



Programme Area: Carbon Capture and Storage

Project: NGCT2 Gas Capture

Title: Development of Next Generation Technology for Carbon Capture from CCGT Power Stations – Request for Proposal

Context:

The contribution of gas-fired power stations to the UK energy mix appears set to continue to grow rapidly over the next decade. Consequently, in 2012 the ETI launched this project with Inventys Thermal Technologies in collaboration with the Howden Group and Doosan Power Systems to accelerate the development of advanced carbon capture technologies for gas-fired power stations. It focussed on post combustion technologies and looked at designs to be used on new build plant or retrofitted onto combined cycle gas turbine power stations. The project delivered a small scale demonstrator prototype, laboratory work, and a techno-economic assessment to confirm the projected benefits of the technologies for use on gas-fired power stations. Inventys is now working on initial large-scale applications for Enhanced Oil Recovery (EOR).

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Title of Project for which Proposals are Requested:

Development of Next Generation Technology for Carbon Capture from CCGT Power Stations

Request Issue Date:

6th April, 2011

Deadline for Notification of Intention to Submit a Proposal:

27th May, 2011

Closing Date:

27th June, 2011

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1. Introduction and Overview of ETI Requirements

1.1. Introduction to the Energy Technologies Institute

The Energy Technologies Institute LLP (ETI) is a public private partnership between international industrial energy and engineering companies and the UK government.

Our mission is to accelerate the development, demonstration and eventual commercial deployment of a focused portfolio of energy technologies, that are affordable, secure and sustainable which will increase energy efficiency, reduce greenhouse gas emissions and help achieve energy and climate change goals.

The ETI is not a grant giving body. It makes targeted technology investments in large-scale engineering projects and reduces risk through the shared expertise of our ETI Members.

We do this by leveraging the skills, capabilities and market access routes of the ETI Members, working with other organisations worldwide to take the most challenging large-scale energy projects to full system demonstration, thereby bridging the gulf between laboratory proven technologies and full scale commercially tested systems. Our projects also develop knowledge, skills and supply-chains, and will inform the development of regulation, standards and policy. Hence we aim to overcome major barriers, de-risk the future development and shorten the lead times to market for secure, affordable, low-carbon energy systems for power, heat, transport and infrastructure.

Our portfolio includes programmes in areas such as Offshore Wind, Marine, Distributed Energy, Buildings, Energy Storage and Distribution, Carbon Capture & Storage, Transport and Bio Energy.

Further information can be found on our web-site at www.energytechnologies.co.uk.

1.2. Background to the Project

Thermal stations (including both gas and coal) will remain a major part of the UK generating mix for the foreseeable future. Through CCS technology, these fuels can be economically used in an environmentally acceptable way to provide significant quantities of competitively priced energy “on demand”. As such they are complementary to less flexible and intermittent alternative energy sources such as nuclear and renewables.

The contribution of gas fired stations to the energy mix in the UK has grown and will continue to grow rapidly over this decade. In 2020 and beyond there will be a considerable fleet of modern Combined Cycle Gas Turbines (CCGTs), which, if the UK is to meet its climate change targets, must be substantially decarbonised by 2030. The costs of CCS are heavily influenced by costs of capture and roll out of CCS in the 2020s and 2030s will require capture technologies which significantly reduce the capital and operating cost penalties associated with current technologies.

The ETI has completed an extensive analysis of likely future UK requirements for CCS new build and retrofit power generation and has examined the economic potential of the most promising ‘next generation’ technologies. To achieve its vision of supporting the development of transformational capture technologies the ETI is now, through this Request for Proposals,

seeking detailed and specific proposals for a technology development project targeting decarbonisation of CCGTs specifically:

- Low cost carbon capture from CCGTs, specifically including new build and economic retrofit of existing CCGTs.

The overall aim of the project is to develop a technology with the potential to make a substantial reduction in capital and operating costs in the capture plant, which will be ready to catch the wave of CCS implementation in CCGTs expected to occur in the 2020s and early 2030s.

From its review of the technology landscape, the ETI believes that:

- Post-combustion technology will maximise the use of existing investment in plant and infrastructure;
- Potential technologies which might provide step changes in performance require development and testing at “test” or “pilot” scale before being ready for full scale implementation.

The Project will comprise two Stages.

Stage 1

Stage 1 will be aimed at completing the development and assessment of technologies which, although showing concrete evidence of promise based on substantial laboratory work, have not yet completed all of the validation and de-risking work necessary to complete a case for investment at pilot scale or larger. Further practical investigation into the feasibility of the process may be required in parameters critical to the economic case, including, for example, modelling and lifetime tests. In parallel the ETI will conduct further investigation into the value and efficiency of the technology. The exact extent of work required in this Stage will vary with the precise state of development of each technology. Participants are invited to propose funding levels based on an activity schedule, which will be negotiated with the ETI. Stage 1 will not last longer than 12 months, and ETI funding will not exceed £1.5M per project, and is expected to be substantially less for most Respondents (for example, Stage 1 may comprise a desk-based study for a more well-developed technology). The purpose of this Stage is to bring the technology to a level where the ETI is comfortable to invest in the next Stage. In parallel with the technical investigation, Participants will be expected to develop the necessary industrial partnerships which will provide resources to undertake the later Stages in the project (and potential future exploitation paths for the technology) and produce detailed proposals for Stage 2. The ETI expects to take more than one project through Stage 1.

Stage 2

The purpose of Stage 2 is to provide the validation necessary to build confidence in investment by others in a substantially full-scale demonstration unit. Therefore from a technical perspective Stage 2 focuses on the scale-up of the design and may involve operation of a process development unit or “test” using commercial quality feedstock. As part of Stage 2, Participants will develop plans for the commercialisation of the technology, and would be expected to have secured agreement for a demonstration unit by completion of Stage 2.

Request for Proposals

This Request for Proposals (RfP) invites responses which provide a detailed proposal for Stage 1 and an outline proposal for Stage 2. Successful Respondents will initially secure ETI investment for Stage 1 only.

ETI funding for the Project will be governed through two separate but related contracts, one covering each of the project Stages. The ETI proposes to fund up to a maximum sum of the order of £25m for these Projects across these two Stages.

A Glossary covering defined terms in this RfP is provided in Appendix J.

1.3. ETI approach to Health & Safety

The health and safety of those who may be affected by ETI Projects is of paramount importance to the ETI. The ETI expects those who receive ETI funding to demonstrate a commitment to best practice in health, safety and environmental management as well as demonstrating that legal requirements are met.

The ETI expects that:

- All Respondents will demonstrate their approach to health, safety and environmental matters throughout any Proposal to the ETI.
- Successful Participant(s) will work with the ETI throughout any ETI Project to assure the ETI that health, safety and environmental risks are being managed appropriately.

The ETI will assess the competency of the Project Participants for both Stages of the Project and will only award a contract if it is satisfied that Project Participants are competent.

1.4. Required Outcomes

The required outcome of the complete Project (Stages 1 & 2) is a validated performance, economic and design package for a breakthrough CCS technology for CCGTs (retrofit and new build), offering a step change reduction in costs compared to those commercially available. The Project will provide a future user with the necessary information and confidence to incorporate the technology into a substantially full scale demonstration or First of a Kind (FOAK) plant, starting engineering in 2016 for production by 2020. This will be accompanied by a plan for commercialisation and supporting documentation necessary to allow rapid evaluation and adoption of the technology.

The detailed contents of this package and development route should be specified by the Respondent and will be dependent on the specific requirements of the technology, but examples of the activities and deliverables which might be included within Stages 1 and 2 are given in the Table below.

Activities/Deliverables	Before and During Stage 1	During Stage 2
Bench scale test work	√	√
Pilot scale test work, aimed at reducing technology risk (scale typically < 0.1 MWe)	√	
Materials or component testing	√	√
Engineering modelling studies	√	√
Engineering Flow Diagram, Heat & Material Balance (H&MB) for a full scale unit	√	
Outline safety, environmental, flexibility and reliability assessments for a full scale unit (ETI also expects to carry out an independent assessment of flexibility and reliability)	√	
Techno-economic assessment (ETI also expects to carry out an independent assessment)	√	
Engineering, costing and plan for the Stage 2 development unit	√	
Business case for ETI investment in Stage 2, including an outline commercialisation plan	√	
Identify and secure test site for Stage 2 and undertake site due diligence activities	√	
Detailed design of Stage 2 Process Development Unit		√
Process Development Unit (scale ~ 5 MWe or greater) constructed and operated in a realistic generation environment (eg slipstream from an operating CCGT)		√
Design package for non site-specific full scale unit, to include process description, process flow diagrams with H&MB, sketches & sizing of principal equipment, control scheme principles, outline operating instructions, electrical, pipeline and instrumentation schedules, detailed specification of proprietary items		√
Generic economic evaluation databook - capex (+/-30%), opex, layouts, plot plans, break-ins for common CCGT layouts, schedules		√
Full Process Model - dynamic study		√
Health, Safety and Environment assessment (non site-specific) for a full-scale application of the technology, providing outline data to permit compliance with UK permit process, waste disposal etc.		√
Full Commercialisation Plan		√
IP Filing	√	√

1.5. ETI Requirements

The fixed ETI requirements for any response are as follows:

- The technology to be developed is as described in Section 1.2. Evidence must be provided which shows a significant projected economic and performance benefit over current benchmark designs, when retrofitted to existing CCGT plant and if incorporated in new build CCGT plant. If any potential Respondents require clarification on whether their technology meets ETI requirements they should contact ETI as set out on the front page of this Request for Proposal. The ETI has produced benchmark economic and technical performance designs for CCGTs with and without amine post-combustion technology. It is against these benchmarks that the appraisal laid out in Section 2.2(a) may be based. Summary results of the ETI benchmark will be provided on request subject to the Non-Disclosure Agreement (Appendix E) being in place.
- Clear justification of how the proposed performance, economic and design package arising from the Project would provide a future user of the technology with the necessary information and confidence to commit to incorporation of the technology and start engineering of a demonstration unit.
- Realistic, defensible plans which fit in with ETI's vision for completion of the Project and exploitation of the technology, ie:
 - Completion of the Project and delivery of the performance, economic and design package by December 2015;
 - Clear route to market or delivery mechanism for the technology, for example via licences to and involvement of EPC engineering contractors.
- Demonstration that the Respondent has secured (or has a credible plan to secure) the necessary resources (financial and other) to complete each Stage of the Project (see Section 4).
- Justification for the Stage 1 funding requested, in terms of risk reduction and increasing technology readiness. Willingness and capability to accept the financial and commercial risk profile set out in the ETI's draft contractual terms.
- Willingness to give ETI and its Members full access to the results of the validation programme including operational experience with any unit.
- The Project should have a significant UK footprint, in terms of impact on UK capability to practise the technology and clear demonstration that the technology will be widely deployable in the UK.
- The Project should deliver significant value to the ETI and its Members proportionate to ETI's investment in this Project.

For the avoidance of doubt, the following aspects are not fixed (although credibility, capability, benefits arising to the ETI and value for money will form a key part of the selection process – See Section 3):

- The approach to technology validation and delivery of the required performance, economic and design;
- Detailed commercial offer to the ETI in return for the funding provided.

1.6. Value Proposition

This Project represents a unique opportunity for technology owners and their partners to develop and demonstrate a next generation technology that provides low cost carbon capture from CCGTs.

The ETI expects to share the value created by this project between the selected Respondents, itself, the ETI Members, and the wider industry in the UK. The level and proportion of funding provided by the ETI for this Project will determine the level of value that the ETI Members expect to derive.

Whilst the specific value to each Respondent will depend upon their specific participation and their business strategy, the value to the ETI, its Members and the UK economy might be provided in a variety of ways (set out in Section 16 of Appendix A).

Within their response to this RfP, Respondents are expected to set out in detail how they propose to provide value to the ETI, its Members and the UK, and to set out how they expect to derive value for themselves in each of the two Stages of the Project. This element of the response will form a critical aspect of the selection criteria.

1.7. Project Organisation Structure

It is anticipated that a number of Participant organisations/entities will be required to work together in order to provide all the necessary knowledge, skills, experience and inputs to complete the Project.

Organisations may choose either of the following organisational structures:

1. Prime Contractor: a single organisation acting as 'Prime Contractor' who shall form a contract with the ETI, and shall manage the Project and act as primary interface with the ETI with other organisations (as appropriate) contracting as Subcontractors to the Prime Contractor;
2. Consortium: multiple organisations contracted with the ETI, governed by its own Consortium Agreement and led by a 'Lead Coordinator' to manage the Project and act as primary interface with the ETI (each Consortium Member may have Subcontractors).

The proposed Prime Contractor or Lead Coordinator shall also act as the Respondent for the purposes of this Request for Proposals. This organisation shall appoint a Project Manager to lead and coordinate all activities of the Participants, and to liaise regularly with the ETI's Programme Manager to whom he/she is accountable on behalf of the Participants. The Consortium must also appoint a Chief Technologist (the responsibilities of these two key individuals are described in Section 3.2 of Appendix A).

Under either contracting arrangement, it is critical that the Lead Coordinator or Prime Contractor is sufficiently empowered to lead the Project and accept accountability for delivery to the ETI. It is also important that the arrangements enable sufficient flexibility for ongoing delivery optimisation to maximise value for money and achieve the project aims and critical success factors. In the case of option (2), in which there is no natural contractual hierarchy, bidders are required to explain fully in their Proposal the agreed principles of their Consortium Agreement.

The viability and strength of the project governance model will be a proposal assessment criterion.

It is a requirement that the ETI approves:-

- (a) any Consortium Agreement;
- (b) any Subcontractor (and may review Subcontracts).

It is recognised that the Participants and the Project Organisation Structure may differ between Stage 1 and Stage 2.

