



Programme Area: Carbon Capture and Storage

Project: Aquifer Brine

Title: Impact of Brine Production on Aquifer Storage – Request for Proposal

Context:

This £200,000 nine-month long project, studied the impact of removing brine from undersea stores that could, in future, be used to store captured carbon dioxide. It was carried out by Heriot-Watt University, a founder member of the Scottish Carbon Capture & Storage (SCCS) research partnership, and Element Energy. T2 Petroleum Technology and Durham University also participated in the project. It built on earlier CCS research work and helped develop understanding of potential CO₂ stores, such as depleted oil and gas reservoirs or saline aquifers, located beneath UK waters. It also helped to build confidence among future operators and investors for their operation. Reducing costs and minimising risks is crucial if CCS is to play a long-term role in decarbonising the UK's future energy system.

Disclaimer:

The Energy Technologies Institute is making this document available to use under the Energy Technologies Institute Open Licence for Materials. Please refer to the Energy Technologies Institute website for the terms and conditions of this licence. The Information is licensed 'as is' and the Energy Technologies Institute excludes all representations, warranties, obligations and liabilities in relation to the Information to the maximum extent permitted by law. The Energy Technologies Institute is not liable for any errors or omissions in the Information and shall not be liable for any loss, injury or damage of any kind caused by its use. This exclusion of liability includes, but is not limited to, any direct, indirect, special, incidental, consequential, punitive, or exemplary damages in each case such as loss of revenue, data, anticipated profits, and lost business. The Energy Technologies Institute does not guarantee the continued supply of the Information. Notwithstanding any statement to the contrary contained on the face of this document, the Energy Technologies Institute confirms that the authors of the document have consented to its publication by the Energy Technologies Institute.

Programme Area
Carbon Capture and Storage



Request for Proposal (RfP)

Impact of Brine Production on Aquifer Storage

Request Issue Date

19 August 2015

Deadline for Notification of Intention to Submit a Proposal

10 September 2015

Closing Date

Proposals must be received before 12:00 noon on 24 September 2015

Contact for Enquiries

Paul Winstanley

Project Manager

Tel: +44 (0) 1509 202045 or Switchboard +44 (0) 1509 202020

Email: ccs@eti.co.uk

Address for Notifications and Submission of Proposals

Energy Technologies Institute LLP

F.A.O. Paul Winstanley

Holywell Building

Holywell Way

Loughborough

United Kingdom

LE11 3UZ

Email: ccs@eti.co.uk

Title of project	Impact of Brine Production on Aquifer Storage
Request issue date	19 August 2015
Closing date for submission of proposals	24 September 2015
Notification of intention to submit a proposal and return of non-disclosure agreement	10 September 2015
Contact for enquiries	Paul Winstanley
email	ccs@eti.co.uk
Telephone	01509 202045
Address for notification and submission of proposals	ENERGY TECHNOLOGIES INSTITUTE Holywell Building Holywell Way Loughborough LE11 3UZ

	Additional documents	Location
1.	Project Commercial and Legal Requirements	Click here
2.	Annex A1 – Due Diligence Information Requirements	Click here
3.	Annex A2 – General Due Diligence Requirements	Click here
4.	Annex A3 – Statement of Compliance	Click here

SUMMARY OF KEY PROJECT INFORMATION

Project Summary

Recent papers confirm that the capacity and injectivity of CO₂ stores may, in certain circumstances, be substantially enhanced by the removal of brine as the formation is pressurised by CO₂ injection. Brine production as a means of controlling well pressure is well understood and currently practised as part of the oil industry. As the United Kingdom is currently screening potential stores, it is important to quantify how much enhancement to CO₂ storage might be available, and at what cost. This project's goal is therefore to investigate brine production and the opportunities it may offer stores of different type and inform the UK's principal screening tool - the CO₂Stored database licensed by the British Geological Survey/The Crown Estate. The work will involve geological modelling and cost estimations for offshore equipment and activity. The Project will be split into two stages, with reports and presentations to the ETI at the end of each stage.

Project Investment

The ETI has set aside a budget of up to £200,000 for its investment in this project.

