Route 1”) and quantify the benefits of these improvements – solutions could include on farm improvements, close to farm changes at aggregator sites and/or on-plant improvements.
- undertake an assessment and comparison of the various pre-processing with conversion configurations (“Route 2”) that could deliver overall system cost and performance improvements by one, or a combination, of the methods outlined on page 4 (A-C); and
- provide a comparative assessment of the value of feedstock improvement (via pre-processing) versus improvements in conversion technology; identifying opportunities for innovation within each route and the conditions that are more favourable for each Route (see Figure 3).

**Table 1: Example technologies to be considered at different scales**

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#### <sup>3</sup> Exclusions to the study

*At this stage, all other feedstocks (e.g. waste, slurry, agricultural residues and first generation (conventional) biofuel crop feedstocks) are excluded.*



	<b>Micro scale (distributed) &lt; 1 MWe</b>	<b>Small-Medium scale 1 – 10 MWe</b>	<b>Large scale 11 – 49 MWe</b>	<b>Very large scale 50 MWe +</b>
<b>Combustion</b>	Combined Heat and Power (CHP) Heat only	Power only CHP Heat only	Power only CHP	Power only CHP
	Stoker burner Underfeed stoker for pellets or wood chips Log burner	Fixed Grate Combustion (moving bed) Bubbling fluidised bed	Circulating Fluidised Bed (CFB) Combustion Fixed Grate Combustion	CFB Combustion Fixed Grate Combustion
<b>Gasification</b>	CHP Heat only	Power only CHP Heat only	Power only CHP	Power only CHP
	Bubbling Fluidised Bed (BFB) Downdraft gasification	BFB CFB Downdraft gasification	CFB Indirect gasification	CFB Entrained Flow Gasification
<b>Pre-treatment</b>	<ul style="list-style-type: none"> <li>• chipping</li> <li>• pelleting</li> <li>• torrefaction and torrefaction with pelletisation</li> <li>• steam explosion and other extraction techniques such as Ammonia Fibre Expansion (AFEX)</li> <li>• pyrolysis</li> <li>• physical washing</li> <li>• chemical washing</li> <li>• others</li> <li>• combinations of the above</li> </ul>			

Our starting assumption is that pre-processing technologies have the potential to deliver system improvements at different parts of the value chain, but a trade-off analysis is required across the full system to assess when and under what conditions the incorporation of pre-processing delivers Levelised Cost of Energy (LCOE) advantages over systems without pre-processing.

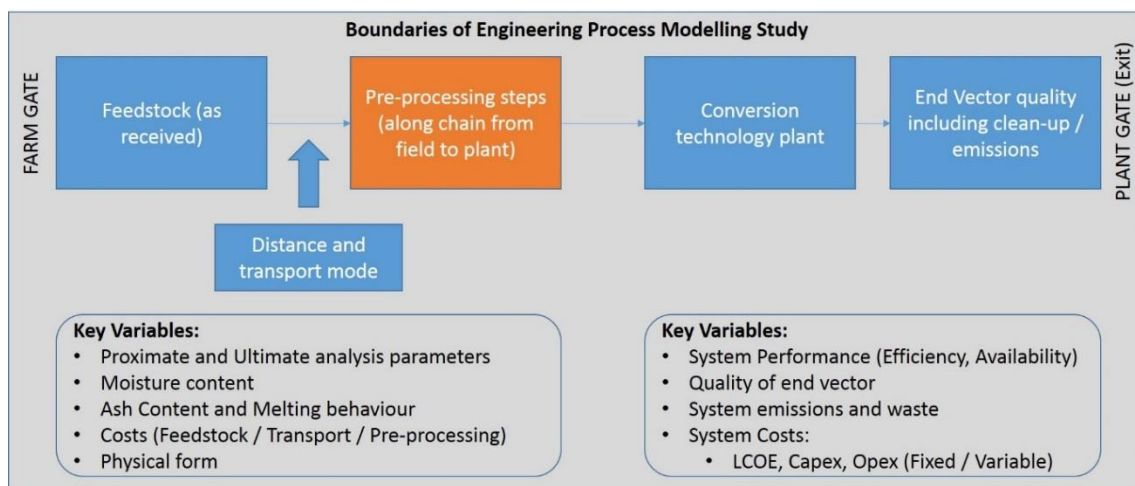
We believe that pre-processing can potentially improve system LCOE in three ways:

- a) By **reducing the transportation costs** associated with biomass feedstocks.
- b) By **increasing the availability** of the conversion plant, through better handling, feeding and storage of the biomass feedstocks (reducing unplanned outages); and by reducing the level of modulation, fouling, slagging and corrosion within the conversion units, thereby reducing the planned maintenance required to address this.
- c) By increasing technical performance of the full system, through **improved conversion efficiency**.

The Project boundaries for this analysis are shown in Figure 2 below.



**Figure 2: Boundaries for the modelling analysis**



The Project comprises the following four work packages (WP):

**WP1: Landscape review of current biomass-conversion systems: benchmarking and assignment to 'Routes'**

- Benchmarking of current biomass conversion plants. For each option described, provide an estimate of costs (LCOE), performance and associated emissions based on the different biomass feedstocks processed (e.g. logs, pellets, woodchips, Miscanthus bales).
- Assign each of the options defined in (a) above to either 'Route 1' (no pre-processing) or 'Route 2' (with pre-processing).
- A review and Techno-Economic Assessment of current biomass pre-processing technologies such as torrefaction, pelletisation etc. The report should include pros and cons; the constraints addressed by each technology; opportunities opened up; and flexibility, especially in terms of business models.
- A horizon scanning of future conversion and pre-processing technologies, and assessment of their respective potential TRL progressions.

The technologies to be considered at the different scales are outlined in Table 1 above. The successful Respondents should review the data in Table 1 and, in discussion with the ETI, suggest modifications if these are appropriate.

**WP2: System level analysis of engineering improvement opportunities and initial system prioritisation**

- An initial Techno-Economic Assessment of the pathways defined in WP1(a) plus current options to improve these.
- Prioritisation of the potential "as received" (Route 1) and "pre-processing" (Route 2) pathway combinations to be assessed in detail in WP3 – identifying technologies (and combinations of technologies) that have the potential for significant cost and performance improvement, whilst delivering better emission profiles, along with indicative development timescales, investments required, potential markets, etc. for these options. The ETI anticipates that approximately 8-10 technologies will be selected for more detailed analysis in WP3.

**WP3: Detailed process-engineering and sensitivity analysis on the down-selected technologies identified in WP2**

- Build process models to enable the comparison of the impact of changes in feedstock quality and characteristics (as a result of pre-processing – "Route 2") on energy conversion technology LCOE (cost, performance, availability), against improvements to the conversion technology

system using ‘as received feedstock’ – “Route 1”. The outputs of these process models shall enable a system level LCOE assessment to be made at different scales of plant (and with sensitivities), taking into account additional variables such as transport cost, as set out in Figure 2 above.

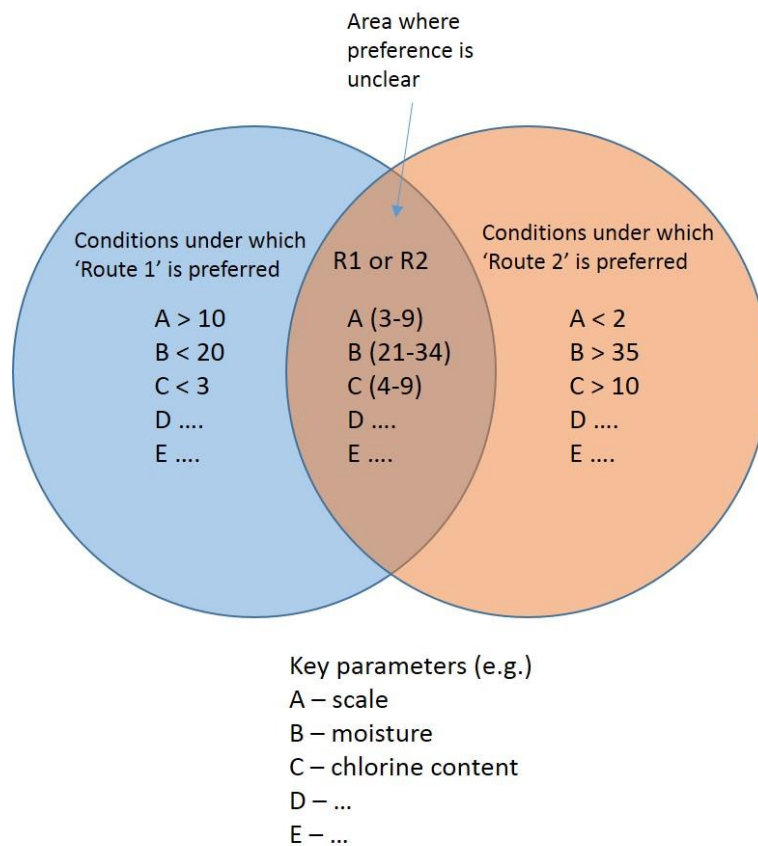
- b) Undertake a structured sensitivity analysis across all parameters (technical, economic and environmental), in order to identify the key drivers of system improvement / change.

