Programme Area: Energy Storage and Distribution

Project: 2050 EIO Multi Vector Integration Analysis

Title: Request for Proposals

Context:

The project aims to improve the understanding of the opportunity for and implications of moving to more integrated multi vector energy networks in the future. Future energy systems could use infrastructure very differently to how they are employed today. Several individual energy vectors - electricity, gas and hydrogen - are capable of delivering multiple services and there are other services that can be met or delivered by more than one vector or network.

Future Networks: Multi Vector Integration Project

Request Issue Date

30 November 2015

Deadline for Notification of Intention to Submit a Proposal

15 January 2016

Closing Date

Proposals must be received before 17:00 on 29 January 2016

Contact for Enquiries

Susie Winter
Energy Storage & Distribution
Project Manager

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Address for Notifications and Submission of Proposals

Energy Technologies Institute LLP

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Title of project	Future Networks: Multi Vector Integration Project
Request issue date	30 November 2015
Deadline for submission of signed NDA and submitting to the ETI a request to attend One to One meetings for Respondents	18 December 2015
Notification of intention to submit a proposal	15 January 2016
Closing date for submission of proposals	29 January 2016
Contact for enquiries	Susie Winter
email	susie.winter@eti.co.uk
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	<web address>
2.	Important Notices	<web address>
3.	Annex A1 – Due Diligence Information Requirements	<web address>
4.	Annex A2 – General Due Diligence Requirements	<web address>
5.	Annex A3 – Statement of Compliance	<web address>

SUMMARY OF KEY PROJECT INFORMATION

Project Summary

The ETI's Future Networks: Multi Vector Integration Project aims to understand the opportunity for, and implications of moving to, more integrated multi-vector networks. This will include:

- identifying the ways in which different networks could interact, e.g. one network providing peak capacity support for another;
- determining how prominent these interdependencies could be;
- examining what the effects on each of the networks would be; and
- identifying any technology and/or operational opportunities that would facilitate any increased integration between vectors that may emerge.

The analysis will include a detailed techno-economic assessment of the above factors.

- This will require evaluation of:
    - the technical aspects of the technologies (current and new), at both component and system level;
    - the operational considerations for each of the networks (including constraints, energy flow management, information exchange, responsiveness, capacity management, cyclability, recovery periods) individually and collectively.
- The economic analysis will include:
    - capital and operational costs of the technologies;
    - energy costs, generally and under different operating conditions;
    - new build and reinforcement costs;
    - peak capacity and availability considerations;
    - lifecycle factors, e.g. accounting for sunk costs and associated O&M versus new build costs;
    - the influence of financing due to the factors listed above.

Deliverables

Key deliverables from this Project are expected to include:

- A workshop held at the beginning of the Project to clearly align the requirements of the Project
- A workshop held towards the end of the Project, to present the overall analysis and technical insights identified
- A Final Report that summarises the analysis and technical insights identified in accordance with the Project objectives

Project Investment

The ETI has set aside a budget of up to £300,000 for its investment in this project

Request for Proposal and Selection Dates	
Issue of RfP	30 November 2015
Closing date for NDA and submitting to the ETI a request to attend One to One meetings for Respondents	18 December 2015
Notification of intention to submit a proposal	15 January 2016
One to one meetings for Respondents	12 and 13 January 2016
Closing date for submission of proposals	29 January 2016
Preferred respondent notified	11 March 2016
Project timescales and anticipated dates	
Agreement execution target date	06 May 2016
Project start	16 May 2016
Project finish	17 March 2017

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

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.

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

Our role is to bring together and invest in engineering projects that accelerate the development, demonstration and eventual commercial deployment of a focused portfolio of affordable energy technologies, which will increase efficiency, reduce greenhouse gas emissions and help meet energy and climate change goals.

We do this by leveraging the skills, capabilities and market access routes to 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 also develop knowledge, skills and supply-chains, and inform the development of regulation, standards and policy. Hence we aim to overcome major barriers, de-risk the future development and shorten lead times to market to secure, affordable low carbon energy systems for power, heat and transport.

Our portfolio presently includes programmes in the following areas: Offshore Wind, Marine, Distributed Energy, Buildings, Energy Storage and Distribution, Smart Systems & Heat, Carbon Capture & Storage, Transport & Bioenergy.