1.8. ETI and 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. In relation to their Proposals, Respondents should note:

- Further information may be required to support the specific state aid requirements of any Proposal during the procurement process and, for Stage 2, this may require an additional clearance from the European Commission depending on the Proposal. Successful Project Participants will need to work with the ETI to provide all supporting information;
- Successful Respondent(s) will be required to provide full transparency of costs throughout the Project to ensure both the Participant(s) and the ETI comply with EU state aid law;
- Participants will need to agree to certain contractual obligations related to the state aid requirements including the duration of Project records and obligations to return ETI funding in certain exceptional circumstances including where the state aid is deemed unlawful. The Respondents are asked to refer to the Return of Funding clauses in the Project Contract (which will be made available on signature of the ETI's Non Disclosure Agreement). The ETI is unable to award ETI Funding to any Respondent who does not propose to accept these provisions.

2. Procurement Process and Estimated Time-Frames

2.1. Stage 1: Response to Request for Proposal

A twelve (12) week period has been allowed for Respondents to provide a Proposal according to the structure set out in Appendix A and other components of the Submission set out in Section 3.1. In their response, Respondents are required to provide detailed proposals for Stage 1 and outline proposals for Stage 2 in the format set out in Appendix A.

Respondents are required to enter into a Non Disclosure Agreement (NDA) with the ETI before submitting their Proposal. The form of NDA is provided in Appendix E, together with instructions for completion, and a version is available on the website alongside this RfP. Signed NDAs, which will be taken as formal notification of the intention to bid, should be returned to the ETI as soon as possible and **at latest four weeks** before the submission deadline. Respondents are, however, encouraged to return the NDA as soon as possible, as on return of the signed NDA, the ETI will send out the full draft Project Contract (see also Appendix B for a summary of contract terms and Appendix D in relation to the Statement of Compliance).

Respondents are encouraged to seek advice from the ETI to ensure full understanding of ETI requirements and to seek assistance on how to show their technology to best advantage. Individual briefing sessions are available (see Timetable below). These sessions will include technical, contractual and financial discussions as appropriate. To make maximum benefit of such a session, it is preferable that the NDA will be in place before the session. These briefing sessions will be held at the ETI: teleconference facilities are available for Respondents who are unable to attend in person.

Any advice or clarifications of ETI requirements requested by and provided to any Respondent will be made available to all Respondents to ensure parity of information. Respondents should consider presenting requests for advice and clarifications in a way that the ETI can respond to all Respondents without comprising bidders' confidential information.

Following receipt of the Respondents' bids, the ETI will convene a Selection Panel to recommend which Respondent(s) should proceed to contract negotiation based on the Gateway and Selection Criteria (see Section 3.2). Respondents may be requested to make a presentation to ETI and the Selection Panel to support information provided through this Request for Proposals.

Dependent on the Proposals received and issues raised, the ETI may choose to select a number of Proposals in competition and set a short timescale (four weeks) to negotiate any key technical, commercial and/or legal points identified in Proposals before down-selecting preferred Respondents.

2.2. Stage1: Project Detailing and Contract Negotiation

Following selection of a preferred Respondent (or Respondents), a process of detailing the Stage 1 proposal, due diligence and contract negotiation will be entered into. An overall period of 5 months has been allowed for this. Please note as set out above, the ETI may choose to split the negotiations into an accelerated phase prior to down-selecting which bidders will move the full project detailing and contract negotiation stage.

At the start of the down-selection, the ETI will meet with Respondents and agree a timetable for the following activities. If Respondents do not make the requisite resources available or fail to

keep to an agreed timetable, the ETI reserves the right to end negotiations with that Respondent and reject that Proposal. Activities will include (as required and dependent on the level of detail provided in the response to the Request for Proposal):

- (a) Completion of a techno-economic design study to confirm the performance and economic benefits over ETI's Benchmark Design (see Appendix F), if no directly comparable study has previously been completed. This will be undertaken by the ETI's designated contractor (at ETI's expense), under a non disclosure agreement to protect all parties' commercial interests. Respondents will be required to provide an information package to enable this study to be completed;
- (b) Negotiation and agreement of the detailed commercial offer;
- (c) Detailing of the proposed technical programme, including definition of deliverables and acceptance criteria;
- (d) Detailing and agreement of Project Stage Gates for Stage 1, where project performance, technology potential and the business case are critically reviewed and decisions taken on whether to proceed with the Project;
- (e) Detailing and due diligence relating to the make-up and breakdown of costs of the project;
- (f) Respondents' internal approvals and ETI due diligence relating to Respondents' finance for the project (ie own funds, third party private funds, third party public funds);
- (g) Full health and safety competence assessment and agreement of the mechanism to assure the ETI that health and safety is being managed during the Project;
- (h) Further intellectual property due diligence including a patent study (at the relevant Participant's expense);
- (i) Detailing of issues relating to proposed test site(s), eg rights, planning and permitting;
- (j) Other due diligence activities as required: refer to Appendix C for further details;
- (k) Negotiation and agreement of outstanding contractual issues identified in the Stage 1 response;
- (l) Agreement (and approval by the ETI) to terms of other key contractual arrangements (eg Sub-contracts, Consortium agreement);
- (m) Gaining all necessary Respondent and ETI approvals to undertake the project; and
- (n) Any further information or assessment that may be necessary to meet state aid requirements.

Respondents are required to identify and provide a plan to address the issues for Stage 2 (see Appendix A Section 17) and confirm that they will be able to make the key technical, commercial and legal resources available to meet the deadline.

Detailed procedures for Project Detailing and Contract Negotiation (including any refinements to the Selection Criteria) will be made available to preferred Respondents at the commencement of the process. As part of the process, Respondents will have the opportunity to present a Final Detailed Offer to the ETI, addressing all technical, commercial, legal and financial issues. Subject to acceptance by the ETI, this Offer will form the basis of the Project Contract.

2.3. Stage 2

The ETI expects to invest in more than one technology for Stage 1, but only intends to invest in one technology for Stage 2.

In parallel with Stage 1, Project Participants will be required to produce a Final Detailed Offer for Stage 2. This will include securing the necessary partner(s) to provide test sites and funding for Stage 2, should the Project be selected to move into Stage 2. Depending on the expected level of funding and organisational structure for Stage 2, it is possible that separate state aid clearance will be required for Stage 2. For the avoidance of doubt, whilst the ETI may be able to assist with identifying potential partner(s), securing such partner(s) is the responsibility of the Stage 1 Project Participants.

The ETI's aim is that the Stage 2 Project will follow Stage 1 with the minimum of delay. Hence the plan for Stage 1 of the Project should take into account the requirements for information to feed into the Stage 2 Final Detailed Offer, including the application for state aid clearance (if required).

2.4. Procurement and Project Timetable

The following timetable outlines the anticipated schedule for the procurement process and subsequent Project Stages. The timing and the sequence of events resulting from this Request for Proposals may vary and shall ultimately be determined by the ETI. The ETI will provide a minimum of five working days' notice of any change to the timetable.

Event	Anticipated Date(s)
Launch of Request for Proposal	6 th April 2011
Individual briefing sessions for potential Respondents (see Section 2.1)	Week Commencing 9 th May 2011
Deadline for Notification of Intention to Submit a Proposal and return of signed Non Disclosure Agreement	27 th May 2011
Closing Date for Responses to RfP	27 th June 2011
Preferred Respondent(s) Notified	Indicative Target Date*: 25 th July 2011
Initial Negotiation Phase (if required)	A period of approximately four weeks from the date of notification of this requirement
Submission of Final Detailed Offer	Indicative Target Date*: 28 th October 2011
Stage 1 Contract Approval and signature	Indicative Target Date*: 30 th November 2011
Project Start (Stage 1)	Indicative Target Date*: 12 th December 2011
Stage 2 start	Indicative Target Date*: 1 st January 2013
Project Duration	Completion by December 2015

(*) The ETI will review the Indicative Target Dates following discussions with Preferred Respondent(s) at the start of Project Detailing and Contract Negotiation and will notify or publish the revised dates in accordance with Section 3.3.

The ETI may at its sole discretion disqualify any Respondent who does not meet the specified deadlines.

Further details of indicative procurement and project timelines for Stages 1 and 2 are provided in Appendix H.

3. Request for Proposals Process and Terms

3.1. Content and Format of Submissions

Interested organisations are required to make a collective Submission through their nominated Respondent as described in Section 1.5 above. The Submission shall comprise five components.

1. Detailed Proposal for Stage 1 and outline Proposal for Stage 2, arranged according to the structure set out in Appendix A. The content must clearly demonstrate how the bidding organisation/Consortium will meet the requirements and criteria set out in Sections 1 to 3 of 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 (11pt or larger), margins, etc, and **shall not exceed a maximum of 50 pages**.
2. Supporting information as specifically set out in Appendix A.
3. Risk Register, as described in Appendix A, Section 11.
4. Due-diligence information as set out in Appendix C;
5. Statement of Compliance and, if appropriate, supporting information, confirming compliance with or identifying exceptions to the specification or contractual requirements, as set out in Appendix D. This must be signed by the Respondent: if a Consortium structure is proposed, every member organisation of the Consortium must provide a separate Statement of Compliance.

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 **three (3) hard copies, with each component separately bound, and one (1) electronic copy**. The latter shall be provided in both PDF and Microsoft Word formats, with each component as a separate file.

3.2. Acceptance, Review and Selection of Proposals

3.2.1. Selection Process – Stage 1

All proposals will be evaluated by the ETI against the Gateway Criteria (Section 3.2.1) and Selection Criteria (Section 3.2.2). Gateway Criteria represent the minimum standards against which Proposals will be judged. Proposals which do not meet the Gateway Criteria may not be considered further in the selection process.

As part of its evaluation process, in addition to ETI staff, the ETI may use experts selected by the ETI to provide the necessary expertise to consider the technical, commercial, legal and financial aspects of each bid. These may include experts drawn from ETI Member organisations and other third parties.

3.2.2. Gateway Criteria – Stage 1

- G1 The Respondents' technology is suitable for post combustion carbon dioxide capture from CCGTs, specifically including both new build and economic retrofit of existing CCGTs.

- G2 The Respondents provide evidence that they have undertaken a techno-economic study comparing their technology with a Benchmark Plant (see Appendix F) comprising a CCGT plant with a state of the art post-combustion amine acid gas removal unit, which shows that their technology provides:
- a. Specific carbon emissions of $< 41 \text{ g CO}_2/\text{kWh}$ net electricity export via transmission connection point;
 - b. A £5/MW-hr reduction in the Levelised Cost of Electricity (LCOE), when compared to the Benchmark Plant, saving both capital and variable costs. Such LCOEs will be based on the costs from “gas-in” to “electricity-out”, evaluated using assumptions set out in Appendix F, Section 13.
- G3 The Respondents provide evidence that the proposed technology:
- a. Is capable of meeting or exceeding the CO_2 purity specification set out in Appendix F;
 - b. Does not reduce the flexibility of the CCGT unit to respond to changing power demands in load following mode when compared to the Benchmark Plant;
 - c. Presents no additional availability issues when compared to the Benchmark Plant;
 - d. Does not have a significantly larger footprint compared to the Benchmark Plant;
 - e. Presents no greater intrinsic risk to the environment than amine systems.
- G4 The Respondents provide sufficient evidence at the level requested that they have undertaken necessary actions to secure protection of their intellectual property and have undertaken appropriate due diligence to provide confidence that they have freedom to operate or an identified route to achieve freedom to operate.
- G4 The Respondents provide sufficient evidence at the level requested that they have access to, or a clear and credible plan to secure, sufficient financial resources to support Stage 1 of the Project and take on reasonable cost risks.
- G5 The Respondents provide sufficient evidence at the level requested that they have sufficient, appropriately experienced resources available and systems in place to allow Stage 1 of the Project to be delivered effectively and safely.

3.2.3. Selection Criteria

Proposals will be reviewed and judged primarily against the criteria listed below, in decreasing order of priority, and the supporting evidence supplied.

- Technology Potential. Projected techno-economic performance of the Respondents' technology compared to the Benchmark Plant. Metrics to be provided by Respondents should include, as a minimum:
 - Reduction in Levelised Cost of Electricity (LCOE) at high load factor, compared to Benchmark Plant;
 - Improvement in overall plant efficiency (LHV) compared to the Benchmark Plant;
 - Reduction in capital cost efficiency (£/kW net power) compared to the Benchmark Plant;

- Potential to increase capture rate, to economically achieve emissions of 20 g CO₂/kWh or below;
- Financial performance at low load factors (an evaluation at 40% load should be included);
- Extent of positive impact of the technology on plant load-following capability, availability and environmental impact compared to the Benchmark Plant;
- ‘Technology headroom’: potential to further improve the performance of the technology in identified areas, or exploit in other fields.
- Distinctive technology, providing high opportunity for ETI additionality.

Evidence provided by an independent, third party techno-economic study will be given significantly higher weighting than figures derived by Respondents. Unsubstantiated claims of performance benefits will not be considered.

- Ability of the Participants to deliver the Stage 1 of the Project (it is stressed that quantifiable evidence will be given more weight than qualitative comments):
 - Experience and availability of key project roles (Project Manager and Chief Technologist);
 - Availability and stability of deployable resources to mobilise sufficiently rapidly and for sufficient durations;
 - Record and ability in quality, timely and on-budget delivery of projects (of the type requested in this RfP) to the full satisfaction of the main stakeholders;
 - Project management systems and expertise appropriate for this sort of project;
 - Ability and experience in collaborative working;
 - Appropriate health, safety and environmental management systems and experience;
 - Effectiveness of the contracting, organisational, governance and control structures and processes proposed for the participating entities / organisations, e.g. steering committee structure, meetings, interfacing with ETI, etc;
 - Project approach and plan, including Gantt chart, suitable Stage Gates & Payment Milestones;
 - Risk Management. Respondents will need to demonstrate clear evidence of a rigorous, risk-based approach to management of the project. A register identifying the key risks and how they will be managed is required.
- Attractiveness of initial commercial offer:
 - Value and benefits to ETI Members. Respondents should identify the value and the benefits arising from the proposed project to be delivered to ETI Members (public and private sector). Refer to Appendix A, Section 16 for details;
 - UK Applications. Respondents should identify how the technology can and will be applied in the UK.