Request for Proposal and Selection dates	
Issue of RfP	19 August 2015
Closing date for submission of proposals	24 September 2015
Closing date for NDA	10 September 2015
Preferred respondent notified	13 October 2015
Project timescales and anticipated dates	
Agreement execution target date	01 December 2015
Project start	07 December 2015
Project finish	05 September 2016

Respondents shall be wholly responsible for the costs they incur in the preparation and submission of their proposals in response to the RfP. The ETI shall not be responsible for, and shall not pay, any costs and expenses which may be incurred by Respondents in connection with participation in the Project Commissioning Process, including but not limited to any costs or expenses incurred up to and including execution of the Agreement.

A glossary of terms used in this RfP is provided at **Appendix A**.

TABLE OF CONTENTS

SUMMARY OF KEY PROJECT INFORMATION	1
TABLE OF CONTENTS	2
1. ETI INTRODUCTION	3
2. WELCOME TO RESPONDENTS	4
3. THE REQUIREMENT	5
3.1 Introduction to the Requirement	5
3.2 Deliverables	6
3.3 Timescale and Detail of any Milestones	7
3.4 Key Personnel	7
3.5 Review Meetings	7
3.6 Payment.....	7
4. COMMERCIAL AND LEGAL REQUIREMENTS	8
5. PROPOSAL, FORMAT AND SUBSEQUENT EVALUATION	9
6. PROJECT COMMISSIONING PROCESS AND ESTIMATED TIMESCALES	11
6.1 Notification of Intention to Submit a Proposal / NDA.....	11
6.2 Submissions in Response to the RfP	11
6.3 Questions and Clarifications	11
6.4 Selection Process	11
7. IMPORTANT NOTICES	12
8. ANNEXES	13
APPENDIX A – GLOSSARY OF TERMS	14
APPENDIX B – NOTIFICATION OF INTENTION TO SUBMIT A PROPOSAL	17
APPENDIX C – NON-DISCLOSURE AGREEMENT EXECUTION INSTRUCTIONS	18
APPENDIX D – PROPOSAL CONTENT AND FORMAT	19

1. ETI INTRODUCTION

The Energy Technologies Institute (ETI) is a public-private partnership between global industries – BP, Caterpillar, EDF, Rolls-Royce and Shell – and the UK Government.

We are a commercial organisation that makes targeted commercial investments in technology projects, which can involve the ETI funding entire projects or working with Participants or third parties to co-fund project activity.

Further information can be found on our website at www.eti.co.uk.

The ETI's energy system modelling work has shown that Carbon Capture and Storage (CCS) is one of the most potent levers to help the UK meet its 2050 CO₂ reduction targets: without CCS the energy system cost in 2050 could be £30bn per annum higher.

The ETI CCS Programme comprises a portfolio of projects across the CCS chain:

- **Capture.** Projects for innovative capture technologies for both coal- and gas-fired power generation;
- **Storage.** Overall assessment of UK Storage capacity, the results of which are now available through The Crown Estate and British Geological Survey, www.CO2Stored.com; supporting strategic saline aquifer appraisal; measurement, monitoring and verification of storage; Strategic UK CCS Storage Appraisal Project – down selection and appraisal of 5 key stores for the UK;
- **Hydrogen.** Flexible power through hydrogen generation, storage and generation; safe use of high hydrogen fuels in turbines;
- **Whole System.** Development of a whole-system modelling toolkit for system design and operational appraisal; development of scenarios for CCS roll out in the UK; incentivisation of new power-with-CCS projects.

The Programme is supported by world-class energy system modelling, strategic analysis and in-depth understanding of the economic and regulatory barriers to widespread implementation of CCS in the UK.

Full information can be found on the ETI website at:

<http://www.eti.co.uk/programme/carbon/>

2. WELCOME TO RESPONDENTS

We are seeking Respondents who will bring their experience, expertise, innovation and solutions to our project. The procurement process is designed to offer all Respondents the opportunity to engage in the project.

All Respondents have an equal opportunity to be successful. Your proposal will be given active consideration, recognising the need for compliance with our deliverables, reporting accountabilities and contractual requirements.

We value your enthusiasm, commitment and proposals from which we can benefit on this strategically important project. Your investment in time and resources making the proposal is appreciated.