**WP4: Identification of pre-processing suitability and innovation opportunities**

- a) Mapping of Route 1 and Route 2 pathways to identify the conditions and circumstances under which pre-processing is preferable to not pre-processing (and vice versa) – see illustrative Figure 3 below.
- b) Identification of the most promising innovation opportunities within each route and the potential impact of these innovation opportunities.
- c) Taking into account all of the information and insights gathered in the study, provide a “first-cut” (high level) assessment of what an optimal overall system design would need to look like. This is intended to be a “blank slate” exercise – everything can be considered across feedstocks, pre-processing and conversion technologies.

The ETI is considering extending the Project scope to include a 5<sup>th</sup> work package looking at wider supply chain opportunities and barriers associated with the introduction of a defined ‘pre-processing’ intermediate step in the value chain. We would welcome initial thoughts on this proposed extension (scope, approach, timings and capability), although we will only consider progressing this additional scope following further detailed discussions with the successful Respondent, once the Project has started and the initial Stage Gate Review has been passed.

**Figure 3: Summary mapping of favoured pathways following the modelling analysis (based on LCOE)**



### 3.2. Project Outcomes

The Project will provide the following outcomes:

- An assessment of the current state-of-the-art including landscape overview of current biomass conversion systems (dedicated and co-fired), and how they perform with different feedstocks, at different scales in terms of CO<sub>2e</sub>, cost, energy efficiency, TRL (Technology Readiness Level) etc.
- A review and Techno-Economic Assessment of current biomass pre-processing technologies (including pros and cons; the constraints addressed by each technology; opportunities opened up; and flexibility, especially in terms of business models).
- A horizon scanning of future conversion and pre-processing technologies, and assessment of their respective potential TRL progressions.
- An assessment of how existing systems using feedstocks “as received”, could make cost-effective improvements.
- An assessment of the extent to which biomass pre-processing technologies could improve feedstock characteristics (physical and chemical) in order to add value, reduce the overall system costs and reduce LCOE.
- A comparison of the relative merits of the two approaches above.
- Recommendations for technology acceleration that will most improve UK Biomass conversion processes and lead to increased deployment, taking account of CO<sub>2e</sub> reduction potential, costs and energy output and efficiency, and credible market size etc.

## 4. TECHNO – ECONOMIC ASSESSMENT OF BIOMASS PRE-PROCESSING - PROJECT DETAIL

The Project objectives and an outline statement of work needed have been included in this RfP. Respondents should treat this as a guide from which to construct their own Proposals and/or suggest alternative approaches or work package suggestions which may add value to the Project.

Respondents should expand on their proposed work elements and outline their approach to completing the statement of work within their Proposals and provide a Gantt chart of activities highlighting key milestones for the duration of the project.

### 4.1 Project Work Packages

It is intended that the Project will be comprised of four Work Packages (WP) which includes all the work described in this RfP. These are presented in Section 3.1 above. Respondents are free to modify these in their Proposals if this may improve Project delivery and/or add value to the Project.

### 4.2 Formal Deliverables from the Project

The following is an indicative list of what the ETI expects Respondents to deliver during this Project. Deliverables will be agreed during the Contract Negotiation phase and set out in the Project Contract:

- a) Report on the existing and emerging conversion and pre-processing technologies, including an assessment of their *suitability for use on UK-produced second generation feedstocks*, plus horizon scanning of viable new technologies and approaches from other sectors.
- b) Interim note on key parameters and pre-processing, and energy conversion technologies to be considered going forwards (i.e. agree on down select).
- c) Process model for comparing the impact of changes in feedstock quality and characteristics (as a result of pre-processing – “Route 2”) on energy conversion technology performance, against improvements to the conversion technology system using ‘as received feedstock’ – “Route 1”. An excel-based tool would be fine if appropriate, or another appropriate engineering assessment software tool.
- d) Associated report (using model) on system level assessment on overall LCOE, at different scales of plant, taking in to account additional variables such as transport cost, as set out in Figure 2 above.
- e) Recommendations Report, which will:
  - present the key findings from the techno-economic modelling. It will at least cover
    - under which circumstances pre-processing feedstock adds value and is economically (LCOE level) beneficial?
    - What scale do the pre-processing technologies (and the receiving energy conversion plants) need to be, to be economically optimal?
  - identify the most promising innovation opportunities within each route and the potential impacts of these innovation opportunities
  - suggest optimum system designs
- f) A PowerPoint slide set summarising the key findings from the Project. The slides should be more detailed than would normally be expected for a presentation to aid understanding.

Unless otherwise stated or advised, all deliverable reports shall be provided electronically in both Microsoft Word and PDF formats. Additionally, electronic copies of any databases and any other supporting data developed or used during the Project shall also be provided, with full rights for their use by the ETI and its members.

This Project, along with two other complementary Projects, is expected to inform future ETI project investments.

### 4.3 Project Timescales

This Project will be run in parallel with the supporting Characterisation of Feedstocks Project. We expect that data from the Characterisation of Feedstocks Project will be used by this Techno-Economic Project.

We anticipate that this Project will be completed within 9 months of the Project start date. We look to Respondents to provide their view of the timescales needed in their Proposal, noting that time is of the essence.

### 4.4 Project Organisation Structure

The ETI places great emphasis on working through a Project Manager or primary point of contact in the delivery of projects. Therefore we require the appointment of a Project Manager or Project Lead by the Respondent acting as the primary interface with the ETI Project Manager. The Project Manager or Project Lead is responsible for managing and progressing the programme of work to time and cost, handling information flows and commercial issues, ensuring effective team-working and the continued engagement and support of key stakeholders. In essence the responsibility is to make sure that the ETI benefits from a result at the end of the programme of work that meets the agreed outcomes within time and cost.

#### 4.4.1 Procurement Approach

The ETI envisages that it will contract with the Respondent who will then act as the **Prime Contractor** who will undertake, if required, the coordination role with any Subcontractors that are used during this Project. However, the ETI may be willing to consider a consortium structure if such a structure is appropriate to the Project and provides additional value to the ETI. Any Respondents wishing to make such a Proposal must discuss this with the ETI prior to submission of their Proposal.

#### 4.4.2 Organisation and Contracting Structure

##### Organisations Required

The ETI will only select Respondents who have the required skills, experience and capability (either themselves or within their Subcontractors) to complete all parts of the Project.

##### Contracting Structure

For this Project, the ETI intends that a single Respondent will enter into the Project Contract with the ETI and undertake the Project as **Prime Contractor**, with specified parts of the Project being performed (as required) by Subcontractors. The ETI envisages that the Prime Contractor will, as a minimum, undertake the co-ordination, analysis and reporting role - however, we are open to alternative suggestions by bidders if a more suitable project structure is appropriate.

The Prime Contractor must demonstrably have the capability to manage and deliver the Project effectively and efficiently.

#### 4.4.3 Critical Roles

The ETI places great emphasis on two critical roles in the delivery of the Project – the Project Manager and the Chief Technologist – who together will lead the project on behalf of the Prime Contractor.

**The Project Manager** is responsible for leading and managing the Project Team, delivering the programme of work to time and cost, and handling information flows and commercial issues.

**The Chief Technologist** is responsible (on behalf of the Prime Contractor) for the technical quality and content of the work and ensuring the competence of key technical staff allocated to individual work packages.

## 4.5 Project Governance

Throughout the duration of the Project the ETI expects to hold review meetings with the Project Manager which may be at the ETI or Prime Contractor's premises as appropriate, typically monthly or at other points which may be agreed. The ETI may involve advisors, external consultants, key industrial stakeholders, or representatives from the ETI Members as appropriate.

The timing and scope will be confirmed in discussions after the Proposal has been reviewed. Preliminary arrangements are as follows:

- a) **Project Launch:** This will be held within one week of the Project start date. The purpose of the meeting is for the Prime Contractor and the ETI to review the scope of the Project, planned timescales, deliverables, and the way of working and interfacing with the ETI to ensure a common understanding of how the Project will be delivered in accordance with the contract. It is anticipated that this review will be held at the ETI offices in Loughborough and will take no longer than one day.
- b) **Stage Gate Reviews:** A Stage Gate Review meeting(s) will be held at an appropriate point(s) during the Project to determine whether the intended scope has been (and will be) satisfactorily completed, whether the Project has delivered (and will deliver) the primary objective, Project outputs and Required Outcomes, and therefore whether the Project can be successfully concluded. ETI envisages one Stage Gate Review at the midpoint of the Project to formally review the completion of project scope, and progress achieved and a Final Stage Gate review at project Completion.