- Value for money with respect to ETI funding:
 - Competitiveness of costs for Stage 1 and Stage 2;
 - Proposed contribution to funding by Participants (Stage 1 and Stage 2);
 - High additionality (Project offers significant acceleration of the development of high impact technology which would not proceed without ETI funding).
- Availability and security of funding (in addition to ETI funding) for Stage 1:
 - Commitment and availability of project funding. Relevant Participants will need to provide evidence of where the additional funds required to complete the development programme will be sourced, including any key approval points in the schedule;
 - Willingness and capacity to accept the risk profile for the Project.
- Technology readiness. A table should be provided of the technology readiness of each of the major blocks of technology (see Appendix A, Section 5.3). As a minimum, it is expected that all major blocks, and the overall CO₂ removal subsystem, will have been tested and performance proven at laboratory/small pilot scale, with inlet gas compositions representative of a full scale CCGT plant.
- Quality, clarity and credibility of technology validation and demonstration plan. Respondents should provide a clear, detailed and logical development plan, for both Stage 1 and Stage 2 of the Project, which demonstrates how it will address the development requirements for the technology and deliver the required performance, economic and design package by 2015 which would provide a future user of the technology with the necessary information and confidence to commit to incorporation of the technology and start engineering a substantially full scale Demonstration or FOAK Plant by 2016.
- Location of technology development. As a minimum the Respondents should have any test facilities required for Stage 1 already available and should have identified potential sites and partners for any proposed test work in Stage 2.
- Quality, clarity and credibility of exploitation plans. In addition to any requests for funding in Stage 1, the Respondents should provide:
 - details of current partnerships and prospects, and credible plans to enable the technology to be incorporated into a Demonstration or FOAK Plant to be operational by 2020;
 - current and potential future partners and plans to bring the technology to the UK power market following completion of the project.
- Ownership, robustness, distinctiveness and completeness of Background Intellectual Property:
 - Evidence that all Intellectual Property Rights are in place for the Project Participants to carry out the Project;
 - Evidence that appropriate licences are or will be in place for Background and Third Party Intellectual Property Rights to enable Arising IP to be exploited by those entitled to do so;

- Evidence that all reasonable steps have been taken to minimise risk of infringement of third party Intellectual Property Rights.
- Respondent's willingness to materially comply with the terms and conditions of the proposed Project Contract, including the ETI's IP Principles (see Appendix B).
- Proposal Format and Compliance:
 - Clarity and succinctness of Proposal;
 - Completeness of information content, structure and quality of Proposal (against areas listed in Appendix A).

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

3.2.4. Contract Detailing and Negotiation – Stage 1

The detailed selection and assessment process and criteria for Contract Detailing and Negotiation will be made available to the selected Respondents. The ETI will work closely with the selected Respondents to provide a Final Detailed Offer, reflecting the agreed programme of work and commercial conditions. It is anticipated that the ETI will convene a second Selection Panel where the Final Detailed Offer(s) will be reviewed against broadly similar Selection Criteria to those set out in Section 3.2.3 (although the level of evidence required may be greater).

3.2.5. Selection and Assessment Process – Stage 2

In parallel with Stage 1 of the Project, Participants will be required to provide a Final Detailed Offer for Stage 2 of the Project. The ETI will convene a Selection Panel where the Final Detailed Offer(s) for Stage 2 will be reviewed. It is anticipated that broadly similar Selection Criteria to those set out in Section 3.2.2 will be used, based on evidence developed during Stage 1.

3.3. Disclaimer Notice

1. The ETI at its discretion may request clarification of a Proposal, and may reject any Proposal which is unclear.
2. 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. Entering into contract with an Applicant for Stage 1 does not create any obligation for the ETI with regards Stage 2 of the Project.
3. All decisions made by the ETI relating to the acceptance, review and selection or otherwise of Proposals are final.
4. 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 (Appendix E). No part of a Proposal, or documents provided by Respondents, shall be returned.

5. 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 Project 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.
6. 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.
7. 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.
8. 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 Project Contract.
9. The ETI may, at its discretion, shortlist Respondents for the next stage. 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.
10. 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.
11. 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.

12. 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).

4. Project Funding and Payment

The ETI will provide funding up to the order of £25M for the proposed Project, in total for both Stage 1 and Stage 2. ETI funding for Stage 1 will be based on an agreed list of specific activities needed to complete validation and will not exceed £1.5M for any Stage 1 Project. Whilst, through its unique public-private partnership model, the ETI can potentially fund up to 100% of eligible project costs, it is anticipated that the Respondents will provide funding for a proportion of the Stage 1 project costs. The proportion of the funding proposed by the Respondents is expected to reflect the co-investment between the ETI and the successful Participants. It is anticipated that the Project Participants will provide substantial additional and proportionate funding in Stage 2.

The Project Contracts for both Stages will include defined deliverables, with acceptance criteria, and defined Payment Milestones by which one or more deliverables will have been completed. Payments will be made against each defined Payment Milestone according to an agreed percentage of actual costs incurred by the Participants, up to the agreed maximum for each Payment Milestone. All payments will be subject to ETI acceptance of the deliverable(s) which contribute to that Milestone. Unless otherwise agreed as part of a formal contract variation process, the ETI shall not be liable for any payments above the maximum stated in the Project Contract.

ETI policy is that Payment Milestones should be based on points in the Project where major deliverables and value have been delivered to the ETI (eg completion of major tasks/ work packages/reports). The Respondent will be expected to retain the risk of cost overruns. However the ETI will work with Respondents to understand and ensure that key risks of cost overruns are managed and mitigated and to ensure that sufficient contingency is included in the agreed ETI funding.

Further information is contained in Appendix A, Section 14 and the Summary of Terms contained in Appendix B.

An Accountant's report will be required to support selected financial reports and invoiced amounts, dependent upon the total contract value to be paid to each Participant.

Respondents must identify all sources of funding or resources to be provided in addition to the ETI Funding (split amongst own funds, third party private funding and third party public funding) and demonstrate what security they can provide the ETI to assure it that the funds will be available (see Appendix A, Section 14 for further details).

If Respondents anticipate accessing any public funding (eg national government, regional, European Union) in addition to any ETI funds, they should contact the ETI as early as possible to ensure the requirements of the ETI State Aid clearance can be met.

5. Terms and Conditions for Project Contract

Both Stages of the Project will be governed by a separate Project Contract. A summary of the key terms and conditions of the Project Contract are included in Appendix B of this RfP. This Contract shall incorporate appropriate information from the ETI's RfP, the Respondent's Proposal and information drawn up and agreed during the Project Detailing and Contract Negotiation Stage.

As indicated in Section 2.1, Respondents are invited to submit a notification of their intention to bid, together with a signed non-disclosure agreement in the form included at Appendix E of this RfP. On receipt of the properly executed non-disclosure agreement, the ETI will release the full terms and conditions of the draft Project Contract to the Respondent. The Respondents are required to confirm their acceptance of (or identify any exceptions to) the terms and conditions of the full Project Contract in the Statement of Compliance (see Appendix D).

Any third party funding agreements and, dependent on the selected Project structure, the Consortium Agreement between the Consortium Members and/or key subcontracts will require review and approval by the ETI prior to signature of the Project Contract with the ETI.

The form of Project Contracts for Stage 1 and Stage 2 will be the same. Any necessary changes to reflect (a) the difference in the technical scope of Stage 2 of the Project, and (b) the inclusion of additional Project Participants required for Stage 2 will be agreed ahead of Stage 2.

5.1. Commercial and Legal Requirements

There are aspects of the Project Contract that are of particular importance to the ETI. The ETI expects that the Respondents provide an initial detailed view on these issues in any proposal as part of the Statement of Compliance, particularly areas where the ETI's position is considered to be problematic for the Respondents. A summary of the ETI's draft contract and approach to Intellectual Property is given in Appendix B. Copies of the draft Project Contract are available to Respondents on execution of the ETI's Non Disclosure Agreement (see Section 2.1). The most important issues that the ETI would like to highlight for initial consideration are as follows.

Intellectual Property:

- a) The ETI expects a commercial return on its investment in the Project for the benefit of its Members as set out in the Value Proposition in Section 1.6 above. This commercial return can be in the form of access to Arising IP from the Project, a return on investment in terms of royalties from the exploitation of Arising IP, preferential pricing or preferential access to novel products and/or services arising from the Project for its Members or a mixture of all of the above (see Appendix A, Section 16 for further information);
- b) The Respondent should note that it is a standard requirement:
 - that Project Participants are provided with a royalty free licence to Background IP required for the purposes of undertaking the project;
 - that relevant Project Participants and ETI Members have access to Background IP for exploitation under reasonable commercial terms;

- that all Arising IP is exclusively licensed through the ETI who then sublicences relevant Participants and ETI Members (this mechanism is intended primarily to ensure that Arising IP is fully exploited);
- Where Respondents propose that Participants will have a licence to commercially exploit Arising IP a royalty is expected as part of the commercial offer to the ETI and its Members.

Further information on the ETI's IP Principles is given in Appendix B, Section 2. Respondents are strongly advised to consult the ETI before submitting a proposal which does not conform to the ETI's IP Principles. In the event that a Respondent does make any Proposals to offer an alternative to these standard requirements, the Respondent must set out details of the exception together with (i) reasons for the proposed exception and (ii) the alternative value offered to the ETI Members in return for waiving these rights. In any such case, the ETI strongly recommends that proposed Respondents discuss any alternatives with the ETI ahead of submission of a Proposal to ensure that any material concerns the ETI may have which would impact on the success of a Proposal are considered.

- c) Certain areas of value return such as royalty mechanisms are not set out in the Project Contract and the Respondents should provide an outline view of how they propose to deal with royalties from a contractual perspective if royalties are part of the Respondents Value Proposition.

Indemnities:

- d) The ETI will fund this Project but has no control over any risks and associated liabilities that may arise from the Project. Therefore the Project 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.

IP Warranties and Due Diligence:

- e) The Project 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 as further set out in Appendix C of this Request for Proposal.

R&D Tax relief:

- f) The ETI's Industry Members (as partners in a limited liability partnership) can claim R&D tax relief in return for funding provided to the ETI that is spent on research and development on ETI projects. Therefore the ETI requires that Project Participants provide details of the amount of funding that is spent on R&D and an associated indemnity for loss suffered if incorrect information is provided.

State Aid Requirements

- g) The Project Contract has requirements that relate to state aid (through the provision of public funding to the ETI and therefore to the Project). Please see Section 1.8 above.

Appendix A Content and Format of Proposals

The Proposal shall be arranged according to the structure defined below. Where Respondents are not able to provide the information requested in full during Stage 1, this should be highlighted in the relevant sections and plans for its provision in Stage 2 set out in Section 17.

1. **Executive Summary** *[maximum 2 pages including work flow diagram]*

A summary of the Proposal, describing briefly:

- The Participants undertaking the work and contractual structure;
- The technology to be developed in the Project;
- The technical approach and **key** Deliverables, Milestones and Stage Gates, including a work flow diagram for Stage 1 and Stage 2 (see Section 6)
- **Key** deviations or requirements not fully addressed in the Proposal and issues to address prior to contract (including major contractual issues);
- Total Project cost separately for Stage 1 and Stage 2 , funding requested from the ETI, sources of own funding and duration.

2. **Project Objectives** *[typically ≤ 1 page]*

The Respondent should provide a clear statement of Project objectives covering both Stage 1 and Stage 2, demonstrating how these link through to the ETI's requirements and desired outcomes. The Respondent should also describe any Critical Success Factors which either characterise a successful Project outcome or which are required to facilitate a successful Project outcome.

3. **Background to Proposed Participants**

3.1 **Project Participants – Stage 1** *[maximum 1 page per Participant plus summary table]*

The Respondent should provide a brief description of each of the proposed Participant organisations for Stage 1, including any major Subcontractors, including:

- Key skills, knowledge, experience and previous track record in the area (technical, commercial and project management, including any UK-specific issues such as knowledge of UK technology requirements industry practice, market/industry knowledge, etc);
- Relevant quality, health, safety and environment management experience and systems (further details to be provided in Section 12).

If the Project Stages are to be undertaken by a group of organisations (whether as a Consortium or as Subcontractors), a table should also be provided to identify which Participant(s) is/are proposed in each Stage to satisfy each of the specific criteria (skills, experience, etc) listed in the 'Criteria for Review and Selection of Proposals' section of the Request for Proposals. Specifically, Participants/Consortium need to demonstrate that the collective skills/knowledge are sufficient to cover whole technical scope of project.

3.2 Key Individuals and Roles *[maximum 2 pages plus summary CVs]*

The ETI places great emphasis on two critical roles in major projects – Project Manager and Chief Technologist.

The Project Manager is responsible for managing and progressing the project team and programme 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 this 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.

The Chief Technologist is responsible for the technical quality and content of the work, ensuring the competence of key technical staff allocated to individual work packages, the effective review of key outputs and the effectiveness of detailed technical planning to ensure that the emerging results of work are fed back into the forward plan. In essence this responsibility is to assure the technical quality of the project and its outcomes.

The ETI will assess the competence, experience and authority of these two people and their ability to work together as critical to project success. The ETI expects these two roles to be filled by the same people throughout each of the project Stages, but they may change between the Stages.