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 Future Networks: Multi Vector Integration Project is commissioned within the ETI Energy Storage & Distribution Programme. The core themes to the ETI's Energy Storage & Distribution Programme are:

- to adapt and develop networks to enable the delivery of a cost effective and secure future low carbon energy system in the UK; and
- to develop and demonstrate new infrastructure approaches to support the energy transition out to 2050.

The UK's energy networks will require substantial investment in new capacity, technology development and innovation to accommodate low carbon generation sources to ensure that they are fit for purpose to meet predicted future demand.

Therefore, networks must have the capacity to not only meet peak flow demand, but also build in extra capacity. There is every chance that there will be greater interdependence between networks in the future.

There is scope for significant innovation in the way that energy is delivered to end customers. In the future, there will be an important role for storage technologies to cater for more intermittent supplies. Heat networks may also emerge as a critical new infrastructure requirement and there will be implications for the role of gas in the future energy mix together with investment in gas storage.

Full further information regarding the Energy Storage and Distribution Programme can be found on the ETI website at http://www.eti.co.uk/programme/energy-storage/

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. We will provide a Project briefing and ensure that all Respondents can maintain their competitive edge whilst providing relevant technical, financial and commercial data that assist our decision making.

We will engage in appropriate due diligence and provide opportunities for you to understand our requirements and processes, prior to submitting your Proposal. This will be given active consideration, recognising the need for compliance with our Project deliverables, reporting accountabilities and intellectual property rights.

Your proposal will be considered by our appointed Selection Panel who will use the proposal assessment criteria and weightings to make their initial findings. This Panel will have the requisite in-house and external representation to consider the Project essentials.

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. PROJECT REQUIREMENTS

3.1 Project Introduction

Future energy system development raises the prospect of increased interdependence between the different energy networks that currently supply the nation's energy. Several individual energy vectors (electricity, gas, hydrogen) are capable of delivering multiple services. Equally, there are several individual services that can be met or delivered by more than one vector or network.

Currently the networks themselves are operated independently; their role in the future energy system is expected to evolve and new networks are also set to emerge. Closer and more complex interactions between these different vectors, including during partial or complete transitions from one vector to another, are a distinct opportunity.

There is a developing body of evidence both within the ETI and from other research that there is value in employing a multi-vector approach to energy supply. The full benefit of doing so will be clear once the impacts on each part of the energy system are understood. Multi-vector energy systems analysis has thus far focussed on generation or demand side technologies. Understanding the implications for networks and their ability to contribute to multi-vector energy systems will help to provide a more complete picture.

Considering network infrastructure specifically, there will be specific challenges and limitations of employing a multi-vector approach. For such an approach to be realised it will be important to understand what those restrictions are and to what extent they can be overcome. This will also help to establish what the full potential for multi-vector energy supply is and to what extent it can deliver system wide benefit.

Addressing this question will help to inform what is the best way to deploy new networks alongside existing networks, how best to transition from existing to new networks and what opportunity there is to make use of existing assets.

The FutureNetworks: Multi-Vector Integration Project is the second FutureNetworks project commissioned by the ETI. These projects together form a body of analysis to understand the nature, implications and evolution of energy networks as they adapt to manage fundamental long-term changes in energy generation type, geographic location, demand patterns and energy use requirements, all in the context of a 2050 low-carbon future within the UK.

3.2 Project Objectives

The aim of this Project is to understand the opportunity for, and implications of, moving to more integrated multi-vector networks. This will include:

- identifying the ways in which different networks could interact, e.g. one network providing peak capacity support for another;
- determining how prominent these interdependencies could be;
- examining what the effects on each of the networks would be; and
- identifying any technology and/or operational opportunities that would facilitate any increased integration between vectors that may emerge.

Innovative assessment of how networks and their role may evolve will be required, together with a sound understanding of energy system development and operation. Robust analysis will be necessary, utilising reliable data. It is expected that the Project will draw upon data from a variety of sources including, where relevant, the ETI's Infrastructure Cost Calculator. Data produced by the Project will also be used to augment the ETI's existing models and datasets, including ESME and the Infrastructure Cost Calculator.

