

Request for Proposal (RfP)



Title of Services for which Proposals are Requested:

Hosting of United Kingdom Storage Appraisal Project Web-Enabled Database and GIS

Request Issue Date:

26th October 2011

Deadline for Notification to attend compulsory briefing workshop (including receipt by the ETI of signed non-disclosure agreement):

Friday 18th November 2011

Closing Date:

Proposals must be received before 5pm on Monday 19th December 2011

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Contents

1.	Introduction and Overview of ETI Requirements.....	1
1.1.	Introduction to the Energy Technologies Institute	1
1.2.	Background to this Request for Proposal.....	1
1.3.	ETI approach to Health & Safety	1
1.4.	Required Outcomes.....	2
1.5.	ETI Requirements.....	2
1.6.	Organisation Structure.....	2
2.	Procurement Process and Estimated Timeframes.....	3
2.1.	Response to Request for Proposal	3
2.2.	Licence Negotiation	4
2.3.	Procurement and Licence Timeframes	5
3.	Request for Proposals Process and Terms.....	6
3.1.	Content and Format of Submissions.....	6
3.2.	Acceptance, Review and Selection of Proposals	6
3.2.1.	Selection Criteria.....	6
3.2.2.	Selection Process	7
3.3.	Disclaimer Notice.....	7
4.	Licence Agreement.....	9
Appendix A	Content and Format of Proposals	10
Appendix B	Summary of Terms and Conditions for Licence.....	13
Appendix C	Due Diligence Information Requirements.....	18
Annex C1	Organisational Due Diligence Questionnaire	20
Appendix D	Statement of Compliance.....	21
Appendix E	Non Disclosure Agreement	22
Appendix F	Overview of the UK Storage Appraisal Project	30
Appendix G	Outline Specification of the Web-enabled Database and GIS (WDG).....	32
Appendix H	Glossary	35

1. Introduction and Overview of ETI Requirements

1.1. Introduction to the Energy Technologies Institute

The Energy Technologies Institute LLP (ETI) is a private organisation formed as an innovative Limited Liability Partnership between international industrial energy companies and the UK government.

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

We will do this by leveraging the skills, capabilities and market access routes of our 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 will 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 and transport.

Our portfolio includes programmes in areas such as Wind, Marine, Distributed Energy, Transport, Energy Networks, Carbon Capture & Storage (CCS) and Buildings.

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

1.2. Background to this Request for Proposal

The UK Storage Appraisal Project (UKSAP) was commissioned by the ETI in September 2009. The aim of this £4M project (see Appendix F) is to provide a fully auditable and defensible overall estimate of UK CO₂ storage capacity in offshore geological formations, to inform future roll out of CCS in the UK. The project, led by Senergy Alternative Energy and involving the key centres of expertise in the UK in CO₂ storage appraisal, is currently nearing completion. The major deliverable from the project is a web-enabled database and GIS (WDG) containing the geological data, storage estimates, risk assessments and economics of the nearly 600 potential storage units identified by the project, covering both depleted oil and gas reservoirs and saline aquifers.

The ETI recognises that this project and its results represent a major UK asset, and now wishes to ensure that the project results, including the WDG, be made widely available to all parties working on or interested in CCS.

Through this RfP, the ETI is seeking an organisation with the capacity to take on an exclusive licence to host and make public the WDG, provide wide access to its contents, support users and act as a focus for its future expansion and development.

1.3. ETI approach to Health & Safety

The health and safety of those who may be affected by ETI projects and activities is of paramount importance to the ETI. The ETI expects those who work with the ETI to

demonstrate a commitment to best practice in health, safety and environmental management as well as demonstrating that legal requirements are met.

1.4. Required Outcomes

The ETI's required outcome is that access to the UKSAP WDG is made available to the wide UK CCS community, under conditions which would encourage widespread use, and that the database contents are developed as improved data and methodologies are developed. Through the widespread use of this national asset, the roll out of CCS in the UK will be enhanced.

In achieving this outcome, the investment from the ETI members in delivering UKSAP and the WDG should be recognised.

1.5. ETI Requirements

The UKSAP WDG (see Appendix G) enables access to storage capacity, security of storage and economic assessments on a storage unit by unit basis, along with underlying data which has been derived from a range of sources by the UKSAP project team. A probabilistic approach has been taken, recognising uncertainties in this underlying data, enabling capacity estimates at various confidence levels. Consistent methodologies have been used throughout and dynamic effects have been taken into account.

The ETI's requirements are to:

- make the WDG available to the UK CCS community in a professional and controlled manner
- ensure that such access is assured through a robust commercial business plan by the Licensee, without ongoing financial and other significant resource commitments from the ETI;
- ensure that ETI members gain differential benefits and value return in recognition of the investment made in the database;
- ensure that the WDG remains fully supported and developed in the future, in terms of the database platform, underlying data and appraisal methodologies.

1.6. Organisation Structure

It is recognised that more than one organisation may be required to provide all the necessary knowledge, skills, experience and inputs to meet all the ETI's expectations for ongoing support and development of the UKSAP WDG.

The ETI's requirement is that a single organisation will act as Licensee, who will act as the primary interface with the ETI. As part of their tender, the proposed Respondent should identify which other organisations it proposes working with and under what arrangements (e.g. formal Subcontractor; other partnering arrangements).

The ETI expects that only a single organisation to lead the bid. Please contact the ETI if you propose to bid as a consortium before bidding.

2. Procurement Process and Estimated Timeframes

2.1. Response to Request for Proposal

An eight 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.

Respondents are encouraged to seek advice from the ETI to ensure full understanding of ETI requirements. A compulsory briefing and workshop will be held during week commencing 21st November 2011 at the ETI. This will include a briefing session on ETI requirements, a full demonstration of the WDG by its developers (Senergy Survey and Geoengineering) and the opportunity to network with other potential participants.