The Prime Contractor and relevant Subcontractors will be required to support all such meetings.

### 4.5.1 Reporting

Regular reporting will be required during the Project, as agreed between the ETI team and the Project Manager respectively during the Project Detailing and Contract Finalisation Stage.

### 4.5.2 Project Health, Safety and Environmental (HSE) Management

The ETI's approach to the management of HSE in projects is based on three key elements:

- Competency Assessment.
- Performance Assurance; and
- Project Incident Protocol.

How the ETI applies this approach to a specific project depends upon the nature and content of the Project. For this Project specifically, it is envisaged that most work will be desk based activities. The ETI's requirements for Respondents Proposals are set out in Appendix C, Section 3.5.

Respondents should note that if a Project involves any activity which is not desk based then the ETI will carry out a full HSE competency assessment against the preferred Respondent(s) prior to contract award.

### 4.5.3 Critical Success Factors

Critical Success Factors for this Project are as follows:

- Both the Project Manager and Chief Technologist will have demonstrated competence, experience and authority, having carried out their respective roles effectively.
- The Project outcomes will comprehensively, accurately and succinctly deliver the outcomes described above. In particular, the outcomes will:



- Describe current biomass conversion systems and their performance at different scales.
- Establish the value of current biomass pre-processing technologies and the opportunities they provide to improve the bioenergy supply chain.
- Give visibility on future conversion and pre-processing technologies, including their state of development.
- Establish how improvements can be made to the biomass supply chain with, and without, the incorporation of biomass pre-processing steps.
- Compare the relative merits of supply chains with and without biomass pre-processing steps in the UK context.
- Provide recommendations for technology acceleration (short and longer term) that will most improve UK Biomass conversion processes and lead to increased bioenergy deployment.
- The Respondent will have developed a comprehensive, reliable, well-structured and robust model that is fit for purpose, flexible and can be used following the end of the Project by ETI staff.
- The Respondents will have carefully distilled the findings from the Project from a sufficiently early stage such that key project outcomes are fully understood by the Project's end.
- All written deliverables need to be written so as to be understandable by a technical/scientific audience noting that some of these readers may not be highly expert in the detailed subject area covered in this Project. The Project's written deliverables can be written as stand-alone reports if preferred but there must be consistency between these (both in terms of presentation styles and content). It is recommended that the scope and format of written deliverables are discussed with the ETI at an early stage of the work and, if appropriate, Draft versions of deliverables can be presented to the ETI for comment prior to formal submission.

#### **4.6 Project Funding and Payment Structure**

For this Project, the ETI's investment will be on a fixed price basis up to a maximum value of £450,000.

The Contract structure will include defined deliverables, with acceptance criteria and Payment Milestones by which one or more deliverables will have been completed (as to be defined and agreed in the Contract).

Proposals must clearly state the Respondents proposed Total Project Cost. If any other funding beyond the ETI investment is to be used, then the source and amount(s) of any additional funding (from the Prime Contractor and/or third parties, including proposed sub-contractors) which may be required to bridge any funding gap must be identified. Any other commercial impacts associated with any proposed reliance on such Participant Funding and/or Third Party Funding must also be clearly stated.

##### **4.6.1 Value Return**

In return for the ETI investment, the ETI anticipates that it will own any Arising IP from this Project (and where appropriate, that licenses for Background IP and third party IP will be granted/obtained if required by the ETI and third parties to use and exploit the Arising IP).

##### **4.6.2 Subcontracts**

As stated above, the ETI's intended organisation/contracting structure for this Project is that a single Respondent will enter into the Project Contract (as Prime Contractor) with the ETI, with specific parts of the Project being performed by agreed Subcontractors.



The ETI will require that there are Subcontracts in place between the Prime Contractor and its Subcontractors (including, as appropriate, companies within the same group as the Respondent), and that these Subcontracts are consistent in all material respects with the Project Contract. The appointment and use of Subcontractors by the Prime Contractor will be subject to prior ETI approval and the ETI reserves the right to approve the terms of Subcontracts.

#### **4.6.3 Project Payment Structure**

The ETI will invest in the Project as described above. Payments will be made by the ETI following successful completion of agreed Milestones, subject to acceptance by the ETI of Milestone deliverables against agreed acceptance criteria. Full details of the Project payment terms, structure and related requirements will be set out in the draft Project Contract and agreed during finalisation of the Project Contract (see Section 8.1 Project Shaping and Contract Negotiation).

#### **4.7 State Aid**

Funding from the ETI for this Project will constitute state aid. The ETI has a specific state aid clearance from the European Commission. A copy is available on request. In relation to their Proposals, Respondents should note:

- a) Further information may be required to support the specific state aid requirements of any Proposal during the procurement process.
- b) Successful Respondents will be required to provide full transparency of costs throughout the Project to ensure both the Contractor and the ETI comply with EU state aid law; and
- c) The Contractor will need to agree to certain contractual obligations related to the state aid requirements including the duration of the retention of records, and obligations to return ETI funding in certain exceptional circumstances.

Each Respondent must confirm that there are no potential, threatened, pending or outstanding recovery orders by the European Commission in respect of any funding received (either by the Respondent or any proposed Subcontractor).

#### **4.8 Terms and Conditions for the Contract**

The Project will be governed by a Contract, a summary of the key contractual terms which the ETI would expect to be included in the Contract is at Appendix D. The final Contract will incorporate appropriate information from the ETI's RfP, the Respondents Proposal and information drawn up and agreed during the Project shaping and contract negotiation.

## 4 COMMERCIAL AND LEGAL REQUIREMENTS

The most important issues that the ETI would like to highlight for initial consideration are as follows:

### 5.1 Insurance

The Respondent should confirm that liability and indemnity insurance cover is held and should confirm levels of cover and expiry for each. See Appendix B for further detail. Please note the ETI's requirements for professional indemnity insurance.

### 5.2 Intellectual Property (IP)

The Contract will include a warranty that no Background IP or Third Party IP shall be included in any deliverable without the prior consent of the ETI or that such Background IP or Third Party IP included is automatically licensed to the ETI.

The ETI tailors its approach to intellectual property matters to each ETI Project. The ETI's expectations for this Project are as follows:

- the ETI shall own (and therefore have rights to use and exploit) any Arising IP;
- the ETI does not anticipate granting rights to the Prime Contractor or other Project Team members to use or exploit Arising IP / Project results; Respondents may therefore wish to include an element of financial profit in their proposed costs; and
- where a licence of Background IP is required to carry out the Project and/or for the subsequent exploitation of any Arising IP / Project results, the Participant (or Subcontractor, where appropriate) is expected to make an appropriate licence available on a non-exclusive and (for this Project) royalty-free basis.
- Respondents should note that this applies to any copyright diagrams/images and must ensure appropriate permissions are obtained and evidence of permission provided to the ETI.
- the ETI understands that off-the-shelf software may be required by the ETI to use certain Deliverables. This should be identified in the IP section in your Proposal. In the event that there is any material proprietary software that constitutes Background IP and Third Party IP that the ETI would require access to in order to use certain Deliverables and licence them onwards to its sublicensees of the Deliverables (including the ETI Members), this should be discussed with the ETI at an early stage. Please note, it is a critical part of the selection of the Proposals that ETI can obtain the use and ability to sublicense the Deliverables and other Arising IP out of this Project.

Where a Respondent proposes that it shall (a) own any Arising IP and/or (b) have rights to use/exploit any Arising IP, the ETI recommends that the Respondent discuss this with the ETI before submitting its Proposal.

Respondents should note that if requested, the ETI will usually grant rights to a Participant (in this case a Prime Contractor or if agreed with the ETI, an academic Sub Contractor) which is an academic institution, for the purposes of academic research, teaching; publication of appropriate parts of the Project results, if appropriate, will generally be permitted subject to an approval process; and

Profit will generally not be paid to a Participant in addition to that Participant having Arising IP rights.

### 5.3 Statement of Compliance

The Respondents shall provide a statement that the Proposal is fully compliant with the Request for Proposals, or shall state clearly any exceptions, deviations, alternative approaches or additions, with justification. Note that in the absence of any specifically-stated deviation in this section of the Proposal, in the case of any subsequent dispute, the ETI's Request for Proposals will take precedence over the Proposal. Additional comments and clarifications should also be listed where appropriate (for example to clarify interpretation of requirements), but these must be differentiated from any deviations / exceptions above.