Respondents should identify specific individuals for these key positions, including deputies, and other key roles as appropriate. Respondents should state the amount of each individual's time which will be dedicated to the Project, and detail their experience – with CVs included in an Appendix (maximum 2 pages per individual).

3.3 Collaborative Working *[maximum ½ page]*

If the Project is to be undertaken by a group of organisations (whether as a Consortium or as Prime Contractor/Subcontractors), evidence of previous collaborative working (and/or subcontract management as appropriate) should be provided, both within and outside the Participant group.

3.4 Project Participants – Stage 2 *[maximum 1 page]*

Respondents should indicate what additional Participants would be required to undertake Stage 2 of the Project, in particular for construction of test facilities and provision of a host site for Stage 2 test work. Respondents should indicate any existing relationships and/or level of commitment from such potential Participants.

4. Project Organisation *[maximum 2 pages including organisation chart]*

The Respondents should indicate their intended Project organisational structure for Stage 1 (refer to Section 1.5 of the Request for Proposals) and set out, in detail, the governance and control structures and processes that will be put in place.

The Respondent should indicate in the structure each Participant (including the ETI) and the position of the key individuals identified in Section 3 (including the Project Manager and Chief Technologist).

The Respondent should identify in their Proposal any foreseen issues or difficulties in executing any part of the contractual structure (including funding agreements, subcontractors and/or the Consortium Agreement).

An outline of the proposed structure for Stage 2 should also be identified, including any organisational roles identified but for which an organisation has not yet been selected.

5. Proposed Technology *[typically 5 – 8 pages]*

5.1 Technology Description

Respondents should provide a description of their technology, highlighting the key innovations compared to existing technologies for CO₂ capture from CCGTs within a post-combustion flowsheet, and how these innovations lead to improved techno-economic performance. A block flow diagram should be included.

5.2 Technology Potential

Respondents should provide evidence that, when developed, the technology will provide significant performance and economic benefits when compared to an existing technology benchmark. It is expected that such evidence will be derived through having undertaken a techno-economic design study comparing the Respondents' technology with a Benchmark Plant (broadly in line with that set out in Appendix F) on a consistent basis. Respondents should provide an outline of the methodology used. The Respondent should provide comparative figures to enable a clear assessment of Technology Potential against the Gateway Criteria (Section 3.2.1) and Selection Criteria (Section 3.2.2).

Greater weight will be placed on figures derived from a study by an independent, third party authority: unsubstantiated claims of performance improvements will be discounted.

The ETI will undertake a techno-economic design study, using its established methodology, on the technologies for all Respondents invited into Contract Detailing and Negotiation, unless a directly comparable study has been previously undertaken. The ETI's Benchmark Plant basis of design is included as Appendix F to this RfP for information. Respondents who are selected to move into Contract Detailing and Negotiation will be required to provide a defined package of data to ETI's Contractor under the non disclosure agreement with the ETI. To protect sensitive information, the NDA (see Appendix E) will strictly limit use of the Respondent's confidential information in relation to its technology supplied for the purpose of this study and the resulting report to assessment of the Respondent's proposal. Respondents should indicate any issues they foresee in providing information on their technology to enable this study to be undertaken. The defined package of data may also include data to allow the ETI to assess safety, environmental, flexibility and reliability impacts of the technology.

5.3 Technology Readiness

Respondents should provide a clear statement about the current state of development and validation of each of the major blocks of technology – for example absorber, fluidised bed etc

This should be provided to ETI in a format similar to:

Block	Development Requirements	Current Status	Issues	Risks
Absorber	Optimisation of operating parameters within overall design;	Proposed operation is well within historic operating experience of this technology	There may be a residual issue with the exact composition of the gas– it is usual to test <> on the final selected feedstock	The accepted solution to this issue is to <>, which adds <1% to capital cost and is well-proven

The typical categories for Current Status will be:

- Proposed operation is within established envelope;
- Proposed operation extends established envelope in the stated respects;
- Proposed operation is novel but has been developed by analogy with existing operations (a), (b), (c); or
- Proposed operation is new to world.

More detailed notes should be used to expand on key points in the table.

6. Programme of Work – Stage 1 *[typically 5 – 10 pages]*

The Respondent should provide a summary of the overall approach to Stage 1 of the Project, including a Work Flow description which clearly identifies the key Work Packages, their interdependencies and how they contribute to the overall Project outcome. This Work Flow should identify key Review Points and Stage Gates (see also Section 10) where overall progress on the project will be critically reviewed.

Each Work Package should be broken down into Tasks and a Task-by-Task description of the proposed work provided, identifying for each Task:

- the Task leader;
- other Participants involved;
- key dependencies;
- the technical approach (including use of any specific methodologies, techniques or tools);
- Task objectives;
- deliverables, including for each deliverable a specification (e.g. quality, appearance, scope, function and purpose as appropriate) and proposed Acceptance Criteria.

As far as possible, the Respondent should be specific about the activities within the Task, e.g. including test/simulation matrices or stating a number of tests/simulations.

Where Work Packages involve experimental work, Respondents should identify the proposed test site and provide full information in Section 7. Outline functional specifications (with

justification) should be provided for any test facilities required, including scale of operation, integration with existing facilities etc. It is not anticipated that any major new test facilities or major modifications to existing facilities will be required in Stage 1. However, should the Respondents propose such activities, they should identify any issues, dependencies or potential obstacles to the use of the proposed site(s) and specialist facilities for Stage 1 of the Project, and an explanation provided as to how they intend to address these issues, to ensure that construction and testing can commence as scheduled. Refer to Appendix G for further information.

Any issues or assumptions in defining the programme or schedule (e.g. inputs required from the ETI or other projects) should be explicitly stated.

Stage 1 of the Project should include a specific Task relating to preparations for Stage 2. This should include:

- Identifying and securing additional partners to undertake Stage 2;
- Identifying and carrying out necessary due diligence on test sites to be used in Stage 2 (see Appendices C and G for information required);
- Development of commercialisation plans;
- Outline Design and Costing for the 5MWe+ unit for use in Stage 2;
- Production of Final Detailed Offer for Stage 2 (to meet the aim of minimising any delay between Stage 1 and Stage 2, this should be delivered at least 2 months before Stage 1 completion).

A specific project management Task (or Tasks) should be identified describing all the activities in this area (e.g. regular meetings, reporting, Stage Gates etc). ***Note that throughout Project delivery the ETI will require reports of monthly progress with supporting financial data, reports to substantiate completion of each milestone, etc.***

Any relevant activities related to but not included within this Project, and the relationships with these activities, should also be described.

7. Outline Programme of Work – Stage 2 [maximum 2 pages]

Respondents should provide an outline programme of work for Stage 2. This should include:

- Proposed approach to pilot or larger scale systems testing and demonstration (eg scale of operation, test site requirements);
- Anticipated additional partners to undertake the work;
- Description of design package to be produced to provide future investors in the technology to build a demonstration plant
- Major deliverables and Stage Gates

8. Deliverables & Payment Milestones – Stage 1 [typically 1 page]

Following the detailed specifications of each deliverable in Section 6, a summary table should be provided here listing all the Project Payment Milestones (i.e. key points in the Project where one or more Deliverables will have been provided and payment is requested from the ETI), and

their constituent deliverables, acceptance criteria, costs, and delivery dates for each Deliverable and Payment Milestone.

Note that ETI policy is that Payment Milestones should be based on points in the project where major deliverables and value have been delivered to the ETI (eg completion of major tasks/ work packages/ reports). Unless there are major cashflow issues (eg major purchases of equipment), the ETI would not expect to make more than four payments per year to organisations.

Refer also to Section 14.

9. Project Schedule *[typically 1 page]*

The Respondent should provide time schedules for both Stages of the Project (e.g. in the form of a Gantt chart) showing the main Work Packages, Project Stages and main Tasks within each Work Package and Stage. This should clearly identify:

- Task durations and dependencies (including any inputs required from the ETI or other parties and any other external dependencies). The Schedule for Stage 1 should clearly illustrate how the Stage 1 results will feed into the Final Detailed Offer for Stage 2. Timing for obtaining any planning permissions, environmental permitting etc should be explicitly included;
- Contingencies and Critical path;
- Project Deliverables;
- Payment Milestones and other relevant milestones;
- Project Stage Gates, if appropriate (i.e. major review point(s) in the Project).

10. Project Review, Project Curtailment and Exit *[maximum 2 pages]*

For each Stage Gate Review set out in Section 6, the Respondent should propose outline criteria against which Project progress towards the desired outcomes should be reviewed, in respect of:

- Project performance against plan (including time, cost, quality and health and safety management);
- Projected techno-economic performance of the technology (ie refinement of projections made pre-contract);
- Development of the business case (eg developments of exploitation plans; progress towards securing the demonstration or First of a Kind project).

Although the ETI is fully committed to the completion of this Project, there may be circumstances where either of the parties agree that continuing with the Project is not justified or where external circumstances prevent completion.

The Proposer should set out their view of the events or circumstances which might cause them to propose project curtailment and the basis on which this would then occur and how any liabilities would be shared between the parties (in particular where this differs from the Project Contract). The consequences for access to Background IP and Arising IP should be identified, only if this differs from the Project Contract.

In addition to ongoing termination rights relating to non-performance or breach of contract, the Project Contract will include specific termination rights relating to Stage Gate Reviews, should Stage Gate Criteria not be met.

11. Risk Management *[maximum 2 pages plus Risk Register]*

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). They should also separately provide a Risk Register, identifying the key challenges, risks (including any assumptions or dependencies identified earlier), issues and opportunities which may affect the successful delivery of the Project outcomes and identifying planned activities to address / mitigate each item.

Whilst not being prescriptive about the style and format of the Risk Register, it is expected that it will:

- 1) Show clear evidence of triage into: those risks which are so serious in terms of frequency and impact that they need to be kept under review by the Project leadership (and regularly shared with the ETI); those risks that are sufficiently serious that they need to be managed within the project team; and those risks which have been recognised but which are not judged as material;
- 2) Identify the causes of the risk and the likelihood of them occurring during the project;
- 3) Identify the consequences of the risk and the scale of impact on project delivery and key stakeholders;
- 4) Identify the degree of knowledge or uncertainty about the risk;
- 5) Identify who is the risk (or issue) manager;
- 6) Show what actions are in place to reduce the likelihood of the risk materialising (controls);
- 7) Show what precautions or provisions will be implemented to reduce the impact of the risk, should it occur (mitigation);
- 8) Identify any actions in place to investigate or increase knowledge of poorly understood risks; and
- 9) Identify any systems or actions that will be implemented to detect that a specific risk is developing, has started to occur or its likelihood or impact has increased (monitoring).

It is expected that no more than ten risks would be managed by the top team, rather more at the next level and many more that have been recognised with no further action planned. The ETI will only consider the top two categories, but proposers may provide the complete register.

A summary of key risks should be included in the proposal, with a complete risk register as described above provided as a separate document.

12. Health, Safety & Environment (HSE) Management *[maximum 5 pages]*

The health and safety of those who may be affected by ETI Projects is of paramount importance to the ETI. The ETI expects those who receive ETI funding to demonstrate a commitment to best practice in HSE management as well as meeting legal requirements. The ETI expects any

successful Participant(s) to work with the ETI to demonstrate to the ETI that HSE safety management is maintained.

The ETI will carry out a full HSE competency assessment against the Respondents (the Prime Contractor or the members of any Consortium), including, if appropriate, compliance with the Approved Code of Practice for the CDM Regulations, Appendix 4.

Respondents should demonstrate an integrated approach to managing HSE throughout their Proposal.

In this Section Respondents should summarise their approach to manage and coordinate HSE in the Project. This should include key roles and responsibilities of different Participants. Respondents should demonstrate their experience of identifying and managing HSE issues in projects of equivalent complexity and scale, including:

- Coordination of HSE across multiple contractors and, if appropriate, across different locations;
- Incorporating safety into design;
- Building/modifying and commissioning of facilities;
- Operation of facilities of similar scale and complexity;
- Management of major hazards/planning for incident response.

It is anticipated parts of the Project will fall under the CDM Regulations. This may include development of Stage 1 test facilities (if required), design activities relating to any facilities for Stage 2 which may be constructed in the UK (which will fall under the CDM Regulations). Stage 1 may also be a notifiable project under the CDM Regulations. In such a case the ETI expects that a Participant elect to act as the single Client and details should be included to confirm which Participant will elect to be the Client. Details of the proposals to appoint a CDM Coordinator and Principal Contractor should be included. The Respondents should also set out their approach to managing contractors.

In addition, the ETI expects Participants funded by the ETI to provide evidence throughout the Project that HSE is being managed and that such arrangements are adequate. The Respondents are required to set out in their Proposal how their management arrangements will enable such evidence to be provided.

The Respondent should note that specific health and safety requirements will be included in the Project Contract including reporting against health and safety performance on a periodic basis, as appropriate to the successful Project.

The Respondents will be expected to set out any key HSE risks in the Risk Register in Section 11 above. In addition in Section 7, the Respondents are expected to identify any specific HSE issues related to specific facilities or sites.

Note: to the extent that facilities are sited outside of the UK, the Respondents should deal with the analogous issues as they apply in the local laws of the relevant country of a facility. Please note that in the event design work takes place outside of the UK, the CDM Regulations will still apply. In any event, the ETI may expect that UK standards for health and safety apply to the Project in the event there are material differences with the health and safety laws and practices of a particular location where work is carried out.

Note that Respondents should complete the H&S Initial Due Diligence questionnaire for each of the proposed Stage 1 Project Participants.

13. Intellectual Property (IP) *[maximum 4 pages plus Due Diligence information – Appendix C]*

Please refer to Section 1.7 and Appendix B of this RfP regarding the ETI's approach to IP.