All potential Respondents are required to enter into a Non Disclosure Agreement (NDA) with the ETI before attending the briefing and workshop. The form of NDA is provided in Appendix E. A clean copy is available on request from the ETI. Signed NDAs, which will be taken as notification to attend the briefing and workshop, should be returned to the ETI at latest by Friday 18th November 2011. Following the briefing and workshop, the ETI will send out the full licence terms for the WDG (see also Appendix B for a summary of licence terms and Appendix D in relation to the Statement of Compliance).

On request the ETI will hold up to two confidential discussions with individual Respondents following the briefing and workshop. However 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 compromising their confidential information.

Following the closing date, the ETI will convene a Selection Panel to recommend which Respondent(s) should proceed to detailed negotiations based on the 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 Proposal.

Respondents may also be asked to provide clarifications in writing to any part of their Proposal.

2.2. Licence Negotiation

Following selection, the ETI will invite a preferred Respondent (or Respondents) to enter into a phase of due diligence and licence negotiations. An overall period of 2 months has been allowed for this phase. See the tables in 2.3 for further details relating to anticipated dates.

The licence negotiation phase will include the following activities (as required and dependent on the level of detail provided in the Respondent's proposal):

- a. Negotiation and agreement of the detailed commercial offer;
- b. Due diligence activities as required: refer to Appendix C for further details;
- c. Negotiation and agreement of outstanding licence issues;
- d. Agreement (and approval by the ETI) to terms of other key contractual arrangements (eg Sub-contracts, third party licences);
- e. Gaining all necessary Respondent and ETI approvals to enter into the licence agreement; and
- f. Any further information or assessment that may be necessary to meet state aid requirements.

2.3. Procurement and Licence Timeframes

The following tables outline the anticipated schedule for the procurement process. They also include anticipated dates when project resources will be required to attend shaping and contract negotiation meetings with the ETI.

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

Request for Proposal and Selection	Dates
Issue of Request for Proposal	25 th October 2011
Deadline for application to attend briefing session and workshop (including return of signed Non-Disclosure Agreement)	18 th November 2011
Project briefing session and workshop	w/c 21 st November 2011
Closing date for submission of proposal	Monday 19 th December 2011
Preferred Respondent(s) Notified (target date)	20 th January 2012

Licence Negotiations	Target Dates
Appropriate resources required at following meetings:	
Total duration for licence negotiations	8 weeks
Kick off meeting	w/c 23 rd January 2012
Meeting 1	w/c 6 th February 2012
Meeting 2	w/c 20 th February 2012
Meeting 3	w/c 5 th March 2012

Hosting of WDG	Target Dates
<i>Conclude Licence Agreement</i>	<i>9th March 2012</i>
<i>Handover of WDG to new host</i>	<i>6th April 2012</i>
<i>Press release/launch event</i>	<i>By 30th April 2012</i>

3. Request for Proposals Process and Terms

3.1. Content and Format of Submissions

The Submission shall comprise five components.

- a. Detailed Proposal, arranged according to the structure set out in Appendix A. The content must clearly demonstrate how the bidding organisation(s) will meet the requirements and criteria set out in Sections 1 to 4 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 25 pages.**
- b. Supporting information as specifically set out in Appendix A.
- c. Due-diligence information as set out in Appendix C;
- d. 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.

3.2. Acceptance, Review and Selection of Proposals

3.2.1. Selection Criteria

Proposals will be reviewed and judged primarily against the criteria listed below, in decreasing order of priority, and the supporting evidence supplied. Failure to meet minimum standards in any criterion may result in the ETI rejecting a Proposal.

Criterion	Comment
Convergence of interest with the ETI to ensure that the WDG is made widely available to any person or body with a need to access the data and capability in the WDG.	The host body should have a strong interest in making the WDG available to all-comers, at a cost that does not restrict access. Such an interest may be UK national, academic or commercial.
Proven capability in developing and hosting web-enabled databases and GIS applications.	The host body must have appropriate experience to make the WDG available to users and maintain the database and GIS front end.
Access to storage appraisal expertise to assist users of the WDG with understanding and interpretation of outputs from the WDG.	The host body should have (or have demonstrable links to) the broad range of capabilities that would be needed to achieve this. Charging reasonable rates for such services would be expected.
Credibility of business plan for	The Respondent should set out how they would ensure

financing the ongoing support of the WDG, and ongoing commitments to the ETI.	that access to and the development of the WDG is on a financially robust basis.
Commitment to future development and upgrades to the WDG, both in terms of the underlying data and functionality of the WDG.	Credible plans on how the WDG would be upgraded in the future and how it might be funded. This should include establishing links and sharing best practice on CO2 Storage Appraisal worldwide.
Level of service offering to both the ETI as Licensor and to users of the WDG.	The Respondent should set out their level of service offering.
Enabling access to the WDG for ETI Members reflecting their investment in the WDG.	The ETI and its Members should have free, unrestricted access to the original WDG through the Licensee. ETI Members will have wider rights to access data than other sublicensees. ETI and its Members anticipate receiving free access to initial upgrades preferential access to later upgrades.
Technical and commercial capability to protect the intellectual property rights in the WDG.	Plans to ensure that technical and commercial tools will be used to ensure that the IP in the WDG is used only in accordance with the Licence Agreement and agreed sublicences.
Commercial Return to ETI.	Opportunities for financial return to the ETI.

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

3.2.2. Selection Process

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

As part of its evaluation process, in addition to ETI staff, the ETI may convene a Selection Panel, comprising experts selected by the ETI to provide the necessary expertise to consider the technical, commercial, legal and financial aspects of each bid. This may include experts drawn from ETI Members and third parties.