3. THE REQUIREMENT

3.1 Introduction to the Requirement

Project Aim and Scope

During the creation of the UK's principal storage screening database, CO₂Stored, several simplifying assumptions were made in order to be able to estimate capacity and injectivity for each of the 500 plus storage units in the database. One of these was that brine was not produced from the reservoir before, during or after CO₂ injection. In its crudest sense, if a reservoir is pressurising as a result of CO₂ injection, the operator can potentially remove brine through a purpose built well or wells from the store to depressurise it, and can still retain the operation and integrity of the store. The brine could potentially be sent to another aquifer or disposed of in the sea. Brine production is a recognised way of controlling the reservoir pressure and potentially its flow, and its use is a contingency in several store designs.

Recent work published by Heriot Watt University¹, ² showed that producing brine in the United Kingdom Continental Shelf (UKCS) may be beneficial to injection rates and storage and Neal et al examined the effects of brine production in an Australian context³, ⁴ and claimed substantial benefit in certain cases.

CO₂Stored identifies four generic Storage Unit Types which cover both saline aquifer and depleted oil and gas reservoirs:

- Fully confined (closed box);
- Open with identified structural/stratigraphic confinement;
- Open with no identified structural/stratigraphic confinement; and
- Structural/stratigraphic trap.

The UK Storage Appraisal Project (UKSAP) project developed several subsurface models of these store types which were used to assess specific 'exemplar' stores: the results were then used to inform estimates of storage capacity and injectivity for other units of the same type. These models (and the UKSAP approach) could potentially be developed to examine any benefits brine production offers CCS in the UK. The UKSAP models include:

- Geological model of a section of Forties in Petrel, dynamic model in Eclipse 100 (large open structure);
- Geocellular model of a Bunter section in Petrel, dynamic model in Eclipse 100 (Structural trap ('Bunter dome') and connection to other domes); and
- Generic models of fully confined units (modelled in Eclipse 100).

It is the objective of this project to produce a cost-benefit analysis of brine production, using the CO₂Stored database and, if required, the models developed in UKSAP as a starting point. Analysis should be applicable to both saline aquifers and oil and gas reservoirs. Respondents may wish to offer the use of other models and in any case will have to obtain data to support estimation of enhancement for hydrocarbon fields. The project will also identify operational and timing issues as well as any HSE issues with the disposal of the brine after removal.

The project will comprise two stages. Stage 1 will examine, for exemplars of each Storage Unit Type:

- Any changes in injectivity and storage capacity as a result of producing brine;

¹ A statistical analysis of well production rates from UK oil and gasfields – Implications for carbon capture and storage Simon A. Mathias, Jon G. Gluyas, Eric J. Mackay, Ward H. Goldthorpe .

² Progressing Scotland's CO₂ Opportunities: <http://www.sccs.org.uk/images/expertise/reports/>

³ The economics of pressure-relief with CO₂ injection : Peter R. Neal, Yildiray Cinara, W. Guy Allinson,

⁴ Injection strategies for large-scale CO₂storage sites. Michael, K., Neal, P.R., Allinson, G., Ennis-King, J., Hou, W., Paterson, L., Aiken, T., 2011. Energy Procedia 4,4267–4274

- The additional cost of the brine wells;
- The savings, if any, in CO₂ injection wells, and hence platforms;
- Cost implications from configurational constraints of brine production, either to another aquifer or directly from wellhead to sea (e.g. the need for a platform or not, pumping vs pressure-driven, horizontal wells etc.); and
- High level HSE and operational implications of producing brine.

Injection rates used in the study should be reconciled with existing CO₂ injection rates and/or production statistics in CO₂Stored, and be consistent between saline aquifers and depleted hydrocarbon fields. Capacity estimation and data will be obtained from CO₂Stored.

The core output from Stage 1 will be a cost-benefit analysis for brine production covering the CO₂Stored Storage Unit Types, and be applicable to both saline aquifer and depleted hydrocarbon storage units. Costs must include the whole investment for the injection period. One sensitivity will be a case where CO₂ well injection and brine well production are capped at 0.35MT/a per well¹. All the key characteristics of stores which might benefit from brine production must be explored such that the results could inform which storage units within CO₂Stored might have upside potential.