In relation to the Contract, the statement should set out as a minimum:

- The acceptance by each Respondent of the terms and conditions of the Contract.
- Any exceptions to the terms and conditions of the Contract issued by the ETI.

The exceptions set out will both be considered as part of the selection process to determine whether there is material compliance of the terms and conditions. Respondents should note that compliance with ETI terms and conditions is one of the selection criteria for this Request for Proposal. The ETI will not consider any further exceptions post selection which has not been identified in the statement.

#### **5.4 Non-Disclosure Agreement**

Respondents are required to enter into a Non-Disclosure Agreement (NDA) with the ETI before submitting their Proposal (see Appendix F for NDA format). Submission of a signed NDA will be viewed by the ETI as the Respondents formal intent to submit a Proposal. NDAs should be returned by the deadline outlined in Section 7.1.

#### **5.5 General Due Diligence**

All Respondents (except ETI Members, Programme Associates, universities / higher education institutions and UK/EU government laboratories / agencies) which provide more than 20% of the resources for the Project or which provide an input which is critical to the Project's success, shall provide due diligence Information to the ETI according to the table in Appendix A.

Please note that successful completion of all elements of the due diligence is a pre-requisite to any contract award: Failure to meet due diligence requirements at any stage may result in the exclusion of that Respondent or the Proposal from the ETI's selection process.

#### **5.6 Warranties**

The Contract contains a number of warranties and undertakings related to IP. The ETI will conduct an appropriate level of due diligence before the start of the Project which relates to IP and the IP warranties. The wording of any warranties may be amended to reflect due diligence performed.

#### **5.7 Indemnities**

The ETI will contribute funding to this Project but has no control over any risks and associated liabilities that may arise from the Project. Therefore, the Contract contains a number of indemnities for the ETI including for third party claims and for IP infringement. Respondents should review and comment on the indemnity position in the Submission.

## 6 DISCLAIMERS

- a) The ETI at its discretion may request clarification of a Proposal, and may reject any Proposal which is unclear.
- b) Neither the issue of any documentation in the Request for Proposals process nor any of the information presented in it should be regarded as a commitment or representation on the part of the ETI or any other person to enter into a contractual arrangement. The Request for Proposals is not an agreement to purchase goods or services, and the ETI is not bound to enter into any contract with the Respondent. By responding to this Request for Proposals, the Respondent does not commit itself to entering into a contract with the ETI.
- c) All decisions made by the ETI relating to the acceptance, review and selection or otherwise of Proposals are final.
- d) All documents, including Proposals, submitted to the ETI become the property of the ETI. They will be received and held in confidence by the ETI, subject to the terms of the Non-Disclosure Agreement. No part of a Proposal, or documents provided by Respondents, shall be returned.
- e) The ETI reserves the right to (i) change the basis of, or the procedures for, the Request for Proposals process, including the timetable or closing date, (ii) make modifications to, or alter any of the information within, the Request for Proposals at any time until the execution of the Contract, (iii) reject any or all of the Proposal received, and (iv) not invite any Respondent to proceed further. In cases (i) and (ii) the ETI shall provide a minimum of five working days written notice.
- f) Neither the ETI nor any of its agents or advisers accepts any liability or responsibility for the accuracy, adequacy or completeness of any of the information provided or any opinions contained in this Request for Proposals or of any other information made available during the Request for Proposals process. No representation or warranty, express or implied, is or will be given by the ETI or any of its agents or advisers with respect to such information provided or opinion given therein. Any liability is thereby expressly disclaimed.
- g) Respondents must assess the information and terms contained in this Request for Proposals independently, having taken professional advice if necessary. The Respondent will be deemed to have examined all the documents enclosed with this Request for Proposals and by its own independent observations and enquiries will be held to have fully informed itself as to the nature and extent of the requirements of the Request for Proposals. The Respondent must rely on its own enquiries and on the terms and conditions contained in any agreement, when and if finally executed, subject to such limitations and restrictions as may be specified therein.
- h) Respondents shall be wholly responsible for the costs they incur in the preparation and submission of their responses to the Request for Proposals. The ETI shall not be responsible for, and shall not pay, any costs and expenses which may be incurred by the Respondent in connection with its participation in the Request for Proposals process, including but not limited to any costs or expenses incurred up to the execution of the Contract.
- i) The ETI may, at its discretion, shortlist Respondents for the next phase. The ETI does not undertake to accept the lowest bid or to accept part or all of any Proposal and the acknowledgement of receipt of any Proposal shall not constitute any actual or implied agreement between the ETI and the Respondent.
- j) The submission of a Proposal will confirm acceptance of the foregoing provisions by the Respondent without qualification. Any attempt to qualify any of the foregoing provisions in this Disclaimer Notice, either expressly or impliedly, may result in a Respondent being disqualified.
- k) The copyright in the documentation and any other materials supplied by the ETI and/or its advisers in this Request for Proposals process, in whatever format, belongs to the ETI or its appointed advisers. Such documentation and materials may not, either in whole or in part, be copied, reproduced, distributed or otherwise made available to any other third party or used without the prior written consent of the ETI, except in relation to the preparation of the Proposal

in the course of the Request for Proposals process. All documentation supplied by the ETI in relation to this Request for Proposals process must be returned on demand, without any copies being retained by the Respondent.

- l) This Request for Proposals, and any dispute or claim arising out of or in connection with it (including any dispute or claim relating to non-contractual obligations), shall be governed by and construed in all respects in accordance with the laws of England and Wales and the parties agree that the Courts of England and Wales shall have exclusive jurisdiction to settle any dispute or claim arising out of or in connection with this document (including any non-contractual disputes or claims).

## 7 PROJECT PROCUREMENT AND SELECTION

### 7.1 Estimated Procurement and Project Timeframes

The following tables outline the anticipated schedule for the procurement process.

The timing and the sequence of events resulting from this Request for Proposals may vary and shall ultimately be determined by the ETI.

Request for Proposal and Selection	Anticipated Dates
Issue of Request for Proposal	10 <sup>th</sup> July 2014
Submission of NDA and Notification of Intention to Submit a Proposal to ETI	1 <sup>st</sup> August 2014
Closing date for submission of Proposal	29 <sup>th</sup> August 2014
Preferred Respondents Notified	10 <sup>th</sup> October 2014

Project Start	Anticipated Dates
Contract signature target date <b>(Note: this is dependent on the ETI selection process and an agreement on contractual terms and conditions being in place)</b>	10 <sup>th</sup> November 2014
Project Completion	xx*

\* Respondents are requested to provide a Gantt Chart with project timescales and delivery points for the deliverables.

### 7.2 Questions and Clarifications

An information meeting is to be held in Loughborough on 30 July 2014 to give information on the three projects here being commissioned to inform the design of a future bioenergy demonstration project, of which this is one. In this meeting, the ETI will provide the background to these projects and give time to all bidders to better understand the ETI's requirements. There will also be time for networking should any bidders wish to consider partnering. The ETI needs to know if the Respondent intends to attend the information meeting. Attendance is not obligatory, but will be an opportunity for respondents to ask questions of the Project sponsors and listen to a presentation from ETI Legal with regard to Contract forming. Respondents are requested to e-mail the contact for the enquiry with names of attendees who are planning to attend by no later than 16:00 hrs on Friday 25 July.

In addition, the ETI will endeavour to answer any questions or provide clarifications for potential Respondents before the Proposal deadline. Any advice or clarifications of ETI requirements requested by and provided to any Respondent may (at the ETI's discretion) be made available to all Respondents to ensure parity of information. Respondents should therefore consider presenting requests for advice and clarifications in a way that the ETI can respond to all Respondents without revealing confidential information.

### 7.3 Submission Content and Format

The Submission shall comprise five components:

- a) Detailed Proposal, arranged according to the structure set out in Appendix C. The content must demonstrate how the bidding organisation will meet the requirements set out in this Request for Proposal. The Proposal must be written in a succinct manner and must not include imprecise statements, generalities or repetition. The Proposal must be easily readable with appropriate font sizes (10pt or larger), margins, and shall not exceed a maximum of 20 pages (excluding appendices).
- b) Supporting information as specifically set out in Appendix C.
- c) Risk register, as described in Appendix C, part 3.4.
- d) Due-diligence information (as set out in Section 5.5).
- e) Statement of compliance and, if appropriate, supporting information, confirming compliance with or identifying exceptions to the specification or contractual requirements (as set out in Section 5.3). This must be signed by the Respondent.

Additional information (such as organisational brochures, etc.) may be provided to accompany the Submission, but such additional information will not be taken into account when reviewing Proposals.