For the Selection Panel, the ETI may choose to take more than one Respondent through to Licence Negotiation in competition. As part of Licence Negotiation, Respondents may be required to provide a Final Detailed Offer. In such a case, the ETI may convene a second Selection Panel and the Final Detailed Offer(s) will be reviewed against the Selection Criteria.

3.3. Disclaimer Notice

- a. The ETI at its discretion may request clarification of a Proposal, and may reject any Proposal which is unclear.
- b. Neither the issue of any documentation in the Request for Proposals process nor any of the information presented in it should be regarded as a commitment or representation on the part of the ETI or any other person to enter into a contractual arrangement. The Request for Proposals is not an agreement to purchase goods or services, and the ETI is not bound to enter into any contract with the Respondent. By responding to this Request for Proposals, the Respondent does not commit itself to entering into a contract with the ETI.

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

- I. 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. Licence Agreement

The WDG will be made available to the selected host organisation according to the terms of an agreed Licence Agreement. A summary of the key terms and conditions of the Licence Agreement are included in Appendix B of this RfP. This Agreement shall incorporate appropriate information from the ETI's RfP, the Respondent's Proposal and information drawn up and agreed during the project shaping and contract negotiation phase.

The ETI will release the full terms and conditions of the draft Licence Agreement to the Respondent following the briefing and workshop (Section 2.3), provided that a Non Disclosure Agreement (Appendix E) has been executed.

Respondents should note that, as currently configured, the WDG requires a licence from ESRI for the GIS part of the application. The licence from the ETI will not include a sublicense from ESRI, and it is the responsibility of the licensee to obtain an ESRI licence appropriate to the use the licensee proposes for the WDG. Respondents are strongly advised to consult ESRI in advance of submitting their proposal.

The Respondents are required to confirm their acceptance of (or identify any exceptions to) the terms and conditions of the full Licence Agreement in the Statement of Compliance (see Appendix D).

Any third party funding agreements will require review and approval by the ETI prior to signature of the Licence Agreement with the ETI.

Appendix A Content and Format of Proposals

1. Executive Summary *[maximum 1 page]*

The Respondent should provide a one page summary setting out the key features of their proposal.

2. Background to Proposed Participants *[maximum 4 pages]*

2.1 Project Participants *[maximum 2 pages]*

The Respondent should provide a brief description of the proposed Licensee and other key organisations who would support them in hosting the WDG. This should include:

- 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 more than one organisation is involved, a table should also be provided to identify which Participant(s) is/are proposed 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, the Respondent needs to demonstrate that the collective skills/knowledge are sufficient to cover all requirements.

2.2 Key Individuals and Roles *[maximum 1 page]*

The Respondent should identify key individuals within the proposed Licensee and supporting organisations. ETI identifies two critical roles in the future support and development of the WDG – the WDG Manager and the Chief Technologist.

The WDG Manager will be responsible for ensuring that the WDG is made available to potential users in a robust and timely manner, and all necessary support activities are undertaken. The WDG Manager will also ensure that the proposed business plan is enacted to provide the necessary finances to enable the continued support and development of the WDG.

The Chief Technologist will be responsible for determining and implementing the future development technical development strategy for the WDG, and assuring the technical quality of future enhancements to the WDG.

The ETI will assess the competence, experience and authority of these two people and their ability to work together as critical to project success.

Respondents should identify specific individuals for these key positions, including deputies, and other key roles as appropriate. CVs should be included in an Appendix (maximum 2 pages per individual).

2.3 Collaborative Working *[maximum ½ page]*

If more than one organisation is to be involved in hosting the WDG, the Respondent should outline what mechanisms (both formal and informal) will be used to ensure effective collaboration between the partners. Any evidence of previous collaborative working should be provided, both within and outside the proposed collaborators.

3. Programme of Work *[maximum 8 pages]*

Respondents should describe their plans for hosting the WDG, including:

- Plans for initial launch of the WDG;
- Proposals for service levels to be provided to users of the WDG (including the minimum items including in the summary of terms);
- Proposals for enhancements (if any) to the WDG functionality pre/post launch;
- Proposals for how access to the database will be managed to protect the intellectual property rights in the WDG (note: the ETI expectation is that mass download of data will be restricted to (a) academics, for academic research purposes only, (b) ETI Members or (c) other organisations by prior consent of the ETI);
- Proposals for enhancements to the information within the WDG;
- Proposals for reporting back to the ETI on performance and feedback (the ETI would expect regular reports covering such aspects as number and profile of registered users, complaints and responses, WDG availability statistics, comments on the data and methodology etc).
- Stage Gates, where ETI and the Licensee will review progress in making the WDG available to Stakeholders and enhancements to the WDG. Stage Gates should take place at least once every 12 months (note that the Licence will include provisions that under certain circumstances the Licence from the ETI can be revoked);
- Branding of the WDG.

Respondents should include a Gantt chart or similar.

4. Business Plan *[maximum 4 pages]*

Respondents should provide a Business Plan, describing:

- Costs associated with providing access to and maintaining the WDG;
- Sources of funding for providing access to and maintaining the WDG (Respondents should identify to what extent any funding is already in place and/or any approvals that will be required);
- Proposed pricing structure for access to the WDG and related services;
- Potential sources of funding for future enhancements of the WDG (as described in Section 3).

Within the Business Plan the Respondent should describe the proposed Risk Management Strategy (i.e. how risks to the successful hosting and development of the WDG will be identified and managed throughout the licence period). 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 ETI's outcomes and identifying planned activities to address / mitigate each item. Respondents should consider technical, financial and legal risks.

5. Health, Safety & Environment Management (HSE) [maximum 1 page]

The anticipated activities during the licence period are expected to be wholly desk-based. It is not anticipated that any site visits, field trials, experimental or laboratory work will be required. Respondents should advise if any work which is not desk based is included in their Proposal.