If benefits are identified, Stage 2 of the project will refine the findings of the first stage in those areas where brine production looks advantageous, and extend the discussion from cost saving to operational implications. Stage 2 will extend the examination of appropriate exemplars (based on UKSAP models), to include:

- Any requirements for the treatment of brine (based on chemical analysis) before its disposal to sea (both hydrocarbon and non-hydrocarbon cases);
- The HSE and store operation and monitoring implications for using the brine production technique;
- The economics of mineral extraction (e.g. lithium) from specific brines, or use of the brine treated or otherwise in an oilfield;
- Potential impact on oil and gas production and other potential storage sites in the same aquifer (high level commentary);
- The best timing for commencement of brine production;
- Opportunities that new configurations, designs or technology may have for enabling or enhancing the positive effects of brine production (e.g. monitoring seabed discharge); and
- Development and testing of a methodology which would enable the results from the specific exemplars to be used to inform estimates of the impact of brine production on the storage capacity, injectivity and economics on other storage units within the CO₂Stored database.

As such respondents need access to a broad range of skills – from geological conceptual insights to cost estimation of offshore equipment. You will need to demonstrate familiarity with the methodology behind the CO₂Stored database.

3.2 Deliverables

- Stage 1 Report (Exploratory phase) – example subheadings:
 - Overview of potential upside – capacity, injectivity, security
 - Comparison of how different store types “respond” to brine production (exemplars)
 - Cost-benefit analysis
 - Future work needed
 - Model Status (in Appendix)
- Stage 1 presentation to the ETI with project slide pack

- Stage 2 Report (Development Phase)
 - An update of the Phase 1 report adding Stage 2 activities – example subheadings:
 - Commentaries on the additional Stage 2 topics bulleted above
 - An explanation of how the project can inform CO₂Stored
- Stage 2 presentation to ETI/BGS/TCE with project slide pack
- Model files
- All components required to run and/or modify the models developed in the study (excluding the underlying software package, e.g. ECLIPSE)

3.3 Timescale and Detail of any Milestones

The ETI is envisaging that the project will be delivered a maximum of 9 months after contract signature. It is anticipated that there will be a formal Project Stage Gate after Stage 1. Payment Milestones should be identified by the Respondent and detailed in the bid document. The ETI's preference would be for two Payment Milestones, one on completion of each Stage of the Project. There should be an allowance for a post project presentation to the ETI.

3.4 Key Personnel

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

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

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

3.5 Review Meetings

There will be three formal technical review meetings through the project life cycle with ETI as part of the project and all three should be budgeted for holding in the ETI offices, Loughborough UK. These would be full day meetings with presentations and pre read material for the ETI team that would be supplied one week before the meeting.

3.6 Payment

Payment will be made according to Milestones as detailed by the Respondent and agreed during negotiation. These milestones must be based on tangible deliveries that can justify the value of the payment. Please provide clear details in your bid document of your expectations.

4. COMMERCIAL AND LEGAL REQUIREMENTS

Please refer to the **Commercial and Legal Requirements** document [see page 1], noting that the following specific requirements apply to this project:

- Value Return – Refer to the requirements for a Knowledge Gathering Project
- Intellectual Property – the ETI expects to own the Arising IP. (refer to the requirements for Arising IP and Background IP relating to Knowledge Gathering Projects).
- Participant Contracting Structure – Prime Contractor strongly preferred.
- Form of ETI Investment – Fixed Price strongly preferred.
- The requirements of Technology Development and System Demonstration projects are not expected to be relevant to this Project

5. PROPOSAL, FORMAT AND SUBSEQUENT EVALUATION

Your proposal shall follow the format set out in Appendix D.

All proposals will be evaluated by the ETI against the Selection Criteria below.

Respondents should note that specific, independent and objective evidence of performance, capabilities and experience will carry greater weight than general statements about and organisational capabilities and experience.

S1 Ability of the Participants to deliver the Project, based on evidence provided and presented at the Selection Panel(s). It should be noted that the performance of the Respondents and quality of information provided to the ETI during the commissioning process will be considered by the ETI as an indicator of likely performance during the Project:

S1A Technical

- Experience and availability of the proposed Chief Technologist;
- Level of experience and completeness of the technical skills amongst the consortium to deliver the Project, including:
 - Static, dynamic and reservoir simulation modelling on commercial platforms;
 - Geomechanics, geochemistry;
 - Interpretation of data from seismic, wellbore, etc. data sources;
 - Offshore Facility conceptual design options; and
 - Cost estimation of offshore installations.

S1B Delivery

- Experience and availability of the proposed Project Manager;
- 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;
- 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, including interfacing with ETI as it requires, etc;
- Project approach and plan, including Gantt chart, suitable Stage Gates & Payment Milestones; and
- 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.