The Submission shall consist of one (1) electronic copy which shall be provided in both PDF and Microsoft Word formats.

### 7.4 Selection Criteria

Proposals will be reviewed and judged primarily against the criteria listed below and the supporting evidence supplied.

#### **Knowledge, skills and experience to deliver the Project**

- Specific knowledge and skills relating to the subject area and delivering the work packages of this RfP.
- Experience and capability of key staff involved in Project, including the Project Manager/Lead Technologist
- Availability and stability of deployable resources to mobilise sufficiently rapidly and for sufficient duration.
- Specifically, it is expected that the Respondent will be able to demonstrate knowledge and/or expertise (either themselves or through Subcontractors) in the following areas:
  - Biomass conversion technologies, especially combustion and gasification, across the range of scales.
  - Biomass pre-processing technologies (current and future) including the value and capabilities they add.
  - Economic modelling and access to the necessary data (e.g. efficiencies, costs including capex, opex).
  - Understanding of the bioenergy supply chain and what aspects across the chain affect chain costs and operability.
  - Biomass physical and chemical properties and the impacts these have on end user issues (including transportation, solids handling and storage, combustion/gasification, corrosion, plant operability etc).



- Analytical and data co-ordination skills to handle a large amount of data and present it in an understandable way
- Understanding of the wider context of the requirements of this project and the impact the results may have on policy makers and industry in particular.
- Editing /co-ordinating / writing experience to ensure coherent, readable and succinct final written deliverables.

### **Quality and credibility of Proposal**

- Demonstration of understanding of the ETI's requirements.
- Clarity of the proposed work programme; including provision of a Gantt Chart with milestones and review points/Stage Gates.
- Credibility of the proposed Project plan to deliver within the ETI's required timescales.

### **Value for Money**

- Total fixed price for the whole Project.

### **Compliance with ETI technical and contractual requirements**

- Compliance with statement of work requirements.
- Compliance with contractual requirements.

The ETI at its discretion may request further clarification of a Proposal, and may reject any Proposal which is unclear.

## **7.5 Selection Process**

Following the closing date, the ETI will convene a Selection Panel as part of its evaluation process to recommend which Respondent (or Respondents) should proceed to project shaping and contract. In addition to ETI staff, this panel may comprise of experts selected by the ETI (typically including individuals drawn from ETI Member organisations and third parties) to provide the necessary expertise to consider the technical, commercial, legal and financial aspects of each bid.

The ETI may hold initial discussions with more than one Respondent, to ensure that all key issues are resolved fully and promptly, before making / confirming a final selection decision.

Compliance with the ETI's position on IP as set out in this Proposal to enable the use and exploitation of the Deliverables and Arising IP as intended by the ETI" will be an important issue when selecting the successful Respondent.

Respondents may, at the ETI's discretion be invited to attend the Selection Panel in order to provide further information. Respondents will be notified if this is required. The ETI might down select more than one Respondent and may hold a second Selection Panel. The ETI may require a re-submitted Proposal for any second Selection Panel.

## **8 POST-SELECTION PROCUREMENT PROCESS**

### **8.1 Project Shaping and Contract Negotiation**

Following selection, the ETI will invite a preferred Respondent (or Respondents) to enter into a phase of Project shaping, which includes due diligence and contract negotiations. An overall period of 4 weeks has been allowed for this phase.

The Project shaping and contract negotiation phase will include the following activities (as required and dependent on the level of detail provided in the Respondents Proposal):

- a) Detailing of the proposed programme of work, including definition of deliverables and acceptance criteria.
- b) Detailing and agreement of Payment Milestones.
- c) Other due diligence activities if required.
- d) Agreement of any identified contractual issues (note that compliance with the ETI's contractual conditions is a key selection criterion and the ETI does not anticipate that any significant exceptions to its contractual conditions will be agreed).
- e) Agreement (and approval by the ETI) to terms of other key contractual arrangements (e.g. Subcontracts).
- f) Gaining all necessary Respondent and ETI approvals to undertake the Project.
- g) Any further information or assessment that may be necessary to meet state aid requirements.

## **8.2 Contract Detailing and Negotiation Requirements**

These are only required if a Proposal is selected to proceed to the Project shaping and contract negotiations phase.

Health, Safety and Environmental management approach:

- a) Further intellectual property due diligence: This will primarily comprise a detailed Background IP questionnaire.
- b) Copies of insurance policies.
- c) Any other information that the ETI reasonably requires in order to fund the proposed Project including any information necessary to meet state aid requirements.
- d) Respondents should advise of work included in their Proposal that is not desk based and set out any key HSE risks in the risk register. The ETI may ask for evidence of the organisation's health, safety and environmental management systems and specific technical competence to manage the risks in this Project.

## APPENDIX A - DUE DILIGENCE TABLE

A stand-alone copy of this form is attached.

Details of Organisation	
Full name:	
Registered Office:	
Type of Business: <input type="checkbox"/> Sole Trader <input type="checkbox"/> Limited Company <input type="checkbox"/> Partnership <input type="checkbox"/> Other – please describe:	
Names of Directors/Partners/Owner:	
VAT Number:	
Details of Directors, Partners or Associates	
Have any directors, partners or associates of the organisation been involved in any organisation which has been liquidated or gone into receivership? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Have any directors, partners or associates of the organisation been convicted of a criminal offence relevant to the business or profession? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Please give (and attach if necessary) full details if you have answered 'Yes' to either of the two previous questions.	
Audited Financial Accounts	
Please supply Audited Financial Accounts for the last 3 years for the organisation, or relevant part thereof.	
Claims of Litigation	
Please provide (and attach if necessary) details of any claims or litigation against the organisation, outstanding and/or anticipated.	
Insurance	
Please confirm that you have insurance cover for the following risks, and confirm levels of cover and expiry for each. ETI will require evidence of these during the Project Detailing phase.	
<input type="checkbox"/> Property damage	<input type="checkbox"/> Business interruption
<input type="checkbox"/> Employer's liability	<input type="checkbox"/> Public liability
<input type="checkbox"/> Product liability (or justify its exclusion if not appropriate)	<input type="checkbox"/> Professional Indemnity

## APPENDIX B - INSURANCE REQUIREMENTS

The Respondent should confirm that insurance cover for the following risks is held, and should confirm levels of cover and expiry for each. The ETI will require evidence of these during the Project shaping phase:

- Property damage (both any Property occupied by the Prime Contractor, its Subcontractors and any third party properties).
- Business interruption.
- Employer's liability.
- Public liability.
- Product liability (or justify its exclusion if not appropriate).
- Professional Indemnity.

The Respondent should identify if it self-insures for any of these risks.

The Respondent should identify if it is intending to take out any Project-specific insurance for the Project and the scope and intended beneficiaries of such insurance.

In relation to the Professional Indemnity Insurance, Respondents should note that the ETI requires that the Contractor is required to have in place at the start of a Project a professional indemnity insurance policy (with at least a 6 month unexpired term):

- the policy should have a limit of indemnity of not less than £1,000,000 each and every loss;
- the policy should provide an indemnity at least as extensive as the ETI's policy (the ETI will make this assessment). For example, the cover needs to include cover for negligent acts or omissions, and dishonest or fraudulent acts or omissions by the insured);
- the Contractor will need to agree to maintain a professional indemnity insurance policy in force for 6 years from the date of completion of the Project;
- The ETI will require sight of the insurance policy provided by the Contractor or a copy of a letter of confirmation from the Contractor's insurance company or broker summarising the policy.

## APPENDIX C - CONTENT AND FORMAT OF PROPOSALS

The Proposal shall be arranged according to the structure defined below and shall explicitly include all the information listed. Proposals should be a maximum of 20 pages. Appendices are in addition to this but these may not be reviewed in as much detail as the main body of the Proposal by the selection panel.

### 1. EXECUTIVE SUMMARY [approximately 1 page]

A summary of the Proposal, describing briefly:

- The organisation(s) undertaking the work and the project organisation structure.
- Summary of the predicted cost of outcomes, approaches taken and key deliverables.
- Confirmation of compliance with the Request for Proposals and brief summary of key exceptions/deviations.

### 2. BACKGROUND TO PROPOSED PARTICIPANTS [approximately 3 pages, plus appendices if required]

#### 2.1. Project Participants [approximately 1 page]

This section should identify all Project participants to include all sub-contractors, partners and suppliers of services to the contractor as applicable.

#### 2.2. Key Individuals and Roles [approximately 1 page]

This section should identify all key roles and all associated key individuals (including deputies and alternates where appropriate). As well as key technical and other specialists, this should specifically include, (in detail), the nominated Project Manager (or nominated Project lead) and Chief Technologist.