6. Commercial Offer [maximum 2 pages]

Respondents should identify sources of value return to the ETI and its members. Such value return might include, for example:

- Advantaged access to the WDG to ETI and its Members to any upgrades of the WDG (note: it is a pre-condition that ETI and its Members will get free access to the WDG, including service levels no less than other users and full rights to download data);
- Financial return to the ETI, through royalties or a percentage of profit on access to the WDG and related services;

7. Plan for Concluding Licence Agreement [maximum 2 pages]

Respondents should, in this Section, identify key issues to resolve before concluding the Licence Agreement with the ETI, for example:

- Licence Agreement – key provisions to resolve;
- Service level agreement;
- Sublicence terms and conditions.
- Timing sequences for the setting up of the selected organisational structure (eg subcontracts), including any dependencies or other factors which could impact or delay making the WDG available;
- Internal approvals - confirm what internal approvals will be required for all key Participants in the bid in order to enter into the Licence Agreement;
- Finalising the Business Plan;
- Finalising third part licences (including ESRI).

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

The Respondent should explicitly confirm that all key technical, commercial and legal resources required to meet the Licence Agreement deadline for signature (see Section 2) will be available to achieve a signed agreement by that date. A table should be included providing names and contact details (phone and email addresses) of key contacts for Licence Agreement. 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 Summary of Terms and Conditions for Licence

SUMMARY OF KEY TERMS

Introduction

The following represents a summary of the key contractual terms which the ETI would expect to be included in the Licence Agreement. All defined terms are as set out in the glossary of this RfP unless otherwise defined in this Appendix.

1 Licence will be granted by the ETI.

2 Subject Matter of the licence

The UK Storage Appraisal Web-enabled Database (the “WDG”).

3 Licence

An exclusive licence to use the ETI's Arising IP in the WDG to provide the Hosting Services including to:

- a. Make the WDG available as set out in the RfP to Licensed Users; and
- b. offer and provide services related to the WDG.

ETI will retain rights (a) to use the WDG itself for its own internal use and (b) to licence the Arising IP in the WDG to its Members for their own internal use only with limited rights to sublicense to third parties to provide services to that Member (or its Affiliate).

4 Duration

An initial term of 5 years with an option to renew for a further 5 years.

5 Territory: Worldwide

6 Attribution

The Licensee will agree wording to acknowledge the ownership and investment in the creation of the ETI and the ETI Members of the WDG, the UKSAP Consortium and certain third party data providers to the WDG.

7 The Licensee will appoint a project manager for the day-to-day management of the project and a Chief Technologist to be responsible for determining and implementing the future development technical development strategy for the WDG, and assuring the technical quality of future enhancements to the WDG.

8 Obligations upon the Licensee

- a. To provide a plan to launch the Hosting Services (the “Implementation Plan”) for launching the Hosting Services.
- b. To provide a Business Plan to be approved by the ETI.
- c. To make the WDG available in accordance with the Implementation Plan and the Business Plan.
- d. To agree the terms of sublicences with the ETI (the Sublicences).

- e. To provide the WDG to Licensed Users under a Sublicence.
- f. To support, protect and maintain the WDG.
- g. To maintain appropriate ESRI licenses to permit the Licensee to make the WDG available and provide related services.
- h. To provide access to the WDG to the ETI, ETI Members and their Affiliates that permits access to all data and without charges that represent the cost of the WDG.
- i. To be responsible for acquiring and maintaining all hardware, firmware, software and all interfaces to provide the Hosting Services.
- j. To ensure the WDG is compatible with new versions of any relevant third party software or data implemented by the Licensee and required for the effective running of the WDG.
- k. To make the web-interface to the WDG available as a link on the Licensee's website at all times that the Licensee website is operational and to use all reasonable efforts to ensure that the Licensee website remain operational.
- l. To use its reasonable commercial endeavours to sell the WDG and related services.
- m. To prepare and maintain a plan to improve, enhance, update, protect and maintain the WDG and to regularly supply updates of that plan to the ETI.
- n. To notify the ETI of any improvements, enhancements, updates and new versions of the WDG within 10 Business Days.
- o. To provide a robust testing environment and any evidence that the ETI shall consider appropriate to confirm that such updates or new versions are functional.
- p. To prepare and maintain a robust disaster recovery and business continuity plan for the Hosting Services.
- q. To maintain infringement avoidance technology to ensure that access to the WDG can only occur in line with the Sublicence;

9 Intellectual Property and Improvements

- a. The ETI owns all intellectual property rights in the WDG;
- b. Subject to the following, the Licensee shall own the IP in any improvements:
 - i. The Licensee shall assign any IP in improvements that constitute bug-fixes or corrections to the WDG to the ETI;
 - ii. In the event of termination of the Licence, the Licensee shall provide a royalty-free licence of the IP in the improvements to the ETI for any transition period;
 - iii. In the event of a termination by the Licensee or a non-renewal by the Licensee, the Licensee shall assign the IP in the improvements to the ETI.
- c. The Licensee may only allow access to the WDG in accordance with Sublicence terms agreed with the ETI. Reseller arrangements must be agreed with the ETI.

10 Performance of the Licensee

- a. The Licence will agree service level targets for performance related indicators including but not limited to:
 - i. system availability;
 - ii. response times;
 - iii. notification of maintenance;
 - iv. back-up and recovery plans;
 - v. complaints handling;
 - vi. reporting to the ETI.
- b. The ETI will have rights to serve a remediation notice and require the Licensee to provide and comply with a remediation plan if these service levels are not maintained.