S2 Value for money with respect to Project Funding:

- Contributions from Participants and third parties (including funding, in-kind support and making their own IP available to the project, e.g. data, models, previous analysis);
- Competitiveness of costs; and
- Willingness and capacity to accept the financial risk profile for the Project.

S3 Risks associated with reaching acceptable agreement with the ETI within the timescales set out in this RfP:

- Respondents' willingness to materially comply with the terms and conditions of the proposed Project Contract; and

- Availability and commitment of the necessary technical, legal and financial resources to meet the requirements of ETI's commissioning process.

6. PROJECT COMMISSIONING PROCESS AND ESTIMATED TIMESCALES

6.1 Notification of Intention to Submit a Proposal / NDA

Prior to making a Submission in response to this RfP, Respondents are required to provide to the ETI:

- (i) a formal notification of their intention to submit a Proposal, in the form set out at **Appendix B**, and
- (ii) a non-disclosure agreement in the form provided at **Appendix C**, signed by all Respondents involved in the Proposal and returned to the ETI in accordance with the instructions at **Appendix C**.

Both documents must be received by the ETI no later than the closing date specified on the front page of this RfP.

6.2 Submissions in Response to the RfP

Respondents are required to make a Submission comprising the following components.

- a) Detailed Proposal, arranged according to the structure set out in **Appendix D**. The content must clearly demonstrate how the proposed Prime Contractor or Consortium, as appropriate, will meet the requirements and criteria set out in Sections 3 to 6 of this RfP. The Proposal must be written in a succinct manner and must not include imprecise statements, generalities or repetition. The Proposal must be easily readable with appropriate font sizes (10pt or larger), margin widths, and **shall not exceed a maximum of 30 pages, plus supporting information**.
- b) Any supporting information as specifically set out in Appendix A.
- c) Initial due-diligence information, as set out in Section 1 of Annex A1 (including in relation to State aid, insurance, intellectual property, health, safety and the environment and general due diligence, Annex A2).
- d) Statement of Compliance, with supporting information, confirming compliance with or identifying exceptions to the requirements of this RfP and/or the draft Project Contract, as set out in Annex A3. This must be signed by each 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 be provided in electronic format, in both PDF and Microsoft Word formats, with each component as a separate file..

6.3 Questions and Clarifications

The ETI welcome written questions from Respondents for ETI consideration and written responses. The questions are to be submitted no later than 10 September 2015. The ETI will endeavour to provide written answers in a reasonable period, prior to submission of the proposal but cannot guarantee doing so.

Any advice or clarifications of ETI requirements requested by and provided to any Respondent may (at the ETI's discretion) be made available to all Respondents to ensure parity of information. Respondents should therefore consider presenting requests for advice and clarifications in a way that the ETI can respond to all Respondents without revealing confidential information.

6.4 Selection Process

Following the closing date for Submissions, the ETI will convene an appropriate decision making unit to consider all proposals that satisfy our criteria.

Respondents may be requested to make a presentation to support information provided in their submission.

7. IMPORTANT NOTICES

Please refer to the **Important Notices** document [see page 1].

8. ANNEXES

Please refer to Annex A1 – Due Diligence Information Requirements, Annex A2 – General Due Diligence Requirements and Annex A3 – Statement of Compliance [see page 1].

APPENDIX A – GLOSSARY OF TERMS

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.
BGS	British Geological Survey.
CCS	Carbon Capture and Storage.
Chief Technologist	The individual as described in Section 3.4 .
Company Registration Number	Company number as registered at Companies House. Universities should enter their Royal Charter (RC) number in place of the Company Registration Number.
Consortium	The group of organisations which contract with the ETI to perform the Project. This will not include the ETI itself or any Subcontractors.
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, which governs the execution of the Project within the Consortium.
Contract	The contract, as described in Appendix D , to be entered into between the ETI and the Participants (whether between the Consortium Members or a Prime Contractor).
ETI	The Energy Technologies Institute LLP, a limited liability partnership (Company no. OC333553) whose registered office is at Holywell Building, Holywell Way, Loughborough, Leicestershire LE11 3UZ.
Her Majesty's Government	Her Majesty's Government, including but not limited to all of its departments and executive agencies and the devolved administrations of Scotland, Wales and Northern Ireland.
IP	Intellectual property.
Lead Coordinator	The organisation which is a Consortium Member, 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.
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.
Member	The ETI's industry members (as identified on the ETI's website) and Her Majesty's Government (including but not limited to those public sector members identified on the ETI's website (above) from time to time).
NI	National Insurance
Non-Disclosure Agreement	A non-disclosure agreement in the form provided at Appendix C .