13.1 Background IP

(a) The Respondent should provide an overview of how the proposed technology is protected through intellectual property rights. This should include a description of all Background IP (e.g. patents, proprietary data, computer algorithms, knowhow or other IP) which is needed to carry out the Project or which may be used during the Project, or, which may be needed by any ETI Member granted access to exploit any Arising IP (pursuant to the proposal in Section 16). Such overview should include:

- the nature of the IP;
- rights to that IP;
- ownership and control, whether this is by any of the Project Participants or by third parties;
- details of the relationship with the owner of any third party rights identified.

(b) The Respondent should provide details of the level of due diligence undertaken to provide confidence that they have freedom to operate in relation to their technology appropriate to this stage of the technology's development.

Please note that due diligence on Background IP will be required at all stages of the procurement process (see Appendix C for further details).

13.2 Arising IP

As well as Background IP, the Respondent should provide a brief overview of the nature of any anticipated IP arising from each stage of the Project (the Arising IP), in particular, in what areas of the technology and what form of intellectual property rights. This should expressly include reference to development in any existing technology, any innovations, any results and know-how.

(a) The Proposal should identify which Participant would own each item of Arising IP and the reasons why such Participant should be the owner, including details of:

- the overall contribution of such Participant;
- the Intellectual Property experience and capabilities of such Participant which would justify granting it the rights and obligations of ownership, protection and maintenance of such Arising IP; and
- any other reasons why such Participant should be the owner of the Arising IP.

(b) The Respondent should provide details of the anticipated use or licences of Arising IP by the Participants. This should also expressly include:

- reference to development in any existing technology, any innovations, any results and know-how; and
 - the sublicensing rights that will be need in order to commercialise the technology.
- (c) The Respondent should confirm the licences to be granted to ETI Members to exploit the Arising IP. Where the Respondent proposes an exception to this and the drafting in the Project Contract, Respondents should set details of the exception out together with (a) reasons for the proposed exception and (b) the alternative value offered to the ETI Members in return for waiving these rights. Respondents are strongly advised to consult the ETI before proposing exceptions to the ETI's standard requirements for Arising IP.

The Respondents should indicate in Section 16 how their commercial offer relates to the Arising IP identified in this section.

14. Project Finances *[maximum 2 pages]*

14.1 Project Costs – Stage 1

- (a) The Respondent should provide for Stage 1:
- a figure for the **project costs**, and **the maximum (capped) level of funding requested from the ETI**;
 - a **breakdown** between Tasks, Payment Milestones and (for consortia or other Participant groups) **between Participants against each Task/Milestone**;
 - a figure for the maximum (capped) level of funding requested from the ETI for each Task.

If there are any assumptions or limitations to these costs, these should be clearly stated.

- (b) The Respondent should also provide a **breakdown of the total project costs (only) by category**, for Stage 1, as specified in the Table below.

	Participant 1 (Lead Coordinator or Prime Contractor)	Participant 2	Participant 3	Participant 4	Participant 5	Total
Number of Person-days						
Base Labour						
Materials						
Capital						
Subcontractors (minor)						
Travel & Subsistence						
Overheads						
Profit						
Other						
TOTAL GROSS COSTS						
Less Net Residual Value of facilities constructed						
TOTAL ELIGIBLE COSTS						
ETI Funding						
ETI Funding (%)						
Own Funds						
Third Party Funding (Private)						
Third Party Funding (Public)						

Notes on Category Breakdown table:

1. Base Labour should include direct add-ons (eg NI, pension etc);
2. Capital costs should be based on depreciation during the Project x % usage on Project. Capital cost items are considered to be individual items which have use

outside and beyond the project. Test facility design and construction costs should not be included under this category (but see comment 6 below);

3. If a Prime Contractor/Subcontractor project structure is proposed, major Subcontractors should be considered as Participants and fill in a column in the table
 4. Participants will be required to provide justification of overhead calculations during the Stage 2. ETI can provide a spreadsheet to calculate overheads on request
 5. Academic Consortium Members should determine their costs using the JeS system. Note that ETI funds Academic Consortium Members at 100% Full Economic Cost;
 6. Participants should make an estimate of the Net Residual Value of any facilities constructed during the project, taking into account the costs of the facility, use during the project, expected future use & income streams and future costs commitments, eg decommissioning. Where existing facilities are modified/upgraded during the Project, this should relate to the modifications/upgrades only. The details of the level of ETI funding for any facilities constructed or modified will subject to state aid requirements and will need detailed discussion with the Respondent in Stage 2. See also Section 7.5.
 7. Details of other funding should be provided as required by Section 14.2 (refer to Section 14.2 and Glossary for definitions of funding types)
- (c) The Respondent should provide a commentary on the robustness of its costing for the major cost items, identifying any key uncertainties and risks. This should include a brief explanation of and justification for the estimate of Net Residual Value.

Note that during Contract Detailing and Negotiation the ETI will require more detailed cost breakdowns, including a schedule of payments against the Payment Milestones identified in Section 5 above. This will require completion of ETI's financial monitoring forms. Whilst not compulsory, it is strongly recommended that Participants use these forms to produce the project costings. These forms are available from the ETI on request.

14.2 Project Funding – Stage 1

For all sources of funding or resources to be provided in addition to the ETI Funding for Stage 1, the Respondent should provide full details of such funding.

- (a) If the funding is to be made from the Respondent's Own Funds (i.e. not dependent in any way on third party lending to either the Respondent or member of the Respondent's group) the Respondent should provide evidence of the availability of those funds for the Project.
- (b) If the funding is dependent on third party funding:
 - The Respondents should provide details for the sources of the funding, including identifying where any such funding is Public Funding, and;
 - the terms and status of such funding.

14.3 Project Costs and Funding – Stage 2

Respondents should provide an estimate of overall project costs and funding for Stage 2, using the table in 14.1(b). Assumptions and uncertainties in these costs and funding should be clearly stated.

15. Exploitation Plans [maximum 2 pages]

The Respondent should set out how they intend to approach commercialisation of the technology. This should include:

- Identification of major prospects for demonstration and commercialisation post 2015;
- Potential market for the technology as a retrofit, and for new builds.
- Current and potential future partnerships to enable the technology to be brought to market rapidly;
- Potential sources of funds for future development and application;
- Support to project developers who will use their technology.

The purpose of the ETI is to contribute to the secure, affordable and sustainable supply and use of energy in the UK, in line with Government policy. Respondents should address the application of their technology in the construction of new CCGT power generation facilities and retrofit of CCGTs with CCS in the UK as a key part of their commercialisation plan.

Progress with the exploitation plan during the Project will form part of the Stage Gate Reviews and this section should be clearly linked with and support the overall Project plan. For the avoidance of doubt, the ETI will not contribute to the costs of business development and sales activities.

16. Commercial Offer [maximum 4 pages]

The ETI intends to support the validation and demonstration of the selected technology in order for it to be available for use in the UK and more widely. The ETI anticipates that there will be significant mutual benefit for the ETI Members (public and private sector) and the Project Participants in working together on the Project and beyond. The ETI and its Members propose to fund the project in order to meet ETI objectives and in return for receiving value for the investment made.

The Respondent should provide a summary of the proposed value and benefits to ETI Members, and the benefit it sees in return, under the broad headings set out in the Table below.

Please note that this table is ordered to demonstrate the types of value that may arise through the course of the project in approximately chronological order. It is not intended to demonstrate the order of preference, although any successful proposal is likely to provide value under each of the headings in the table.

The Respondents are asked to bear in mind that although detailed negotiation of the commercial offer is expected during Contract Detailing and Negotiation, the ETI can only select Preferred Respondent(s) on the basis of the information included in the Proposal.

Respondents should consider what commercial offer suits each Stage, but be aware that structure and key terms of the Project Contract for Stage 1 will be carried through to the Project

Contract for Stage 2, maintaining value to the ETI and its Members. It also needs to ensure that ETI and its Members gain sufficient value from Stage 1 in the event that any successful Respondent for Stage 1 does not proceed into Stage 2.

Potential Benefits	Background Assumptions/Examples
Sharing the financial risk of the Project	<p>That Participants will contribute to the financial risk of the Project through either:-</p> <ul style="list-style-type: none"> • Direct Funding • Provision at own or reduced costs of assets, labour or facilities. <p>The Participants will take the risk of any overruns to cost.</p>
Access to the detailed results and the Arising IP of the Project by ETI Members.	<p>All technical deliverables of the project will be available to ETI Members on a similar timescale to the Participants (allowing time for checking).</p> <p>ETI and its Members will require express rights to use relevant parts of Arising IP in order to gain this benefit. (Please also refer to section 13).</p> <p>Reports of results at all stages to facilitate access to and understanding of the validation and demonstration work throughout the project.</p>
Potential for the ETI and its Members to gain preferential access to any test facilities developed during and after the Project.	<p>Plans to make available access to the demonstration site throughout the Project should be identified.</p> <p>If any facilities built for the purpose of the Project are usable post Project, they will be made available to the ETI and its Members.</p>
Commitment to technology acceleration in UK context.	A commercialisation approach that includes the UK market.
Advantaged access to the technology by the ETI Industry Members (e.g. participate as project owners in the early commercial projects using the technology; advantaged access to Background IP).	<p>The Respondent should set out their approach to this.</p> <p>This may include preferred access to manufacturing slots (for hardware) or preferential pricing to the technology.</p>

Financial Benefits from Technology Exploitation	Royalty income to the ETI from the sale of Arising IP (through the supply of services, equipment, hardware, systems or sale of licences). This should include the formula for any royalty and any limitation on the payment of royalties and identify how royalties apply to all commercial uses of the technology (including sublicensing). Alternative ways for the ETI to share in the successful financial exploitation of the technology
Opportunities for the ETI Industry Members to participate as preferred suppliers of technologies, equipment and services to future project owners.	The Respondent should set out their approach to this, pending detailed discussions during Contract Detailing and Negotiation.
Increased UK capacity to practise the technology in terms of facilities, skills and knowledge.	The UK footprint of the project should be proportionate to the investment of public funds in the ETI and hence ETI's investment in the project.
Eventual public dissemination of selected outputs to build wider confidence and understanding in the technology and its potential.	That the proposers will have an aggressive technical market plan and channels to market that will ensure that the key results of the project are widely understood. This should also include, as appropriate, reference to publication including through academic publication, rights for ETI and its Members to publish key outputs of the project or through other mechanisms to share the results of the project to the wider business market in the UK and elsewhere.

Respondents should identify what impact the ETI funding would have on their development and exploitation plans, for example:

- Acceleration of technology development to meet UK market needs;
- Extension of technology capability to meet UK requirements;
- Enable sharing of experience in the project to accelerate CCS implementation more generally.

Respondents should outline what development path they would follow in the absence of ETI funding.

17. Insurance *[maximum 1 page]*

Respondents should identify how they intend to insure against risks in the Project. The Respondents will need to work with the ETI and its insurers during Contract Detailing and Negotiation to ensure appropriate coverage of Project risks (see also Appendix C1).

18. Plan for Contract *[maximum 3 pages]*

Respondents should, in this Section, identify key issues to resolve before contract, for example:

- Detailing of the technical proposal: what further actions are needed;
- Project Contract – key provisions to resolve;
- Timing sequences for the setting up of the selected project organisational structure (eg subcontracts, Consortium Agreement etc), including any dependencies or other factors which could impact or delay the Project;
- Internal approvals - confirm what internal approvals will be required for all key Participants in the bid in order to enter into contract;
- Securing finance – identify what further actions are required to ensure that all funding arrangements are in place;
- Site selection, rights to use, planning, environmental consents and any other approvals;
- Third Party techno-economic evaluation;
- Patent study/Background IP rights.

The Plan for Contract should be structured, and link clearly back to, the previous Sections set out in this RfP.

Respondents should clearly indicate which issues will be addressed during Contract Detailing and Negotiation and which will be addressed during Stage 1 of the Contract.

The Respondent should explicitly confirm that all key technical, commercial and legal resources, across the Participants, required to meet the contract deadline for signature (see Section 2) will be available to achieve a signed contract by that date. A table should be included providing names and contact details (phone and email addresses) of key contacts for Project Detailing and Contract Negotiation. This should include, for each Participant, the main technical, legal/commercial and finance contacts.

Any key risks or issues which may impact on meeting the contract deadline should be identified.

Appendix B Commercial and Legal Requirements

1. Summary of Terms and Conditions for Project Contract

Introduction

The following represents a summary of the key contractual terms which the ETI would expect to be included in Project Contracts (Stage 1 and Stage2).

Structure

1. 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 Participant who is unable to agree to terms relating to state aid requirements.
2. If the project is carried out by a multi-party consortium, the project participants shall be represented in dealings with the ETI by a lead co-ordinator, who shall, in the majority of instances, be the intermediary for any communication between the ETI and the project participants. This role includes providing notices of meetings and other activities to the ETI, reviewing and commenting on project reports (as required under the project) and administering payment of invoices for all project participants.

Project Management

3. The project participant[s] for each Stage will be required to appoint a project manager for the day-to-day management of the project normally from a lead organisation. The ETI will appoint a programme manager to act on behalf of the ETI with regards to the project.
4. The project participant[s] shall form a steering committee to make decisions on day-to-day matters (excluding decisions affecting the overall scope structure and timing of the project). The frequency of meetings of the steering committee will be agreed. The ETI and its Members shall be entitled to attend any meetings of the steering committee.
5. The project participant[s] must fulfil various reporting obligations which will include monthly reports, milestone reports, annual reports and a final report. Each report must address a specified list of topics required by the ETI.

Note: Project Participants should include costs to fulfil the reporting obligations in their Proposal.