11 Licence Review Meeting

- a. The Licensee and the ETI will meet within 30 days of each anniversary to review the performance of the Licensee of the Licence. The review shall cover agreed items including service levels, improvements to the WDG and the overall access rates to the WDG achieved by the Licensee.
- b. The ETI will reserve rights to call a Licence Review Meeting in certain limited circumstances outside of the planned reviews including for failure to meet service level targets or failure to comply with the Implementation Plan or the Business Plan.

12 Royalties

- a. The Licensee will need to report to the ETI on access to the WDG on an open book basis.
- b. The Licensee will need to account to the ETI royalties on a quarterly basis.

13 Confidentiality

Restrictions on disclosure of each party's confidential information will apply. Publication on any aspect of the WDG will be subject to an agreed mechanism.

14 Audit rights

- a. 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 Licence Agreement.
- b. The parties will be required to maintain the majority of project records for a minimum of 10 years from the project end date if required to do so under state aid provisions.

15 Sub-contracting

Sub-contracting is not permitted without consent. However, details of known sub-contractors (and therefore the requisite consent) can be given in the agreement at signing.

16 Variation

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

17 Limits of liability

- a. ETI liability will be limited to £50,000. The Licensee's liability will be capped at any appropriate amount to be agreed with the ETI.
- b. The Licensee will be required to provide an indemnity to the ETI for non-infringement of third party IP. This will be outside the cap on liability.

18 Warranties

- a. The ETI's Arising IP in the WDG is provided to the Licensee "as is" without any warranties or conditions of any kind whether express or implied including any warranties of title, non-infringement or of the WDG being of satisfactory quality or fit for any particular purpose. The Licensee is solely responsible for determining the appropriateness of using the WDG and assumes all risks associated with any use of the WDG through its own due diligence.
- b. The Licensee will warrant to provide its services with reasonable skill and care.

19 Termination

The ETI may terminate the Licence:

- if the WDG is not launched in accordance with the agreed Implementation Plan and Business Plan;
- if there is a material breach that is not remedied within 30 days of notification or which is incapable of remedy; or
- after the Licence Review Meeting, if the Licensee has not met the criteria for that Licence Review Meeting;
- failing to meet the requirements of a remediation notice;
- insolvency of the Licensee; or
- unauthorised change of control of the Licensee.

20 Dispute Resolution

The ETI and the Licensee will agree an escalation process for disputes between them.

21 Exit Planning

At licence renewal if the ETI chooses to have an open procurement for the renewal, if the Licence is terminated due to the default of the Licensee or because a new Licensee

is chosen at the end of the Licence term, the Licensee will use all its reasonable endeavours to cooperate with the ETI and the new Licensee to ensure an orderly transition to the new Licensee. The Licensee will agree to specific obligations including the provision of information, access to view the WDG and agreement of a transition plan to a new provider.

22 Assignment

The ETI has the right to assign the licence. The Licensee has no right to assign the licence.

23 Governing Law: English

Appendix C Due Diligence Information Requirements

The ETI requires due diligence information during two phases: (1) submission of the Proposal and (2) contract detailing and negotiation. Certain information is required with the Proposal as part of the first phase of the procurement process. Further information will be required if any Proposal is selected to proceed to the contract detailing and negotiation.

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. Submission of the Proposal

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.

1.2 General Due Diligence

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 C1.

1.3 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 shaping 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.

In relation to the Professional Indemnity Insurance, Respondents should note that the ETI has the following requirements.

Each Project Participant is required to have in place at the start of a project a professional indemnity insurance policy (with at least a 6 month unexpired term).

- Each policy should have a limit of indemnity of not less than £1,000,000 each and every loss.

- Each policy should provide an indemnity at least as extensive as the ETI's policy (the ETI will make this assessment). For example, the cover needs to include cover for negligent acts or omissions, and dishonest or fraudulent acts or omissions by the insured).
- Each Project Participant will need to agree to maintain a professional indemnity insurance policy in force for 6 years from the date of completion of the project.
- The ETI will require sight of the insurance policy provided by the Project Participant or a copy of a letter of confirmation from the Project Participant's insurance company or broker summarising the policy.

2. Contract Detailing & Negotiation Requirements

These are only required if a Proposal is selected to proceed to the project shaping and contract negotiations phase, and will include:

- Copies of insurance policies;
- Any other information that the ETI reasonably requires in order to fund the proposed Project including any information necessary to carry out financial due diligence on the Licensee and to meet state aid requirements.

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 entire Submission has been appropriately reviewed by technical, commercial, financial and legal representatives of each Respondent; 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).

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 Licence Agreement, 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 Licence Agreement, the Respondent must either:-

- Expressly confirm that the Proposal is made on the basis of the terms and conditions of the Licence Agreement; or
- Expressly confirm that the Proposal is made on the basis of the terms and conditions of the Licence Agreement subject to clarifications and exceptions. In these circumstances, the Respondent must include in their Submission either:
 - A copy of the Licence Agreement, 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 Licence Agreement) is identified by a Respondent at any stage after the date of submission for a Proposal.

Appendix E Non Disclosure Agreement

A separate version of this NDA is available on request to: ccs@eti.co.uk .

Hard copies of the completed NDA must be sent by post, with **original signatures**, to the ETI.

The non disclosure agreement (NDA) protects the confidential information of the Respondents and the ETI during the period of the bid response and during contract negotiations.

For any successful Respondent, the confidentiality provisions in the Licence Agreement will cover responsibility for the Hosting Services. These will be negotiated between the Respondents and the ETI.

The ETI will not enter into negotiations on the terms of this NDA during the bidding process.

NDA execution process

It is the intention that after the signature process, the ETI and each Party to the NDA should possess an original signed copy of the NDA, i.e. not only a scanned copy.

To achieve this in a timely manner, the following process should be undertaken:

In the case of a **single Respondent** led proposal:

- The Respondent should complete and sign two paper copies of the NDA, but NOT date them.
- The Respondent should post both original signed and undated copies to the ETI. Please email the ETI to notify the ETI the NDA is in the post.
- The ETI will sign and date the two original copies of the NDA. The ETI will retain one of these copies and post the other to the Respondent.