The proportion of each individual's time dedicated to the Project should be identified and their skills and expertise in relation to delivering the Project summarised; (CVs should be included in an appendix).

#### 2.3. Project Organisation [approximately 1 page]

An organisation diagram showing the organisations and their roles (complete with key individuals) should be included.

### 3. PROJECT DESCRIPTION [approximately 8 pages, plus appendices if required]

#### 3.1. Programme of Work [approximately 4 pages, plus appendices if required]

The programme of work to be undertaken in the Project should be described. The description should include a task by task breakdown of the proposed work aligned to the outline statement of work provided within this document, identifying for each Task:

- The Task leader and others involved.
- The Task objectives.
- Dependencies.
- The technical approach to delivering the Project (e.g. qualitative and quantitative research methodologies etc.).
- Deliverables produced (see section 4.2).
- Any issues or assumptions.

The inter-dependencies between Tasks should also be identified.

### 3.2. **Project Schedule** [approximately 1 page]

A top level schedule should be submitted, along with a Gantt chart which includes the timeline of work packages, proposed milestone and review points.

### 3.3. **Deliverables and Payment Milestones** [approximately 1 page]

The Respondent should provide a summary of all deliverables and highlight the proposed timing of release of deliverables to ETI.

This section should also propose acceptance criteria, and desired payment plan linked to the proposed Project milestones.

### 3.4. **Risk Management** [approximately 1 page, plus risk register as an appendix]

The Respondent should describe the proposed risk management strategy (i.e. how risks to the successful delivery of the Project will be identified and managed throughout the Project). The Respondent should also provide a summary of key risks in this section, with a risk register as described above provided as an appendix.

### 3.5. **Health, Safety & Environment** [approximately 1 page]

In this section Respondents should give evidence of their competence to undertake this Project, and to summarise their approach to manage and coordinate HSE in the Project.

The anticipated work will require some or all of the following: site visits, field trials, experimental or laboratory work. Respondents should advise of work included in the Proposal that is not desk based and set out any key HSE risks in the risk register.

## 4. **INTELLECTUAL PROPERTY** [maximum 1 page] **Arising IP**

The Respondent should provide a brief overview of the nature of any anticipated Arising IP from each stage of the Project.

In this Project, the Arising IP will belong to the ETI. Any licensing of Arising IP from the ETI to the Prime Contractor may be discussed if appropriate. If Respondents wish to discuss any licence to use the Arising IP, Respondents should note that under state aid rules profit cannot be paid for the Project in addition to the grant of a licence of Arising IP.

### **Background IP**

The Respondent should describe any Background IP (e.g. patents, proprietary data, computer algorithms, know how or other IP) only to the extent there is Background IP:

- Which is needed (whether by the ETI, or to be licensed from the Contractor or a Subcontractor, or to be licensed by a Subcontractor to the Contractor or to another Subcontractor, or otherwise) to carry out the Project or which may be used during the Project; or
- That which may be needed by the ETI to exploit the Arising IP.

The description of any such Background IP should detail:

- The nature of the IP (including the legal nature of the IP right);
- Rights to that IP; and
- Ownership and control, whether this is by the Contractor or Subcontractors or by any third parties.

**5. PROJECT FINANCES** [approximately 1 pages, plus appendices if required]

**Project Costs**

The Respondent should provide a breakdown of the total fixed price contract value as set out in the following table. If there are any assumptions or limitations to this price, these should be clearly stated.

Proposals should be based on **costs for the whole project (please delete columns as applicable)**.

	Date	Contractor 1	Subcontractor 1	Subcontractor 2	Total
Milestone 1					
Milestone 2					
TOTALS					

The Respondent should also provide a breakdown of the total fixed cost contract value as specified in the table below.

	Contractor 1	Subcontractor 1	Subcontractor 2	Total
Number of Person-days				
Total Labour				
Materials				
Subcontractors (minor)				
Travel & Subsistence				
Other				
TOTAL PRICE				

Significant Subcontractors (>20% costs) should be included.

**6. INSURANCE** [approximately ½ page]

The Respondent should confirm that insurance cover is held and should confirm levels of cover and expiry for each. The ETI will require evidence of these during the Project detailing phase. Refer to Appendix B for full requirement.

**7. PLAN FOR PROJECT SHAPING AND CONTRACT FINALISATION** [approximately ½ page]

Respondents must clearly confirm in the submission that their key technical, commercial and legal resources will be available to meet the Contract signature target date.



## APPENDIX D - TERMS AND CONDITIONS OF THE CONTRACT

### 1. INTRODUCTION

The following represents a summary of the key contractual terms which the ETI would expect to be included in the Contract.

### 2. STRUCTURE

The Project is subject to state aid rules. Certain requirements relating to information on costs, IP and return of funding are a requirement of State Aid requirements. The ETI cannot fund a Project with a Respondent who is unable to agree to terms relating to state aid requirements.

### 3. PROJECT MANAGEMENT

The Contractor will be required to appoint a project manager/Lead for the day-to-day management of the Project, acting as the prime point of contact with ETI. The ETI will appoint a Project manager/lead to act on behalf of the ETI with regards to the Project.

The ETI, its Members and Programme Associates shall be entitled to attend meetings.

The Contractor must fulfil various reporting obligations which will a weekly update to the ETI by email or by phone. Each report must address a specified list of topics required by the ETI.

**Note: Respondents should include costs to fulfil the reporting obligations in their Proposal.**

The ETI will require the right to carry out a stage gate review if required on completion of a "stage" in order to assess (a) overall performance in the Project; (b) whether the Project continues to deliver against ETI outcomes. The ETI may carry out stage gate reviews more frequently if the Project is in jeopardy.

### 4. FINANCE

The ETI will pay fixed sums.

Acceptance of Payment Milestones will be determined by the ETI against acceptance criteria agreed with the Prime Contractor. Any increase in costs in carrying out the Project over and above the agreed contractual amounts will only be payable by the ETI when such charges are agreed in accordance with the contractual variation control procedure.

Costs are payable in Sterling and the ETI will pay valid invoices within 30 days of receipt of an invoice and all supporting financial documentation following acceptance of a milestone.

The ETI reserves the right to require the return of funding in certain exceptional circumstances (such as in the event of corruption or fraud, overpayment, costs incurred in respect of unapproved Project changes and failure to comply with state aid obligations).

### 5. REPRESENTATIVES, WARRANTIES AND COVENANTS

The Contract will contain representations and warranties in favour of the ETI as to the accuracy of information provided by the Prime Contractor to the ETI prior to entry of the Contract.

The Contract will contain on-going covenants from the Prime Contractor, including to meet certain ETI requirements, deliverables due dates, and environmental and health and safety requirements.

In certain rare circumstances, major subcontractors may need to enter into deeds of collateral warranty and representation in favour of any parties nominated by the ETI.

### 6. KEY PERSONNEL

The Contract will identify a limited number of key personnel involved in the Project, and the Prime Contractor will be required to gain approval from the ETI for proposed replacement staff.

## **7. CONFIDENTIALITY**

Restrictions on disclosure of any other party's confidential information will apply. Any publication of results (if appropriate) will be subject to the confidentiality provisions in the Contract.

## **8. AUDITS AND RECORDS**

ETI will require the right to audit the Project and Contractor during the Project and, in certain circumstances, up to 7 years from the end of the Project on financial or technical grounds.

The Contractor will be required to maintain the majority of Project records for a minimum of 10 years from the Project end date to comply with state aid rules.

The Contractor will be required to keep relevant Project records for more than 20 years where the records relate to registered intellectual property rights.

## **9. SUB-CONTRACTING AND ASSIGNMENT**

Sub-contracting or assignment (other than by the ETI) is not permitted without consent. However, details of known Subcontractors (and therefore the requisite consent) can be given in the Contract at signing.

The terms of any material Subcontract will be subject to the prior approval of the ETI. The ETI may impose conditions prior to consenting to any Subcontract.

## **10. VARIATION**

Any variations to the Project must be made via the variation control procedure.

## **11. LIABILITY**

The ETI will require an indemnity in respect of (a) third party infringement claims (to be uncapped) (b) certain claims brought by any third parties against the ETI as a result of the acts or omissions of the Contractor under the Project (a cap may be accepted as long as this reflects a full allocation of the risk to the Contractor and must be proposed in the Proposal).

## **12. INSURANCE**

The Contractor and Subcontractors will be obliged to carry appropriate insurance which will be tailored on a Project by Project basis.

## **13. TERMINATION AND SUSPENSION**

The ETI reserves the right to terminate the agreement in certain circumstances (such as breach by a participant, withdrawal of a participant, insolvency, change of control of a Prime Contractor without ETI consent etc.).