Participant	Either the Prime Contractor or a Consortium Member.
Payment Milestone	A contract milestone with defined constituent deliverables, associated deliverable acceptance criteria, deliverable value and milestone value (all to be detailed in the Respondent's Proposal and agreed in the Contract which should be completed in order to reach the said milestone, and at which, subject to acceptance by the ETI that the milestone has in fact been reached, payment may be claimed from the ETI.
Prime Contractor	A sole organisation which contracts with the ETI to perform the Project, on its own or (subject to ETI approval) together with Subcontractors.
Programme	The ETI Carbon Capture and Storage Programme that includes the Project.
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 ETI project for which the purpose, scope of work and other details are described in this Request for Proposals.
Project Commissioning Process	The ETI's process for procuring the Project, as described at Section 6 .
Project Manager	The individual as described in Section 3.4 .
Project Shaping and Contract Negotiation Stage	The project/contract negotiation stage of the Project Commissioning Process, as described at Section 6 .
Project Organisation	The entity or group of entities / organisations, and the contracting and management structure which they adopt, which together will carry out the Project if commissioned by the ETI and includes any Consortium Members or Prime Contractor and any Subcontractors.
Proposal	The proposal for the Project submitted to the ETI, in response to this Request for Proposals.
Public Funding	Any funding provided by a public authority or agency.
RfP	This Request for Proposals.
Respondent	The organisations submitting a Proposal to the ETI.
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.
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.
Selection Panel	A group of technical specialists who will assess the offer and presentation against the project objectives.

Statement of Compliance	The statement of compliance required by the ETI, as described at Annex A3 .
Storage Unit Type	One of the four generic storage unit types identified in the CO ₂ Stored database as described in Section 3.1 of this RfP.
Subcontract	A contractual arrangement between a Participant and another organisation to which work for the Project has been subcontracted.
Subcontractor	An organisation which has a Subcontract.
Submission	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 step in the process towards one.
TCE	The Crown Estate.
UKCS	United Kingdom Continental Shelf.
UKSAP	The ETI UK Storage Appraisal Project.
Value Return	The value to be delivered by the Project to the ETI, the Members and the UK economy in return for the ETI's investment in the Project.
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.

APPENDIX B – NOTIFICATION OF INTENTION TO SUBMIT A PROPOSAL

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

Notification of Intention to Submit a Proposal

Respondent Name: [Legal Name]

Address: [Registered Office Address]

Contact:

Email/telephone:

The above named Respondent hereby notifies the ETI of its intention to submit a Proposal in response to the ETI's Request for Proposal entitled [insert Project description], issued on [insert date].

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

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

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

Signed: _____

For and on behalf of the Respondent(s).

Name: _____

Date: _____

APPENDIX C – NON-DISCLOSURE AGREEMENT EXECUTION INSTRUCTIONS

The Non-Disclosure Agreement (NDA) protects the confidential information of the Respondents and the ETI during the period of the Project Commissioning Process. This specifically includes protection of a Respondent's Technology Information which will be required to enable the ETI to undertake its independent techno-economic assessment should a Respondent be invited to enter Project Shaping, Due Diligence and Contract Negotiation. For the successful Respondent(s), the confidentiality provisions in the Project Contract will supersede this NDA.

Notes

In order to ensure parity across different groups of Respondents, the ETI will not enter into negotiations on the terms of this NDA.

NDA Execution Process / Instructions

A separate electronic version of the NDA is available on the ETI Website [here](#) for completion and signature by Respondents in accordance with the following instructions:

- The Prime Contractor should complete Schedule 1 of a single electronic NDA with its company (legal) details and a postal address for return by the ETI of a fully executed NDA.
- The Prime Contractor should print and sign **TWO** paper copies of the NDA. **The NDA must not be dated on the front page.**
- The Prime Contractor should scan a copy of a signed and undated NDA and email it to the ETI at the address on the front of the RfP.
- The Prime Contractor should post both original signed and undated copies to the ETI.
- On receipt, the ETI will countersign and date the two original copies of the NDA. The ETI will retain one of these copies and post the other to the Prime Contractor at the address provided by the Prime Contractor at Schedule 1 of the completed NDA.