6. The ETI will require the right to carry out a stage gate review on completion of a "stage" (or at least once a year) in order to assess (a) overall performance in the project (b) whether the project continues to deliver against ETI outcomes and (c) also in order to carry out a validation exercise against the business case. The ETI may carry out stage gate reviews more frequently if the project is in jeopardy. The need for stage gate reviews and the definition of a stage will depend upon the exact nature of the project.

Note: Please refer to Sections 6 and 10 of Appendix A.

Finance

7. The project participant[s] will be obliged to fund their share of the project costs in accordance with agreed funding milestones. Before signing of the Project Contract, the

project participant[s] will be required to provide appropriate evidence of their funding capability.

8. ETI will pay sums (capped in aggregate in the sum agreed against milestones and only in respect of actual costs incurred (or at pre agreed profit margin, if appropriate) for the work done under the project. Only eligible costs will be payable. Ineligible costs include interest charges, bad debts, advertising costs and legal costs incurred in finalising contracts and carrying on the project.
9. Acceptance of milestones will be determined by the ETI against acceptance criteria agreed with the project participant[s]. 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.

Note: Please see Sections 8, 14 of Appendix A. The Project Participants should propose the Payment Milestones, deliverables and acceptance criteria. The acceptance criteria should be objective.

10. Costs are payable in Sterling and ETI will pay valid invoices within 30 days of receipt of an invoice and all supporting financial documentation following acceptance of a milestone. An accountant's report will be required to support selected financial reports and invoices, in accordance with a standard ETI matrix.
11. The ETI reserves the right to require the return of funding in certain 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).

Note: Please see Section 1.8 of this RFP in relation to State Aid.

Representatives, Warranties and Covenants

12. The Project Contract will contain representations and warranties in favour of the ETI as to the accuracy of information provided by the project participant[s] to the ETI prior to entry of the Contract (including information as to property, planning, environment issues, inlet and outlet gas, utilities availability etc).
13. The Project Contract will contain on-going covenants on project participant[s], including to meet technology requirements, deliverables due dates, and planning, environmental and health and safety requirements.
14. Project participant[s] that are major subcontractors may need to enter into deeds of collateral warranty and representation in favour of any parties nominated by the ETI.
15. The Project Contract will require the Participants to provide accurate information about the level of ETI Funding and Subcontractors.

Note: Please see Section 5.1 in relation to the R&D Tax Relief.

Key Personnel

16. The contract will identify a limited number of key personnel involved in the project, and participants will be required to gain approval from the ETI for proposed replacement staff.

Confidentiality

17. 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 agreement.

Audits and Records

18. ETI will require the right to audit the project and project participants during the project and, in certain circumstances, up to 7 years from the end of the project on financial or technical grounds
19. The parties 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.
20. The project participant[s] will be required to keep relevant project records for more than 20 years where the records relate to registered intellectual property rights.

Sub-contracting and assignment

21. Sub-contracting or assignment (other than by the ETI) is not permitted without consent. However, details of known sub-contractors (and therefore the requisite consent) can be given in the Project Contract at signing.
22. The terms of any material sub-contract will be subject to the prior approval of the ETI. The ETI may impose conditions prior to consenting to any subcontract.

Variation

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

Liability

24. The liability provisions relating to project participant[s] will be tailored on a case-by case basis. It is expected to be capped at (or at a multiple of) the amounts payable or received under the project (except in relation to the agreed indemnities, return of funding or other liabilities which cannot be limited or certain excluded by law). For these claims, no cap will apply. Recovery of indirect, consequential etc. damages will usually be excluded.
25. The ETI will require an indemnity in respect of (a) third party infringement claims (b) certain claims brought by any third parties against the ETI as a result of the acts or omissions of the project participant[s] under the project and in relation it, the terms of which will be negotiated on a case by case basis. There will also be an indemnity relating the obligations to provide information for ETI Members to seek R&D tax relief.

Note: Please see Section 5.1 of this RFP.

26. In the case of a consortium, liability is expected to be on a joint and several basis.

Insurance

27. Project participant[s] will be obliged to carry appropriate insurance which will be tailored on a project by project basis.

Withdrawal

28. Withdrawal from the project is only possible with the ETI and in the case of a consortium, the unanimous consent of all other contracting parties. Withdrawing participant[s] cannot recover outstanding costs, unless otherwise agreed.

Termination and Suspension

29. 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 participant etc).
30. The ETI also reserves the right to terminate the agreement unilaterally upon giving a (to be agreed) period of notice to the project participants. 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.
31. The ETI will reserve the right to suspend the project in certain defined circumstances.

Governing Law

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

2. ETI Approach to Intellectual Property

The purpose of the ETI is to generate new technologies which can be optimally exploited and which will be widely accessible in the medium to long term.

The ETI therefore operates according to a set of intellectual property (IP) principles which govern how IP should be dealt with and which are reflected in the Project Contract which Project Participants enter into with the ETI.

Background IP

Where a Project Participant has Background IP that is required to carry out the Project or the subsequent exploitation of any Project results, the Participant is expected to make this Background IP available on a non-exclusive basis; typically, this licence will be royalty-free where the Background IP is required for the Project, but may, if appropriate, be subject to a fair and reasonable royalty where the Background IP is required for exploitation of Project results. If Participants (or their proposed Subcontractors) fail to meet this expectation, the attractiveness to the ETI of the relevant Proposal may be adversely affected.

Due diligence on Background IP will be required both in the Proposal (as requested in Section 13 of Appendix A of this RfP) and during Project Detailing and Contract Negotiation (see Appendix C). Respondents selected to enter Project Detailing and Contract Negotiation will be required to undertake a patent study at their own expense.

Arising IP - Ownership

The ownership and licensing of Arising IP is negotiated on a project by project basis by the ETI and potential Participants and the agreed terms are set out in the Project Contract.

In principle, the Project Participant that is best placed to manage any Arising IP will own it, although the ETI reserves the right to own Arising IP in certain circumstances. Where Arising IP is owned by a Participant, the Participant will be required to license the Arising IP it owns to the ETI exclusively, so that the ETI can in turn sub-licence it to anyone who has exploitation rights (see below).

Arising IP – Exploitation/Licensing

Typically, for a limited period after completion of a Project, Arising IP will be (sub)licensed by the ETI for exploitation exclusively to:-

- (a) the ETI Members and ETI Programme Associates (if any); and
- (b) one or more Participants;

The rights of each group to sublicense further are set out in the Project Contract and will be limited but tailored to allow the appropriate sublicensing in order for the technology to be exploited and accelerated.

Exploitation rights of the Project Participant(s) will be negotiated and set out in the Project Contract. In accordance with the ETI's overarching purpose, any such "exclusivity period" will be limited so that the Project results may be made available by the ETI for wider commercial exploitation in the medium to longer term.

Typically, the rights for the Project Participant to the Arising IP will also be subject to royalty payments made by the Project Participants on gross sales/licenses of the technology.

Arising IP – Academic Organisations

Generally, if requested, the ETI will grant rights to Project Participants who are academic institutions for the purposes of academic research and teaching. Publication of appropriate parts of the Project results will generally be permitted subject to an approval process.

Arising IP and Profit

Participants should note that profit will not be paid to a Participant in addition to the grant of a licence of Arising IP.

More detailed information about the ETI's Intellectual Property Principles can be found on the ETI's website at <http://www.energytechnologies.co.uk/Home/Aboutus/How-We-Operate/IP.aspx>.

Appendix C Due Diligence Information Requirements

The ETI requires due diligence information in three stages. Certain information is required with the Proposal, further information will be required if any Proposal is selected to proceed to the Contract Detailing and Negotiation and further due diligence relating to Stage 2 will be required as part of the deliverables for Stage 1.

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.

1. Proposal Requirements

The due diligence information contained in this Section 1 should be included with any Proposal submitted in response to the RfP.

1.1 State Aid

All Consortium Members shall confirm that there are no potential, threatened, pending or outstanding recovery orders by the European Commission in respect of any funding received by any Consortium Member.

All Consortium Members (except ETI Members, 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 Annex C2.

1.2 Insurance

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 Detailing phase.

- Property damage (both any Property occupied by the Participants 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.

1.3 Intellectual Property

The Respondent should complete the Background IP questionnaire in Annex C1.

The Respondent may wish to provide a copy of any patent study previously obtained in relation to the Background IP and Technology.

The Respondent should identify the name of a Chartered Patent Attorney or European Patent Attorney that the Respondent proposes to use to carry out a patent study if successfully selected to proceed to Stage 2 (refer to Section 2.2 of this Request for Proposal).

1.4 Health and Safety

A full competency assessment will be carried out on each proposed Project Participant at the Contract Negotiation stage (see Section 2 below).

The ETI is aware that some Respondents may be SMEs or organisations from outside of the UK and so it is important to identify any gaps that such organisations may have. For the Stage 1 proposal, each Respondent should confirm the status of its health and safety systems and its commitment and proposed approach to rectify any gaps prior to Contract Award.

Please confirm for each Respondent whether the following is in place:

- A formal written health and safety policy (including objectives, organisation and arrangement) and formal written processes for all arrangements.
- Appropriate formal written health and safety systems in place to manage health and safety risks for this Project (and confirmation of the type of system used e.g. HSG65, OHSAS18000).
- Maintenance and use of written risk assessment processes.
- Appropriate formal written contractor management processes (which include formal competency assessments for key contractors carrying out any hazardous activity on the Project)
- Systems in place to manage CDM Regulations including safety in design.
- A formal written system in place to monitor, record and review performance of the health and safety in the Project.
- A formal written system in place to manage, review and record near misses, accidents and other incidents.

In the event that any organisation does not comply fully with these aspects (or any other requirements of health and safety best practice), the Respondent should confirm the proposed approach to rectify any gaps.

1.5 General

The Respondent (unless an ETI Member, university / higher education institution or UK/EU government laboratory / agency) shall provide the additional information set out in Annex C2.

2. Requirements: Contract Detailing and Negotiation

These are only required if a Proposal is selected to proceed to the Project Detailing and Contract Negotiation Stage, and will include:

- (i) A full health and safety competency assessment will be carried out by the ETI, to assess the organisation's health & safety management systems and specific technical competence to manage the risks in this Project. Any parts of the Project which fall under the CDM Regulations, will be assessed in line with the CDM Approved Code of Practice,

Appendix 4. Please note that the ETI will not award any contract to any organisation that cannot demonstrate the requisite competencies for the health and safety competency;

- (ii) Further intellectual property due diligence. This will include a detailed Background IP questionnaire and will also include a patent study relating to the Project, which the Respondent will be expected to submit to the ETI. This shall be carried out, at the Respondent's expense, by a Chartered European Patent Attorney to assist in determining whether the proposed Project can be carried out without infringing valid intellectual property rights of others. Full instructions will be provided following any notification that Respondents will be proceeding to Contract Detailing and Negotiation. The ETI will be required to approve the scope of the study and the patent attorney proposed;
- (iii) Any further environmental due diligence as appropriate to the Project;
- (iv) Copies of insurance policies;
- (v) Financial due diligence on the breakdown of costs for the Project to enable the ETI to assess value for money and ensure that it meets State Aid requirements;
- (vi) Any other information that the ETI reasonably requires in order to fund the proposed Project including any information necessary to meet state aid requirements.

3. Requirements: Prior to Stage 2

These are required to be provided as a Deliverable from any Stage 1 contract arising from this RfP, and will include:

- (i) Any additional IP due diligence which may be required that could not be concluded prior to contract award for Stage 1 (i.e. because the technology was insufficiently developed to complete any part).
- (ii) Any additional health and safety competency assessment (for new Participants in particular).
- (iii) Full evidence relating to rights, planning and permitting for proposed test sites for Stage 2 (see also Appendix G), including:
 - a. Evidence to demonstrate the proposed Stage 2 Participants' existing rights of use of the test site(s) or to reflect the current state of negotiations with the site owners/occupiers (such as heads of terms);
 - b. plans for integration with existing facilities;
 - c. agreements with site/facility owners on access to and from the site(s), access to services and utilities; management of the inlet gas supply and disposal/ venting/ return of the outlet stream(s) (including any guarantees of the Respondent's right to the proposed supply or return);
 - d. planning consents or applications to use the site (or evidence that such consents are not required);
 - e. environmental permits or applications for the site (or evidence that additional permits are not required).
- (iv) Any further environmental due diligence as appropriate to the Project.

- (v) Financial due diligence on the breakdown of costs for the Project to enable the ETI to assess value for money and ensure that it meets State Aid requirements.
- (vi) Any other information that the ETI reasonably requires in order to fund the proposed Project including any information necessary to meet state aid requirements.
- (vii) Evidence of committed, ring-fenced funding and that both the funds and all property required to complete the Project are unencumbered.
- (viii) Evidence of any additional insurance for that part of the Project (including for any new Project Participants).

Annex C1 Background Intellectual Property Questionnaire

Each Respondent (Prime Contractor or member of the Consortium) is required to complete this.

The Respondent should provide details of how the proposed technology is protected through intellectual property rights.

This should include a detailed description of all Background IP (e.g. patents, proprietary data, computer algorithms, knowhow or other IP) which is needed to carry out the Project or which may be used during the Project, or, which may be needed by any ETI Member granted access to exploit any Arising IP (pursuant to the proposal in Section 16). The details should include:

- the nature of the IP (including in the case of any registered IP, all applications for or granted registered rights in all jurisdictions);
- rights to that IP;
- ownership and control, whether this is by any of the Project Participants or by third parties;
- details of the relationship with the owner of any third party rights identified.

Annex C2 Organisational Due Diligence Questionnaire

Details of organisation
Full name:
Registered Office:
Type of Business (sole trader, limited company, partnership etc):
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? (Yes/No)
Have any directors, partners or associates of the organisation been convicted of a criminal offence relevant to the business or profession? (Yes/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 or litigation
Please provide (and attach if necessary) details of any claims or litigation against the organisation, outstanding and/or anticipated.