In the case of a Proposal from **multiple Respondents**, please contact the ETI.

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 party named in Schedule 1 of this Agreement** (the “**Respondent**”),
(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:

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

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

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

“**Hosting Services**” means the provision of services that include hosting the WDG and any related services by the Licensee.

“**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;

“**Licence Agreement**” means the terms under which the WDG will be made available by the ETI and for the Hosting Services.

“**Licensee**” means the successful Respondent that enters into a Licence Agreement.

“**Procurement**” means the procurement by the ETI of a Licensee 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;
- b any activities related to the assessment of a Respondent’s proposal or proposals for the Licence including, but not limited to, any technology, commercial offer, financial information, management systems and intellectual property; and
- c any related exchanges of Information, clarifications, discussions, meetings, or negotiations in respect of the RFP, the Procurement and the License Agreement;

“**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 Licence Agreement, issued by the ETI on [*insert date of RFP*]; and

“**WDG**” means web-enabled database produced by a previous ETI project.

- 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 prompt written notice of such requirement or obligation, (together with a copy of any relevant access request, court order or other evidence giving rise to such belief) 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 ETI shall be entitled to disclose or make available any Information it receives from the Respondent 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 disclosure of Information to ETI Affiliates, that this is limited to disclosure as is reasonably necessary for the purpose of ETI's governance of the Procurement and the Project.
- 6 ETI shall be entitled to disclose or make available any Information it receives from the Respondent to the Department of Business, Innovation and Skills (or other relevant Government department) 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 ETI shall ensure that all such persons to whom any Information under clause 5 of this Agreement is disclosed are bound by obligations of confidentiality and ETI shall be responsible for breaches of the obligations by such persons.
- 8 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.
- 9 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.
- 10 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.
- 11 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.
- 12 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. Each Party also agrees that it shall have no remedies or claims under this Agreement for any innocent or negligent misrepresentation based upon statements made prior to the date of this Agreement.
- 13 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.

- 14 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 a subsequent written agreement.
- 15 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.
- 16 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.
- 17 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.
- 18 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.
- 19 Except as provided otherwise, no person may assign any of its rights under this Agreement or any document referred to in it.
- 20 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.
- 21 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

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

Appendix F Overview of the UK Storage Appraisal Project

The Energy Technologies Institute (ETI) has commissioned a comprehensive study to provide a fully defensible, auditable assessment of overall UK CO₂ storage capacity in offshore geological formations.

The project has been undertaken by a consortium of key UK companies, universities and institutions. The consortium, with Senergy Alternative Energy Ltd as Lead Coordinator, comprises:

The British Geological Survey	Durham University
Element Energy Ltd	GeoPressure Technology Ltd
Geospatial Research Ltd	Heriot-Watt University
Imperial College London	RPS Energy Consultants Ltd
Senergy Alternative Energy Ltd	University of Edinburgh

In addition, Senergy engaged three key Sub-contractors:

Senergy Survey & GeoEngineering Ltd	Project database development
PGS	Data provision
IHS	Data provision

The Project has made use of public domain data and information from the Department of Energy and Climate Change (DECC), UK Offshore Operators Association (UKOOA), the Geological Society of London's Millennium Atlas and published data from BGS. Other commercial data providers have participated, including Petroleum Geo Services Ltd (PGS) and IHS (formerly Information Handling Systems). Although commercial data have been used in deriving the information in the UKSAP database, terms with the data providers have been agreed so that dissemination of Project results and use of the data derived from them is unencumbered by further license agreement with the provider. An audit trail has been provided such that where further investigation is required it may be pursued effectively through the original data provider. In this instance, individually negotiated licenses may be required in order to re-access the underlying data.

Key deliverables from the study are:

- A web-enabled GIS database (WDG) covering (on a unit by unit basis) all potential storage units identified, and their assessed range of CO₂ storage capacity. With in-built calculations and data quality control, the database allows probabilistic curves of storage capacity versus confidence level to be produced, with categorisation of associated risk. Curves of storage capacity versus time and cost are also available.
- A report documenting UK storage capacity, risk, methodologies employed, key areas of remaining uncertainty and recommendations for further work.

The project sets itself apart from previous work in a number of ways:

- *The scale of the project.* Potential storage units in 5 geographical regions of the UKCS have been studied, from 800m depth to basement. The project has covered both saline aquifers and depleted oil & gas fields, to provide an overall estimate of capacity.

- *Outputs are fully auditable and defensible.* This study has been based as much as possible on information in the public domain. All information has a source and assessment of confidence that can be placed in the interpretation.
- *Results are expressed in terms of probability functions.* These have been derived from uncertainty in the underlying data. The range of outcomes from each unit reflects the quality of data upon which the storage estimates are based.
- *The study has dealt objectively with risk.* Factors that affect the level of risk associated with a unit have been captured and loaded to the database. These cover both containment and operational risk factors. Those gathering the information did not make isolated subjective assessments based on opinion or individual interpretation, but a methodology was developed to convolve objective observations drawn from each unit's characterisation. The logic with which this has been done has been documented, and would be relatively easy to modify or update. Thus it will be possible to reassess the level of assigned risk both as perceptions change with time, or are viewed differently by parties with different risk tolerance profiles.
- *Dynamic effects have been addressed.* The study has taken into account dynamic effects of storage on an operational timescale, and subsequent movement of CO₂ in the subsurface. Detailed models have been used to verify conclusions drawn from simplified scoping studies. The practical issue of well injectivity has been considered, enabling the number of wells required to fill each storage unit to be determined for a range of operating scenarios.
- *A highly interactive database has been generated.* The WDG provides a wide range of functionality, enabling storage capacity probability functions to be generated interactively, for example on a map of the UKCS, providing a valuable tool to those seeking potential storage sites in connection with emerging CCS projects. Data and information contained will have an identified source and level of confidence that can be placed in the interpretation. It allows multiple-level access rights to be granted, be searchable and filterable, and is designed to facilitate maintenance and expansion.