APPENDIX D – PROPOSAL CONTENT AND FORMAT

The Proposal shall be arranged according to the structure defined below and shall explicitly include all the information listed. Proposals will, ideally, be a maximum of *[insert number of pages]* of pages. Appendices are in addition to this stipulation.

Executive Summary

[no more than 2 pages]

This should briefly describe:

- Your organisation and the project organisation structure
- Your relevant experience and expertise
- Summary of the predicted cost of outcomes, approaches taken and key deliverables; and
- Confirmation of compliance with RfP requirements, including the Contract, and any material exceptions/deviations

Background to Proposed Participants and Structure

[no more than 3 pages, plus appendices, if required, to include:]

- Project Participants – including any subcontractors, partners and suppliers of goods/services who have key roles to play in the Project
- Key Individuals and Roles – identify all key roles and all key individuals, in addition to key technical and other specialists. It must specifically include the detail of the nominated Project Manager and Chief Technologist. The estimated proportion of each individual's time to be dedicated to the Project should be identified and their skills and expertise in relation to the Project's deliverables should be summarised. CVs should be included as an Appendix.
- Project Organisation – include an organisation diagram showing the organisation(s) and their principal roles, complete with key personnel and their roles

Project Description

[no more than 3 of pages, plus appendices if required to include:]

- Programme of work
- Project Schedules
- Deliverables and Payment Milestones
- Risk Management
- Health & Safety Management

Intellectual Property

[no more than 3 pages]

Project Costs

[no more than 2 pages]

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

Respondents should provide:

- a figure for the proposed Total Project Cost;
- a figure for the proposed Maximum ETI Investment;

- figures for any proposed Participant Funding and/or Third Party Funding (as appropriate); and
- a breakdown of Total Project Cost (a) between Milestones and, in the case of a Consortium Contracting Structure, between Participants against each Milestone, and (b) between Participants and cost categories in the form shown in the tables below.

Notes on Category Breakdown table

Base Labour should include direct add-ons (eg NI, pension etc).

If a Prime Contractor/Subcontractor project structure is proposed, major Subcontractors should be considered as Participants and fill in a column in the table.

Participants will be required to provide justification of overhead calculations during the Project Detailing and Contract Negotiation stage. ETI can provide a spreadsheet to calculate overheads on request.

Participants should note that under state aid rules profit cannot be paid to Participants if they wish to receive a licence for Arising IP.

Academic Consortium Members should determine their costs using the JeS system. Note that ETI funds Academic Consortium Members at 100% Full Economic Cost.

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

Project Costs – Table 1

	Finish Date	Participant 1 (Lead Coordinator or Prime Contractor)	Participant 2	Participant 3	Participant 4 etc.	Total
Milestone 1						
Milestone 2						
Milestone 3						
TOTALS						

Project Costs – Table 2

	Participant 1 (Lead Coordinator or Prime Contractor)	Participant/ Major Subcontractor 2	Participant/ Major Subcontractor 3	Participant/ Major Subcontractor 4 etc.	Total
Number of Person-days					
Materials Consumed					
Capital Equipment					
Sub-contracts; Consultancy; Fees including fees for Trial and Testing					
Travel and Subsistence					
Other Costs					
Labour Costs					
Profit					
Overheads					
TOTAL PROJECT COSTS (ELIGIBLE COSTS)					

Project Costs – Table 3

	Participant 1 (Lead Coordinator or Prime Contractor)	Participant/ Major Subcontractor 2	Participant/ Major Subcontractor 3	Participant/ Major Subcontractor 4 etc.	Total
ETI Investment (Project Contract)					
ETI Investment (%)					
Own Funds (Participant Funding)					
Third Party Funding (Private Funding)					
Third Party Funding (Public Funding)					
ETI Equity Investment (if applicable)					

Risk Management

[no more than 2 pages, plus Risk Register explaining which risks will be managed exclusively by the Participant, which risks will be managed by ETI and which risks will be jointly managed between the Participant and ETI]

© 2015 Energy Technologies Institute LLP. The information in this document is the property of Energy Technologies Institute LLP and may not be copied or communicated to a third party or used for any purpose other than that for which it is supplied without the express written consent of Energy Technologies Institute LLP.