Appendix D Statement of Compliance

The Respondents shall each provide a Statement of Compliance which confirms:

- That the Respondent has full authority to submit a bid on the basis of this Request for Proposal;
- That the Submission has been appropriately reviewed by technical, commercial, financial and legal representatives; and
- The level of internal approval obtained by key subcontractors in order to make the Proposal (letters of support from each key subcontractor should be included).

In the case of a Respondent responding on behalf of a Consortium, a separate Statement of Compliance must be signed by an authorised signatory of each Consortium Member.

The Respondent shall provide a statement that the Proposal is fully compliant with the Specification and all other aspects of the Request for Proposal including the Project Contract, or shall state clearly any exceptions, deviations, alternative approaches or additions to the required Specification, with justification. 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.

With respect to the Project Contract, the Respondent must either:-

- Expressly confirm that the Proposal is made on the basis of the terms and conditions of the Project Contract; or
- Expressly confirm that the Proposal is made on the basis of the terms and conditions of the Project Contract subject to clarifications and exceptions. In these circumstances, the Respondent must include in their Submission either:
 - A copy of the Project Contract, marked up with the Respondent's proposed clarifications and exceptions; and
 - A separate commentary against the clarifications and exceptions setting out the reason for those clarifications and exceptions.

Please note that the ETI may reject a Proposal if a material issue (including a non-compliance with the terms and conditions of the Project Contract) is identified by a Respondent at any stage after the date of submission for a Proposal.

Appendix E 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.

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

Instructions for completing the Non Disclosure Agreement

Respondents bidding as a Consortium

1. The Lead Coordinator (or another party) should arrange to complete a single electronic NDA with the company details of each Respondent that proposes to be a Project Participant in Schedule 1.
2. The Lead Coordinator should circulate electronically the completed NDA to all Project Participants to print and sign TWO copies. The NDA **must not be dated**.
3. One copy signed by each proposed Project Participant for a Respondent is to be sent to the ETI by post and scanned by email to the address on the front of the RFP.
4. Each Respondent should indicate if they wish to receive an original hard copy by post signed by the ETI and specify the address that the hard copies should be returned to.
5. On receipt of a complete set of NDAs fully signed by the Respondents, the ETI will execute and date all copies of the NDA. The ETI will then send a scanned copy of the now fully executed NDA by email to the proposed Lead Coordinator as appropriate (the Lead Coordinator should send these on to each Project Participant. The ETI will retain the original hard copies. The ETI will also send original hard copies executed by it, if requested.
6. The Respondents should then arrange for non disclosure agreements to be entered between it and proposed Subcontractors in order to comply with the NDA.

Respondents bidding through a Prime Contractor

1. The Prime Contractor should arrange to complete a single electronic NDA with its company details in Schedule 1.
2. The Prime Contractor should print and sign TWO copies of the NDA. The NDA **must not be dated**.
3. A copy of the signed NDA is to be sent to the ETI by post and scanned by email to the address on the front of the RFP.
4. The Respondent should indicate if it wishes to receive an original hard copy by post signed by the ETI and specify the address that the hard copies should be returned to.
5. On receipt of an NDA fully signed by the Respondent, the ETI will execute and date all copies of the NDA. The ETI will then send a scanned copy of the now fully executed NDA by email to the proposed Prime Contractor Respondent. The ETI will retain the

original hard copies. The ETI will also send original hard copies executed by it, if requested.

6. The proposed Prime Contractor should then arrange for non disclosure agreements to be entered between it and proposed Subcontractors in order to comply with the NDA.

**MULTI-PARTY CONFIDENTIALITY
AGREEMENT**



THIS AGREEMENT is made on _____ of _____ 2011

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 the Purpose. The Parties agree to receive such Information, which shall be treated as confidential information, for the Purpose 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:

“**Benchmark Technology Information**” means any parcel of specific Information belonging to a Respondent relating to technology for carbon capture processes owned or developed by a Respondent and specifically provided by Respondent to the ETI to enable the ETI to carry out a benchmarking exercise as part of the Procurements;

“**Capture Project**” means the proposed research and development project, to be funded (in part) by the ETI, to assist the development of next generation technology for carbon capture from combined cycle gas turbine power plants;

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

“**Effective Date**” means the date of execution of the 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 submitted in respect of or further to the Purpose or prepared 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, including but not limited to the Technology Information;

“Procurement” means the procurement by the ETI of the Capture Project including any stages set out in the RFP or as later may be notified or published by the ETI;

“Purpose” means:

- a the preparation of documents and the making of any proposal in response to the RFP or for Stage 2;
- b any activities related to the assessment of a Respondent’s proposal or proposals for the Project including, but not limited to, the technology, commercial offer, make up of project costs, management systems and performance; and
- c any related exchanges of Information, clarifications, discussions, meetings, or negotiations in respect of the RFP, the Procurement and the Capture Project;

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

“Respondent Affiliate” means any undertaking that is:

- a a holding company of such Respondent;
- b the ultimate holding company of the group to which such Respondent belongs; or
- c a subsidiary of any holding company or subsidiary of the group to which such Respondent belongs,

and for the purposes of this definition, the terms above are as defined in section 1159 of the Companies Act 2006;

“RFP” means the request for proposals relating to the Capture Project, issued by the ETI on 5 April 2011;

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 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 immediate 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) 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
- c 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 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 to 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 in the case of:
 - a disclosure of Information to ETI Affiliates, that this is limited to disclosure as is necessary the purpose of ETI's governance of the Procurement and the Capture Project and shall not include the Benchmark Technology Information; and
 - b the Benchmark Technology Information, that this shall only be disclosed by the ETI to sub-contractors, proposed sub-contractors, professional advisers and proposed professional advisers for the purpose of carrying out a performance analysis of the Respondent's Technology to enable the ETI to carry out a benchmarking exercise to support the Purpose.
- 6 The ETI shall be entitled to disclose or make available any Information it receives from the Respondents excluding the Benchmarking Technology Information may be disclosed to the Department of Business, Innovation and Skills and to the European Commission and their advisers as is necessary to seek advice in relation to the application of state aid, to notify or as part of any detailed assessment of state aid in the Project.
- 7 The ETI shall ensure that all such persons to whom any Information under clauses 5 and 6 of this Agreement is disclosed are bound by obligations of confidentiality and ETI shall be responsible for breaches of the obligations by such persons except where in the case of clause 6 the ETI will need to disclose outside of their obligations of confidence in this Agreement shall first seek the written consent of the Respondents.
- 8 The ETI shall be entitled to disclose or make available any Information it received from a Respondent to any other Respondent under this Agreement where it is necessary for the Purpose.
- 9 Each Respondent shall be entitled to disclose or make available any Information it receives from the ETI to such of its employees, officers, consultants, 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.
- 10 Each Respondent shall be entitled to disclose or make available any Information to the other Respondent where it is necessary for the Purpose.
- 11 The 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.
- 12 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.
- 13 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.
- 14 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. This Agreement may only be modified if such modification is in writing and signed by a duly authorised representative of each Party.
- 15 Neither Party 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 Party and neither Party will use the business names or trade marks of the other Party in any way without that Party's prior written consent.
- 16 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 or superseded by subsequent written agreement.
- 17 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 Contracts (Rights of Third Parties) Act 1999.
- 18 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.
- 19 If any provision of this Agreement is or become 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.
- 20 Nothing in this Agreement is intended to or shall operate to create a partnership or joint venture of any kind between the Parties, or to authorise either Party to act as agent for the other, and neither Party shall have authority to act in the name or on behalf of or otherwise to bind the other in any way.
- 21 Except as provided otherwise, no person may assign any of its rights under this Agreement or any document referred to in it.
- 22 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.
- 23 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

By: _____

Name: _____

Title: _____

Date: _____

SCHEDULE 1

Participant	Signature
<p><i>[Insert name of Company]</i> (company no. <i>[Insert Company number]</i>)</p> <p><i>[Insert address of Company]</i></p>	<p>By: _____</p> <p>Name: _____</p> <p>Title: _____</p>
<p><i>[Insert name of Company]</i> (company no. <i>[Insert Company number]</i>)</p> <p><i>[Insert address of Company]</i></p>	<p>By: _____</p> <p>Name: _____</p> <p>Title: _____</p>
<p><i>[Insert name of Company]</i> (company no. <i>[Insert Company number]</i>)</p> <p><i>[Insert address of Company]</i></p>	<p>By: _____</p> <p>Name: _____</p> <p>Title: _____</p>
<p><i>[Insert name of Company]</i> (company no. <i>[Insert Company number]</i>)</p> <p><i>[Insert address of Company]</i></p>	<p>By: _____</p> <p>Name: _____</p> <p>Title: _____</p>
<p><i>[Insert name of Company]</i> (company no. <i>[Insert Company number]</i>)</p> <p><i>[Insert address of Company]</i></p>	<p>By: _____</p> <p>Name: _____</p> <p>Title: _____</p>

Appendix F ETI Benchmark Plant Basis of Design

1. Introduction

Technologies offered in response to this call will be benchmarked against a study carried out in 2010 by the Energy Technologies Institute. For its benchmarking exercise the ETI used the basis of design found in the sections below. This study is based on a “green field” site assumption, and the ETI will commission further work to allow it to assess retrofit economics.

2. Plant location

The site is assumed to be a green field coastal location on the NE coast of the UK, with adjacent deep sea access, thus limiting the length of the sea water lines (both the submarine line and the sea water pumps discharge line). The site is also assumed to be close to an existing harbour equipped with a suitable pier.

3. Site condition

An assumed clear level obstruction (both under and above ground) free site, without the need for any required special civil works. Sufficient space exists to locate the capture plant and service the project.

4. Plant capacity

Each Benchmark case was designed to produce electric energy (800 MWe nominal gross capacity without CO₂ capture) to be delivered to the UK National grid. For each of the Benchmarks considered, the design capacity of the unit was determined by the full design capacity of key equipment items, for example, in the case of the CCGT scheme the full “appetite” of the selected gas turbines.

5. Plant operating conditions

The following climatic conditions marked (*) were considered reference conditions for plant performance evaluation across all cases

Atmospheric pressure:	1013 mbar (*)
Relative humidity:	average 60% (*) maximum: 95% minimum: 40%
Ambient temperatures:	average 10°C (*) maximum 30°C minimum -10°C

6. Feedstock, product and utility supplies

The streams available at plant battery limits were the following:

- Natural Gas;
- Sea water supply;
- Sea water return;
- Plant/Raw/Potable water;

- Chemicals (including amine)
- CO₂ product.

Other utilities, including demineralised water, boiler feedwater, instrument and plant air, oxygen, nitrogen are generated within the complex and will be available for use at the required conditions.

7. Feedstock specifications

7.1 Natural Gas

Natural gas NTS connection is available.

National Grid electrical grid connection is available for “black start” scenarios.

Natural gas feedstock specification (as NTS spec):

Hydrogen Sulphide Content	Not more than 5 mg/m ³
Total Sulphur Content	Not more than 50 mg/m ³
Hydrogen Content	Not more than 0.1% (molar)
Oxygen Content	Not more than 0.001% (molar)
Hydrocarbon Dewpoint	Not more than -2°C, at any pressure up to 85 bar(g)
Water Dewpoint	Not more than -10°C, at 85 bar(g) (or the actual delivery pressure)
Wobbe Number (real gross dry)	Between 48.14 MJ/m ³ and 51.41 MJ/m ³ (at Standard Temperature and Pressure) and in compliance with ICF and SI limits as listed below
Incomplete Combustion Factor	Not more than 0.48
Soot Index	Not more than 0.60
Gross Calorific Value (real gross dry)	Between 36.9 MJ/m ³ and 42.3 MJ/m ³ (at Standard Temperature and Pressure) and in compliance with ICF and SI limits described above, subject to a 1 MJ/m ³ variation.
Inerts	Not more than 7.0% (molar), subject to: Carbon Dioxide content – not more than 2.0% (molar) Nitrogen content – not more than 5.0% (molar)
Contaminants	Gas shall not contain solid or liquid material which may interfere with the integrity or operation of pipes or any gas appliance within the meaning of the Regulation 2(1) of the Gas Safety (Use of) Regulations 1998 that a consumer could reasonably be expected to operate.
Delivery Temperature	Between 1°C and 38°C
Odour	Gas delivered shall have no odour that might contravene the statutory obligation not to transmit or distribute any gas at a pressure below 7 bar(g) which does not possess a distinctive and characteristic.

8. Product specifications

8.1 CO₂

Carbon dioxide produced from the plant was dried and compressed to 150 bar(g) for export from the facility. Product carbon dioxide conditions were:

Pressure: 150 bar(g), Temperature: ≤ 30°C. The carbon dioxide was assumed to be used for EOR, and therefore the target CO₂ export specification is:

H₂O < 50 ppmv

CO₂ > 97 vol%

SO₂ < 50 ppm

H₂S < 50 ppm

CO < 3 vol%

Ar < 3 vol%

O₂ 100 ppmv

N₂ < 3 vol%

H₂ < 3 vol%

CH₄ < 2 vol%

COS < 50ppm

8.2 Power

Power will be generated from the complex at 275 kV and will be transmitted to an assumed existing HV substation for connection onto the UK National Grid. It is assumed that National Grid electrical grid connection is available. Electric Power

Net Power Output 800 MWe nominal capacity

Voltage 275 kV

Frequency 50 Hz

9. Utility supplies

9.1 Seawater cooling system

The primary cooling system was sea water in a once through system. Services included the steam turbine condenser and the seawater / closed loop interchanger. Seawater supply assumed to be clear filtered and chlorinated, without suspended solids and organic matter. Seawater supply was from a new intake included as part of the complex. A seawater outfall was included as part of the complex. The following seawater conditions marked (*) were considered reference conditions for plant performance evaluation across all cases. Individual case deliverables will be produced at reference conditions only.