Appendix G Outline Specification of the Web-enabled Database and GIS (WDG)

The Web-enabled Database and GIS application ('WDG') developed in UKSAP plays a primary role in the collection and management of data associated with the ETI UKSAP Carbon Storage project. The concept of the WDG is illustrated in Figure G1:

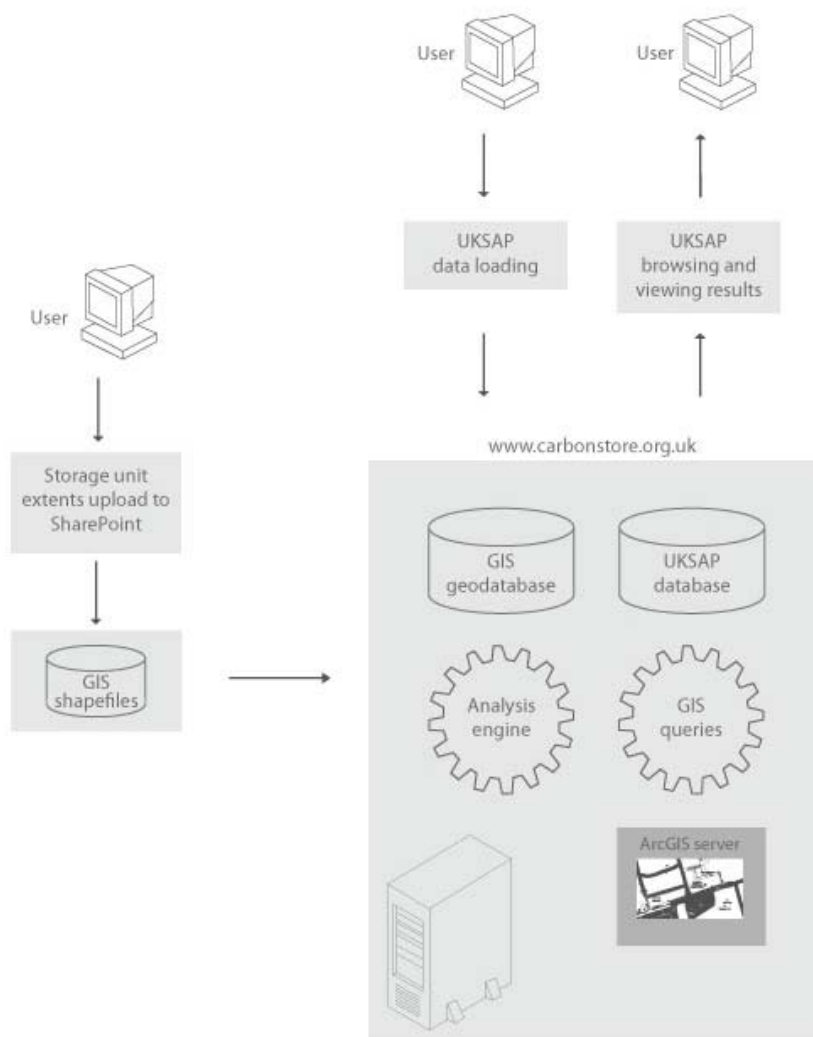


Figure G1 UKSAP WDG

The WDG has 3 main components:

- Dataloader, enabling consistent upload of the geological, risk & economic data, and shape files to illustrate the extent of each storage unit;
- Analysis engine, allowing calculation of derived parameters from the data according to the methodologies developed in UKSAP (e.g. probabilistic storage capacity; number of wells for different injection scenarios);
- GIS front end, allowing interactive searching of the database.

The WDG is based on the following platforms:

- Hardware: dual-core server with min 1 Gb RAM running Windows 2008 Server Standard
- Software: PHP 5 and SQL Server Express (freeware). ArcGIS Server Workgroup licence.

Nearly 600 storage units are described in the database, and interrogation can begin by 'manually' searching within a list of all available storage units, or selecting various screening criteria to narrow the field of interest (Figure G2). The characterisation and assessment data are then available on a series of 'tabbed' pages. Reference sources for all key parameters and assessors' comments provide an audit trail to the storage resource estimates and assessments of storage security.

The screenshot shows the UKSAP web application interface. At the top, there is a navigation menu with buttons for Home, Data Entry, Results, Admin, and Help. Below this is a 'Search Unit' section with a form containing various filters: Unit Designate (Saline Aquifer), Age (Not Selected), Group (Not Selected), Formation (Bunter Sandstone Fm), Member (Not Selected), Area (Not Selected), Storage Unit Type (Not Selected), User, Unit ID, Maximum Water Depth [m], Permeability [mD] (100 to 500), Porosity [frac], and CO2 Capacity [10⁶Tonnes].

Below the search filters is a table with the following columns: Unit ID, Group, Member, Lat, Lon, and Description. The table contains 17 rows of data, all from the Bacton Group.