The ETI also reserves the right to terminate the agreement unilaterally upon giving a (to be agreed) period of notice to the Contractor. Upon unilateral termination, the ETI will pay the eligible costs (pre-approved by the ETI) incurred by the Project participant[s] up to the date of termination.

The ETI will reserve the right to suspend the Project in certain defined circumstances.

## **14. GOVERNING LAW**

The Contract will be governed by English law and the parties will submit to the exclusive jurisdiction of the English Courts.

## APPENDIX E - NOTIFICATION OF INTENTION TO SUBMIT A PROPOSAL

The following form is to be completed and received at the address (postal or email) on the front cover no later than the date defined on the front cover and in Section 7.1 of this RfP.

### Notification of Intention to Submit a Proposal

**Respondent Name:** [Legal Name]

**Address:** [Registered Office Address]

**Contact:**

**Email/telephone:**

The above named Respondent hereby notifies the ETI of its intention to submit a Proposal in response to the ETI's Request for Proposal entitled "Bioenergy Techno-Economic Assessment" issued on 10<sup>th</sup> July 2014

The Respondent submits this notification on its own behalf [and on behalf of the following proposed Subcontractors]:

Please list below the legal names of the organisations / entities proposed to deliver the Project.

1. [Enter Name]
2. [Enter Name]
3. [Enter Name]
4. [Enter Name]
5. [Enter Name]
6. [Enter Name]
7. [Enter Name]

Signed: \_\_\_\_\_  
For and on behalf of the Respondent(s)

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## APPENDIX F - NON-DISCLOSURE AGREEMENT

The Non-Disclosure Agreement protects the confidential information of the Respondents and the ETI during the bidding process through to the conclusion of contract negotiations. For the successful Respondents, the confidentiality provisions in the Project Contract will supersede this NDA.

In order to ensure parity across different groups of bidders, the ETI will not enter into negotiations on the terms of this NDA during the bidding process. See Section 7.1 for Submission date of the NDA.

### Instructions for completing the Non-Disclosure Agreement

1. The Respondent should arrange to complete a single electronic NDA with its company details in Schedule 1.
2. The Respondent should print and sign TWO copies of the NDA. The NDA **must not be dated**.
3. Both copies of the signed NDA are to be sent to the ETI by post and scanned by email to the address on the front of the RFP.
4. On receipt of the NDA fully signed by the Respondent, the ETI will execute and date both copies of the NDA. The ETI will then send a copy of the now fully executed NDA to the Respondent.
5. The Respondent should then arrange for non-disclosure agreements to be entered between it and any proposed Subcontractors in order to comply with the NDA.

A separate version of this NDA is available on the ETI website.

# TWO WAY CONFIDENTIALITY AGREEMENT



**THIS AGREEMENT** is made on \_\_\_\_\_ of \_\_\_\_\_ 201

## **BETWEEN:**

- (1) **ENERGY TECHNOLOGIES INSTITUTE LLP**, a limited liability partnership (company no. OC333553) whose registered office is at Holywell Building, Holywell Way, Loughborough, Leicestershire, LE11 3UZ (the “**ETI**”); and
- (2) **The parties named in Schedule 1 of this Agreement** (the “**Respondents**”),  
(Collectively the “**Parties**” and individually a “**Party**”)

## **BACKGROUND:**

The Parties intend to exchange certain Information on or after the Effective Date for or in relation to the Purpose. The Parties agree to receive such Information, and to treat it as confidential information, on the following terms and conditions.

## **IT IS AGREED:**

In consideration of the above and for other good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, and intending to be legally bound, the Parties agree as follows:

- 1 In this Agreement, unless the context requires otherwise, the following words shall have the following meanings:

“**Disclosing Party**” means any Party that discloses Information pursuant to this Agreement;

“**Effective Date**” means the date of execution of this Agreement;

“**ETI Affiliates**” means the Secretary of State for Business, Innovation and Skills (and any successor governmental department or agency from time to time) and any other entity which is entitled to appoint the directors or otherwise having the ability to direct management policies of the ETI (together with any affiliates of those entities), together with their respective officers, employees, agents and consultants;

“**Information**” means any and all confidential information or data exchanged, submitted or otherwise disclosed in respect of or further to the Purpose or prepared for or in relation to the Purpose, including but not limited to written Proposal documentation, due diligence materials, contractual documentation, reports, and the fact that the Parties have entered into this Agreement and are discussing and considering a business relationship;

“**Project**” means the proposed project under the ETI’s Bio Energy Programme entitled “Techno-Economic Assessment of Biomass Pre-processing”;

“**Project Commissioning Process**” means the ETI’s commissioning process for the Project as defined in the RfP and as set out at Section 7 of the RfP or as later may be notified or published by the ETI;

“**Proposal**” means a Proposal as such term is defined in the RfP;

“**Purpose**” means:

- a the preparation and/or submission of any Proposals and related documents in response to the RfP;

- b the Project Commissioning Process;
- c any activities related to the assessment of any Proposals for the Project; and
- d any related exchanges of Information, clarifications, clearances, discussions, due diligence, meetings, and/or negotiations in respect of the RFP, the Project Commissioning Process and/or the Project;

**“Receiving Party”** means any Party that receives Information pursuant to this Agreement; and

**“RFP”** means the Request for Proposals relating to the Project, issued by the ETI on 10<sup>th</sup> July 2014

2 The Receiving Party shall with regard to any Information disclosed pursuant to this Agreement by or on behalf of a Disclosing Party on or after the Effective Date:

- a. hold the Information in confidence and, except as is otherwise stated herein or agreed in writing by the Disclosing Party, shall not disclose or make available the Information by publication or otherwise to any third party (including for the avoidance of doubt, disclosure in any patent application or to any patent office) and shall use any Information disclosed to it pursuant to this Agreement only for carrying out the Purpose;
- b. make copies of the Information (or any further information derived from the Information) in whatever form or medium only to the extent that the copies are reasonably necessary for the Purpose and clearly mark all such copies as confidential;
- c. take all necessary and proper security precautions (and at least as great as those it takes to safeguard its own information) to safeguard every part of the Information to prevent it from being disclosed or otherwise made available to any third party except as permitted by this Agreement; and
- d. at the request and direction of the Disclosing Party, and without delay, return or destroy any Information provided to it pursuant to this Agreement and any copies of such Information, except that one copy may be kept by the Receiving Party for archival purposes and for the purpose of defending itself against any claims arising in connection with this Agreement.

3 The obligations set out in clause 2 shall not apply to Information that:

- a. the Receiving Party can prove (using written or electronic records), was lawfully known to the Receiving Party or in its possession prior to its communication by or at the direction of the Disclosing Party and was not communicated to the Receiving Party subject to any restrictions on disclosure or use; or
- b. is or becomes a part of the public domain through no wrongful act of the Receiving Party or any person on its behalf, provided that this clause 3(b) shall only apply from the date that the relevant Information so enters the public domain; or
- c. the Receiving Party receives from a third party without similar obligations of confidence in circumstances where the third party did not obtain that Information as a result of a breach of an obligation of confidence; or
- d. subject to clause 4, is required to be disclosed or made available by the Receiving Party pursuant to any applicable law, governmental regulation, or decision of any court or tribunal of competent jurisdiction or any government body, agency or regulatory body.

4 If a Receiving Party believes it is required by law to disclose any Information under clause 3(d) above, the Receiving Party shall (in each case and to the extent not prohibited in law):

- a. provide the Disclosing Party with prompt written notice of such requirement or obligation (together with a copy of any relevant access request, court order or other evidence giving rise to such belief) in advance of the required disclosure, to enable the Disclosing