Seawater conditions:

- average supply temperature: 10 °C (*)
- average return temperature: 18 °C (*)
- operating pressure at Condenser inlet: 3 barg
- max allowable ΔP for Condenser: 0.7 bar

9.2 Closed Loop Water cooling system

The secondary cooling system was a closed loop, seawater cooled cooling water system. All cooling services, with the exception of the steam turbine vacuum condenser, will be placed on this system. This system cools the closed loop water against seawater. The make-up water to the system was demin water stabilized and conditioned.

The following closed loop water conditions marked (*) were considered reference conditions for plant performance evaluation across all cases.

Closed loop cooling water conditions:

- average supply temperature: 14 °C (*)
- average return temperature: 24 °C (*)
- seawater/closed loop water interchanger ΔT : 4 °C (*)
- operating pressure at users: 3.0 barg
- max allowable ΔP for users: 1.5 bar

10. CO₂ capture rate

Each CO₂ abated case was designed to achieve a target carbon capture level of at least 90%, defined as:

$$\text{CO}_2 \text{ Capture Rate (\%)} = 100 \times \frac{\text{Moles carbon contained in the CO}_2 \text{ product}}{\text{Moles carbon contained in the NG feed}}$$

11. Environmental emission basis

The overall gaseous emissions basis for the study cases are as follows:

	CCGT ⁽¹⁾
NO _x (as NO ₂)	
mg/Nm ³ :	≤ 50
Particulate	
mg/Nm ³ :	≤ 5
CO	
mg/Nm ³ :	≤ 20

Notes:

(1) @ 15% O₂ vol dry

12. Outline scheme descriptions

The following schemes were adopted by the ETI as a basis of comparison between an uncaptured plant and one with an amine capture system.

12.1 Natural Gas CCGT Power Plant with amine solvent post combustion CO₂ capture

The overall process scheme was based upon a natural gas fired combined cycle gas turbine (CCGT) using two Frame H class gas turbines featuring dry low NO_x (DLN) burners, each with downstream heat recovery steam generator (HRSG), and common single steam turbine generator (STG), CO₂ capture unit and CO₂ compression and dehydration unit.

In this case this natural gas feed rate was set to ensure full utilisation of the gas turbines with the supporting and downstream equipment items sized to process the generated gas turbine exhaust gas. The process conditions, including stream flows, pressures, temperatures and compositions, were produced to reflect this sizing basis. Key features of the configuration include:

- Power Island Unit – comprising of two parallel trains, each with one H class 50Hz gas turbine and one heat recovery steam generator (HRSG), connected to a single condensing steam turbine, using seawater cooling.
- Acid Gas Removal Unit – carbon dioxide removal scheme developed using in-house information on the basis of an MEA-based process such as Fluor Econamine carbon dioxide recovery technology.
- Carbon Dioxide Compression and Drying Units – dehydration and compression to 150 barg.

12.2 Natural Gas CCGT Power Plant without CO₂ capture

An equivalent Natural Gas CCGT without CO₂ capture was developed. This was based upon the same configuration as above, with the exclusion of the AGR and CO₂ compression and drying units. The case used the same Natural gas feed rate as the Natural Gas CCGT Power Plant with CO₂ capture case.

13. Financial Assumptions

Calculations of Levelised Cost of Electricity (LCOE) should be based on the following assumptions:

Capital cost basis: UK construction, Q1/2009 prices

Cost of capital: 10% per annum

Gas price: 1.99p/kW-hr (HHV)

Cost of carbon: £80/tonne (2030 value)

Plant availability: 85%

Appendix G Information Requirements for Stage 2 Test Sites

As part of the activities in Stage 1 of the Project, Participants will be required to identify Test Site(s) for Stage 2 and provide, as far as is reasonably possible, the following information.

Note: to the extent that any facilities are sited outside of the UK, the Participants should deal with the analogous issues as they apply in the local laws of the relevant country of a facility.

1. Rights of use

Participants should identify the proposed test site and provide a full description of the site, with supporting plans. Participants should describe their current level of rights to the site (ownership, lease, licence), including details of how those rights may be terminated, and/or the status of negotiations with the site owner(s) to procure rights to the site. Evidence will be required, whether to demonstrate the Participant's current rights or to reflect the current state of negotiations (such as heads of terms).

2. Sites and Facilities Use

The specialist facilities are likely to be some combination of:

- Existing facilities which are suitable for the Project such as major test facilities, specialist laboratories, including specialist computation and modelling etc;
- Existing facilities which require extensive modification and upgrade to carry out the Project;
- New facilities which need to be constructed and integrated into suitable host sites, including industrial sites.

Where there are any outstanding issues, dependencies or potential obstacles to the use of the proposed site(s) and specialist facilities for the Project, these should be clearly identified and an explanation provided as to how the Participant intends to address these issues, to ensure that construction and testing can commence as scheduled.

The deliverables should include details of how the Participants propose to manage all key issues for the use of the site(s) and specialist facilities including:-

- related infrastructure;
- plans for integration with existing facilities;
- access to and from the site(s);
- access to services and utilities;
- sourcing and management of the inlet gas supply on the proposed site(s) and disposal/venting/return of the outlet stream(s) (including any guarantees of the Participant's right to the proposed supply or return);
- requirements for site surveys in advance of construction to ensure suitability of the site, identify construction risks and minimise risks of future liabilities (eg ground conditions; topographical survey, baseline contamination);
- key HSE issues relating to the specific site(s) and specific hazards relating to the technology which might affect its location and operation on the site;

- in the case of existing facilities, the basis on which sufficient priority access will be obtained (for construction, maintenance, operation and modification).

3. Planning

The Participant should identify what level of enquiries it has carried out into whether any planning consents are required to use the site(s) for the Project. If the Participant has made any applications for such planning permissions, details of these applications (including copies of applications and of notes of meetings with local planning authorities) and of any decisions already issued should be provided in the deliverables. Estimated timescales for obtaining the planning consents and details of any negotiations over section 106 requirements should also be provided, and explicitly included in the Project Schedule for Stage 2 (see Appendix A, Section 9). The Participant should identify whether it has considered all potential planning requirements and appropriate preparations, for example, engagement with relevant Local Authorities and preparation of required documents.

If the Participants have already carried out any public engagement for the Project or any other similar project, then details of the materials issued and of responses received should be provided.

Details of local and national policy backing (if any) should be supplied in relation to any planning applications (which have been submitted or which will be required).

If no further planning consent is required for the chosen or proposed test facilities, the Participant should give evidence as to how this is the case.

Where planning consent does not exist, the Participant should provide details of its back-up plans, in case the consent is not obtained.

4. Environmental Permitting

The Participant should provide details of any existing environmental and site operating (eg COMAH) permits on the proposed site(s) and evidence of whether enquiries have been made to relevant authorities to determine what variations are required to the existing permits (if any) and/or whether additional permits are required to allow full implementation by the Participants of the Project. If any Stages have been taken to vary or obtain the required environmental permits, details of the status of such applications should be included in the deliverables. The Participant should provide projected timescales and indicate if it anticipates any potential obstacles to being awarded the required environmental permits.

The plan for Stage 2 should take into account any additional costs and time required to acquire the relevant planning and environmental consents and permits.

Participants should provide details of compliance or otherwise with environmental permits on this or on other sites run by the Participants.

5. Waste, Decommissioning and Post Project Use of Facilities

The Participants should describe what will happen to any waste products produced during the Project and after conclusion of the Project.

The Participants should specifically describe what will happen to the test facilities post Project. If the facilities are to be decommissioned at the end of the Project, a specific decommissioning task should be included.

If any test facilities are constructed substantially with ETI funding, the Participant should describe how corresponding net value in the test facilities could be returned to the ETI. The level of ETI funding for any test facilities will vary depending in part, on the level of state aid that applies. The ETI recommends that Participants discuss this with the ETI prior to making a proposal.

If the facilities are to remain operational post Project the Participants should identify how it will be used and further opportunities for the ETI, its Members and other third parties to make use of the facilities (see also Section 16). In this case the Participants should identify an outline plan for the ultimate decommissioning of the facility and any future risks or commitments associated with this.

Appendix H Expected Procurement and Project Timescales

2010	2011	2011	2011	2011	2011	2011	2011	2011	2011	2011	2011	2011
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
DEVELOP RFP												
CALL REVIEW CONTRACT			APPROVE	CALL	CALL	CALL						
ETI FUNDED ASSESSMENT								BID REVIEW				
SIGNATURE												SIGN
Stage1- Laboratory Scale												
Stage 2 - Test Facility (5MWe +, 50te/d Capture) to follow in 2013												

Figure 1: Stage1 Schedule

2010	2011	2011	2011	2011	2012	2012	2012	2012	2013	2013	2013	2013	2014	2014	2014	→	2015
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	→	Q4
RFP		CALL	CALL													→	
BID REVIEW			1				2									→	
CONTRACTS					CONTRACT No1 - STAGE 1				CONTRACT No2 - STAGE 2						→		
ECONOMIC ANALYSIS			Stage1				Stage 2									→	
Stage 1 - 0.1MWe or Less					OPERATE											→	
Stage 2 - 5MWe +				DESIGN 2		COST 2		ORDER		BUILD 2				OPERATE 2		→	PDP

Figure 2: Example of 5 year Plan

Appendix J Glossary

Term	Definition
Arising IP	Any intellectual property which is created by or for any Participant during the Project or for the purposes of the Project.
Background IP	Any intellectual property which existed prior to any Participant's commencement of the Project and which was created by or for the Participant.
Benchmark Plant	A CCGT plant with a state of the art post-combustion amine acid gas removal unit, with a basis of design broadly in line with that set out in Appendix F.
CCGT	Combined Cycle Gas Turbine power plant.
CCS	Carbon Capture and Storage.
CDM Regulations	Construction (Design and Management) Regulations 2007.
Client	As defined by the CDM Regulations.
Consortium	The group of organisations described in Section 1.6 which may decide together to submit a Proposal to carry out the Project and be governed by a Consortium Agreement between themselves. This will not include the ETI itself.
Consortium Member	An organisation which forms part of the Consortium.
Consortium Agreement	The agreement to be entered into between the organisations together forming a Consortium, as described in Section 1.6, which governs the execution of the Project within the Consortium.
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.
ETI Member	One of the partners of the Energy Technologies Institute LLP, including the Industry Members, providing funding to the ETI, see: http://www.energytechnologies.co.uk/Home/Aboutus/Current-Members.aspx
Industry Member	One of the private sector partners of the Energy Technologies Institute LLP.
Lead Coordinator	The organisation which is a member of the Consortium, and which manages and coordinates the activities of all the Consortium members, and which acts as the primary interface between the Consortium and the ETI, as described in Section 1.6.
Net Residual Value	The value assigned to facilities constructed during the Project on completion of the Project. Such value should take into account the costs of the facility, use during the Project, expected future use and income

	streams and future costs commitments, e.g. decommissioning.
Own Funds	Funding sourced by the Respondent's own resources and not dependent in any way on third party lending to either the Respondent or member of the Respondent's group.
Participant	An organisation which is responsible for the delivery of part of the Project scope and which is therefore the Prime Contractor, or is subcontracted to the Prime Contractor, or is a Consortium Member, or is a subcontractor to any of these organisations, as appropriate, as described in Section 1.6.
Payment Milestone	A contract milestone with defined constituent deliverables, associated deliverable acceptance criteria, and milestone value (all to be detailed in the Respondent's Proposal and agreed in the Project 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 on the basis described in Section 4 and on the Terms in Appendix B.
Prime Contractor	The organisation which manages and coordinates the activities of all the Subcontract Participants, as described in Section 1.6.
Programme Manager	The individual appointed by the ETI to manage the overall ETI programme to which this Project is affiliated, and to whom the Project Manager is accountable.
Project	The project for which the purpose, scope of work and other details are described in this Request for Proposals.
Project Contract	The contract, as described in Section 5, to be entered into between the ETI and the Participants (whether as a Consortium, Prime Contractor or single contractor)
Project Manager	The individual who is appointed by the Lead Coordinator or Prime Contractor, or is otherwise agreed by the Project Participants, to carry out its responsibilities.
Project Organisation	The entity or group of entities/organisations, and the contracting and management structure which they adopt, as described in Section 1.6, which together will carry out the Project if commissioned by the ETI.
Proposal	The proposal for the Project submitted to the ETI, as described in Section 3.1, in response to this Request for Proposals.
Public Funding	Any funding provided by a public authority or agency.
Respondent	The organisation submitting a Proposal to the ETI, as described in Section 3.1, on behalf of themselves and of any Consortium or Subcontract Participants.
Review Point	A Project review involving Project Participants 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.
RfP	Request for Proposal, as set out in this document
Stage Gate	A major Project Review Point involving Project Participants 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.
Stage1	Project activities governed by the first Contract(s) the purpose of which is to validate the technology at small scale and make other preparations for larger-scale validation phases of the Project
Stage 2	Project activities governed by any second Contract the purpose of which is to provide all the validation necessary to build confidence in and progress investment by others in a demonstration scale unit.
Subcontract	A contractual arrangement between the Prime Contractor (described in Section 1.6) and another Participant organisation to which work has been subcontracted. This includes Participant organisations subcontracted in turn by other Participant organisations, but (for the avoidance of doubt) the Prime Contractor is not defined as a Subcontractor to the ETI.
Submission	The components set out in Section 3.1, including the Respondent's 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 Stage in the process towards one.
Work Package (WP)	A major section of the Project scope of work, which may be identified in this Request for Proposals or in the Respondent's 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.