Unit ID	Group	Member	Lat	Lon	Description
139.000	Bacton Group		54.333927	1.641158	Bunter Sandstone Formation Zone 4
139.007	Bacton Group		54.025100	1.766610	Bunter Closure 1
139.008	Bacton Group		54.384764	1.623913	Bunter Closure 4
139.009	Bacton Group		54.466272	1.421954	Bunter Closure 5
139.011	Bacton Group		54.101063	0.988240	Bunter Closure 7
139.015	Bacton Group		54.215727	1.027245	Bunter Closure 35
139.018	Bacton Group		54.311859	1.920562	Bunter Closure 38
139.019	Bacton Group		54.173271	1.821028	Bunter Closure 39
139.020	Bacton Group		54.248415	1.551506	Bunter Closure 40
139.021	Bacton Group		54.341867	1.235258	Bunter Closure 41
139.022	Bacton Group		54.408695	1.084344	Bunter Closure 42
139.026	Bacton Group		54.049356	0.712246	Bunter Closure 46

Figure G2: An example menu page in the UKSAP WDG

Alternatively, the search may be accomplished interactively via the GIS, for example by identifying stratigraphic horizons and areas of interest. Figure G3 shows an example GIS output.

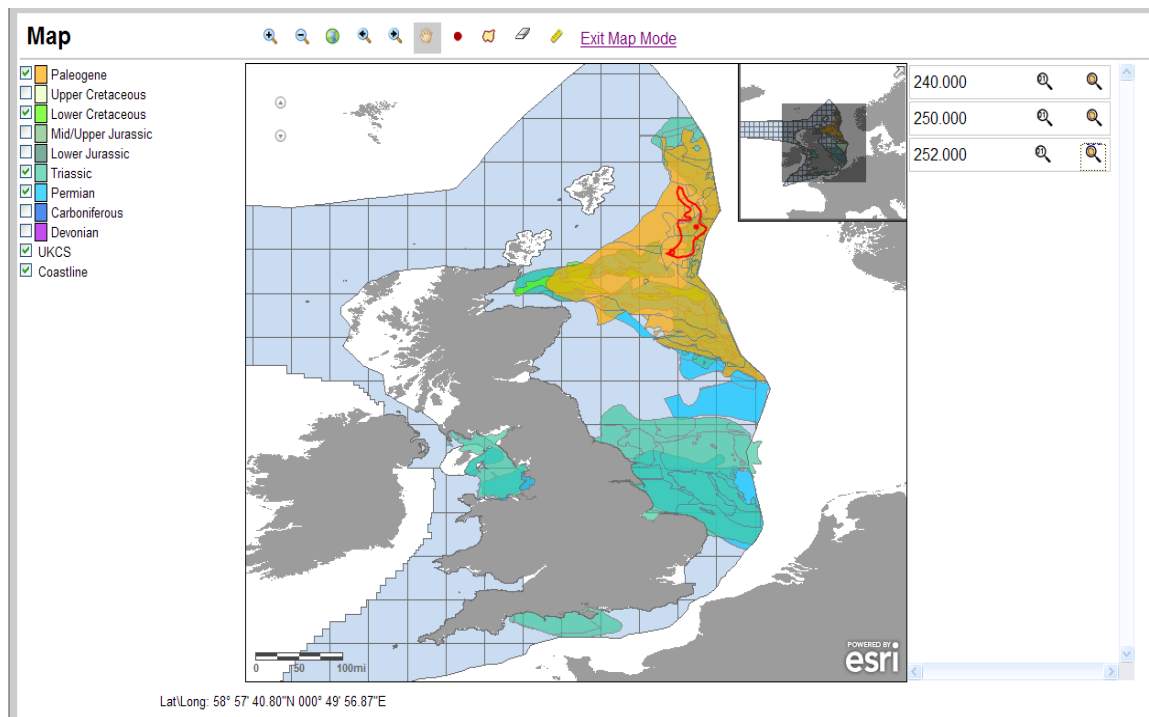


Figure G3: Screen-shot of GIS filtered by stratigraphic horizons, and highlighting one particular storage unit

In this example, the storage units beneath a particular point are identified (numbers 240.000, 250.000, 252.000). Figure G3 also shows the shape file for unit reference 252.000. Once the unit or collection of units of interest has been identified, the linked database can be accessed to provide individual characterisation and assessment data, along with associated calculated results. The probabilistic combined storage resource (P90, P50, P10) of all matching units is also provided, by aggregation of component distributions.

Authorization to access the website/server has a tiered approach, starting with a request for a username and password. Once this request has been approved by the project managers or client then an account can be set up. The user account can either be “read only”, “read/write” or “administrator”. Each level of access gives a user a different level of permissions within the application and also a different level of functionality. This method will allow users to access the site in the knowledge that they cannot edit, perform mass downloads or amend the underlying databases.

As the WDG is ‘online’ appropriate security and authorisation can be enabled to prevent security/ confidentiality breaches or improper data modification.

Appendix H 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.
Business Plan	The plan to launch the WDG, make it available and update it and the commercial terms for access to the WDG.
Chief Technologist	The individual appointed by the Licensee who is responsible for determining and implementing the future development technical development strategy for the WDG, and assuring the technical quality of future enhancements to the WDG.
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.
Hosting Services	The provision of services that include hosting the WDG and any related services by the Licensee.
Licence Agreement	The terms under which the WDG will be made available by the ETI and for the Hosting Services.
Licensee	The successful Respondent that enters into a Licence Agreement.
Licensor	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.
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.
Proposal	The proposal 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	Each organisation contributing to the submission a Proposal to the ETI, as described in Section 3.1.
Stage Gate	A major review point between Licensee and ETI representatives, who will review progress in making the WDG available to Stakeholders and enhancements to the WDG and following which a formal decision will be made whether to continue with the Licence.
Subcontract	A contractual arrangement between the Licensee and a third party.
Subcontractor	An organisation which has a Subcontract.
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.
UKSAP	The United Kingdom Storage Appraisal Project, as described in Appendix F
WDG	The Web-enabled Database and GIS produced as a major deliverable of UKSAP, as described in appendix G
WDG Manager	The individual appointed by the Licensee who is responsible for ensuring that the WDG is made available to potential users in a robust and timely manner, and all necessary support activities are undertaken.