- Party to seek appropriate protective relief and/or to take other steps to resist or narrow the scope of any required disclosure;
- b. where it is not permitted in law to notify the requirement for disclosure in advance of the required disclosure, notify the Disclosing Party as soon as reasonably practicable after the disclosure confirming the nature of and extent of the disclosure; and co-operate with the Disclosing Party with respect to such matters, and in any event disclose only such Information as it has ascertained, after taking legal advice, it is legally compelled to disclose.
- 5 The ETI shall be entitled to disclose or make available any Information it receives from the Respondents (or any of them) to:
- a. such of the ETI Affiliates, and either the ETI's or the ETI Affiliates' employees, officers, secondees, agents, consultants, Sub-contractors, proposed Sub-contractors, professional advisers and proposed professional advisers where such disclosure is necessary for the Purpose, provided that all such aforementioned persons to whom any Information is disclosed by the ETI are bound by obligations of confidentiality and the ETI shall be responsible for breaches of the obligations by such persons. Each ETI Affiliate may enforce this clause in accordance with the Contracts (Rights of Third Parties) Act 1999; and
- b. the Department of Business, Innovation and Skills (or other relevant government department), the European Commission and such other bodies and/or individuals (including without limitation professional advisers) as may reasonably be required for the notification of, to seek advice in relation to, as part of an assessment of, or otherwise in relation to, State aid.
- 6 The Respondent shall be entitled to disclose or make available any Information it receives from the ETI to such of its employees, officers, consultants, sub-contractors, proposed subcontractors and professional advisers where such disclosure is necessary for the Purpose provided that all such persons to whom any Information is disclosed are bound by obligations that are no less restrictive than those in this Agreement. The Respondent disclosing Information shall be responsible for breaches of the obligations by such persons.
- 7 Each Party as Receiving Party expressly agrees and accepts that except in the case of fraud, no representation or warranty, express or implied, is made by the Disclosing Party as to the accuracy, completeness, reasonableness or otherwise in respect of the use of the Information, and that neither the Disclosing Party or any of its affiliates nor any of its or their respective employees, officers, secondees, agents, consultants, Sub-contractors and professional advisers (as applicable) shall have any liability to the Receiving Party as a result of the Receiving Party's possession or use of the Information.
- 8 The Parties agree that money damages would not be a sufficient remedy for any breach of this Agreement and that the Disclosing Party shall be entitled to specific performance and injunctive or other equitable relief as a remedy for any such breach. Such remedy shall not be deemed to be the exclusive remedy for breach of this Agreement, but shall be in addition to all other remedies available at law or equity.
- 9 No rights or obligations other than those expressly set out in this Agreement are to be implied and nothing contained in this Agreement:
- a. constitutes an offer by or on behalf of the Disclosing Party; or
- b. confers upon the Receiving Party a licence or other transfer of rights in respect of any Party's interest in any Information or in any present or future patent or patent application; or
- c. affects the present or prospective rights of the Disclosing Party under the patent laws of any country or precludes the filing or prosecution of any patent applications by the Disclosing Party.



- 10 This Agreement represents the entire agreement between the Parties in relation to the subject matter contained herein and supersedes all other agreements and representations, whether oral or written, between the Parties relating to such subject matter. This Agreement may only be modified if such modification is in writing and signed by a duly authorised representative of each Party. Each Party also agrees that it shall have no remedies or claims under this Agreement for any innocent or negligent misrepresentation based on statements made prior to the Effective Date.
- 11 The Parties agree that the ETI may disclose that one or more of the Respondents are involved in discussions with the ETI and the subject matter of the discussions provided that the ETI will provide a copy of any press release or other announcement to the Respondents and seek the approval of the Respondents prior to its publication or release. Other than as set out in this clause, none of the Parties will make any public announcements, statements or otherwise publicise the subject matter of this Agreement (or its existence) without the prior written consent of the other Parties and no Party will use the business names or trademarks of any other Party in any way without that Party's prior written consent.
- 12 This Agreement shall come into force on the Effective Date and shall continue in full force and effect, notwithstanding the completion of the Purpose, for a period of seven years from the Effective Date unless extended, superseded or otherwise varied by a subsequent written agreement between the Parties.
- 13 It is not intended that a third party (other than an ETI Affiliate) should have the right to enforce a provision of this Agreement pursuant to the Contracts (Rights of Third Parties) Act 1999.
- 14 The rights of the Disclosing Party under this Agreement are in addition to and not exclusive of rights under the general law and may be waived only in writing and specifically. Delay in exercising or non-exercise of any right under this Agreement is not a waiver of that or any other right, partial exercise of any right under this Agreement shall not preclude any further or other exercise of that right or any other right under this Agreement and waiver of a breach of any term of this Agreement shall not operate as a waiver of breach of any other term or any subsequent breach of that term.
- 15 If any provision of this Agreement is or becomes illegal, invalid or unenforceable in any jurisdiction, that shall not affect:
- a. the legality, validity or enforceability in that jurisdiction of any other provision of this Agreement; or
  - b. the legality, validity or enforceability in any other jurisdiction of that or any other provision of this Agreement.
- 16 Nothing in this Agreement is intended to or shall operate to create a partnership or joint venture of any kind between the Parties (or any of them), or to authorise any Party to act as agent for another, and no Party shall have authority to act in the name or on behalf of or otherwise to bind any other in any way.
- 17 Except as provided otherwise, no person may assign any of its rights under this Agreement or any document referred to in it.
- 18 This Agreement may be executed in any number of counterparts, each of which when executed and delivered shall constitute an original of this Agreement, but all the counterparts shall together constitute the same agreement. No counterpart shall be effective until each Party has executed at least one counterpart.
- 19 This Agreement shall be construed in accordance with and governed by English law and the Parties hereby submit to the non-exclusive jurisdiction of the English Courts.

The Parties have caused this Agreement to be executed by their duly authorised representatives.

**ENERGY TECHNOLOGIES INSTITUTE LLP**

Signed By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

## SCHEDULE 1

Respondent	Signature
Company Name: Company No: Address of Company:	By: Name: Title:

The ETI will return a copy of the executed Non-Disclosure Agreement to the Contractor. Please provide the relevant name and address for this correspondence below.

Contact for return of executed Non-Disclosure Agreement	Send to [name]: At postal address:
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## APPENDIX G - GLOSSARY

Term	Definition
Arising IP	Any intellectual property which is created by or for any party during the Project or for the purposes of the Project.
Background IP	Any intellectual property which existed prior to any party's commencement of the Project and which was created by or for the party.
Company Registration Number	Company number as registered at Companies House. Universities should enter their Royal Charter (RC) number in place of the Company Registration Number requested.
Contract	The Contract, as described in Appendix E, to be entered into between the ETI and the Prime Contractor.
ETI	The Energy Technologies Institute LLP, a limited liability partnership (Company no. OC333553) whose registered office is at Holywell Building, Holywell Way, Loughborough, Leicestershire LE11 3UZ.
HSE	Health, Safety and Environment.
ICT	Information and Communication Technologies.
Member	The ETI's industry members (as identified on the ETI's website from time to time - <a href="http://www.eti.co.uk/about/current_members">http://www.eti.co.uk/about/current_members</a> ), including affiliates of such members, and Her Majesty's Government (including but not limited to those public sector members identified on the ETI's website (above) from time to time and Associate Member(s)).
Non-Disclosure Agreement or NDA	A non-disclosure agreement in the form provided at Appendix G.
Payment Milestone	A contract milestone with defined constituent deliverables, associated deliverable acceptance criteria, and milestone value (all to be detailed in the Respondents Proposal and agreed in the Contract) which should be completed in order to reach the said milestone, and at which, subject to acceptance by the ETI that the milestone has in fact been reached, payment may be claimed from the ETI.
Prime Contractor	A sole organisation which contracts with the ETI to manage the Project. It may have Subcontractors.
Programme Associate	Programme associates of the Bio Energy Programme (as identified on the ETI's website from time to time  <a href="https://www.eti.co.uk/technology_programmes/smart_systems_and_heat">https://www.eti.co.uk/technology_programmes/smart_systems_and_heat</a> ) including affiliates of such programme associates.
Programme or Bio Energy Programme	The ETI Bio Energy programme that includes the Project.
Project Manager/Lead	The individual who is appointed by the Contractor to carry out its responsibilities and act as the prime point of contact with ETI.
Proposal	The Proposal for the Project submitted to the ETI, in response to this Request for Proposals.
Respondents	The organisations submitting a Proposal to the ETI.
Review Point	A Project review involving the Contractor and ETI representatives at which

	the overall progress in Project or a specific Work Package will be critically reviewed and following which a formal decision will be made on the future Project programme.
Stage Gate	A major Project Review Point involving the Contractor and ETI representatives at which the overall performance and business case for the Project will be critically reviewed and following which a formal decision will be made whether to continue with the Project, based on whether agreed Stage Gate Criteria have been met.
Subcontract	A contractual arrangement (described in Section 3.6) between the Contractor and another organisation to which work for the Project has been subcontracted.
Subcontractor	An organisation which has a Subcontract.
Submission	The components set out in Appendix C, including the Respondents Proposal submitted by the Respondent in response to this Request for Proposals.
Task	A significant activity or group of activities (within a Work Package) which results in completion of a deliverable or a significant part of one, or which represents a significant step in the process towards one.
Third Party IP	Any intellectual property which is required for or used in the Project (other than Arising IP and Background IP) and which is owned by parties other than the ETI and the Participant.
Work Package (WP)	A major section of the Project scope of work, which may be identified in this Request for Proposals or in the Respondents Proposal, in order to break up the scope of work into separate manageable parts. A Work Package will usually consist of a number of Tasks.