3.3 Project Scope

The scope for this project encompasses electricity, gas, heat, hydrogen and liquid fuel infrastructure and the potential interdependencies between them, given potential developments in energy demand and supply and how these requirements might vary over time.

Examples of this include; one network providing peak capacity support for another; one network meeting the shortfall of another; two (or more) networks permanently working in tandem with one another; or where one vector is used to produce energy for another.

The Project will identify the following:

- the type and nature of interdependence that could beneficially exist between networks;
- outline the potential extent of those interdependencies;
- determine the consequent impact of the interdependencies on the networks;
- examine the operational considerations and technical implications that result.

The analysis will include a detailed techno-economic assessment of the above factors.

This will require evaluation of:

- the technical aspects of the technologies (current and new), at both component and system level;
- the operational considerations for each of the networks (including constraints, energy flow management, information exchange, responsiveness, capacity management, cyclability, recovery periods) individually and collectively.

The economic analysis will include:

- capital and operational costs of the technologies;
- energy costs, generally and under different operating conditions;
- new build and reinforcement costs;
- peak capacity and availability considerations;
- lifecycle factors, e.g. accounting for sunk costs and associated O&M versus new build costs;
- the influence of financing due to the factors listed above.

4. PROJECT DELIVERY REQUIREMENTS

4.1 Specific Technical Considerations

As a minimum the specific technical considerations will include:

- Identification of ways in which certain types of energy network could develop greater interdependence, with particular emphasis on:
    - The supply of peak energy;
    - Meeting deficits in the supply of energy;
    - Where one vector is used both for the production/generation of another vector and also used to deliver other energy services.
- Evaluation of the extent to which these interdependencies could exist. In each case determining:
    - What proportion of the energy flow of each network could be affected by the interdependence;
    - To what degree the interdependence could affect peak energy flow in each network;
    - How frequently the interdependence could emerge;
    - The duration(s) of the occurrence(s) of the interdependence in each case.
- Analysis of the impact of these interdependencies on (but not limited to) the:
    - Networks in question;
    - Delivery of energy;
    - Production/generation of energy vector.
- Examination of the operational considerations for multi-vector networks, for example, determining:
    - What the standby requirements of the “supporting” network are?
    - What the standby capability of the “supporting” network(s) is (e.g. how much spare capacity can be afforded)
    - How “switchovers” should be managed;
    - What technical operational challenges need to be overcome;
    - What level of coordination is needed between different stakeholders (current and future);
    - What are the likely cost implications of:
        - Scaling supply of the “supporting” network up or down;
        - Managing “switchovers” between networks;
        - Implementing possible technical solutions.
    - How the above should be best managed, in terms of cost effective operation, meeting wider system demands and asset life management and any other considerations identified.
- Identification of developments that would mitigate or overcome barriers to greater integration between energy vectors, including:
    - What barriers might exist and the restrictions these place on multi-vector integration

- Details of technology, system and/or procedural developments that might overcome specific barriers;

- Timeframes, costs and implementation strategies associated with pursuing the identified developments.

4.2 Critical Roles

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

The Project Manager is responsible (on behalf of the Prime Contractor) for leading and managing the Project Team, delivering the programme of work to time and cost, handling information flows and commercial issues, ensuring effective team-working and the continued engagement and support of key stakeholders. This includes regular liaison with the ETI's Project Manager to whom the Project Manager is accountable on behalf of the Project Team. The Project Manager's role is to make sure that the ETI benefits from a result at the end of the programme of work that meets the agreed outcomes within time and cost. It is critical that the Project Manager is sufficiently empowered by the Prime Contractor to lead the Project and accept accountability for delivery to the ETI on behalf of the Prime Contractor.

The Chief Technologist is responsible (on behalf of the Prime Contractor) for the technical quality and content of the work, ensuring the competence of key technical staff allocated to individual Work Packages, the effective review of key outputs (both for use within the Project and prior to any submission to the ETI) and the effectiveness of detailed technical planning to ensure that the emerging results of work are fed back into the forward plan. This position has the responsibility to assure the technical quality of the Project and its outcomes.

Respondents are required in their Proposals to nominate individuals for each role. The ETI will assess the competence, experience and authority of these two people and their ability to work together as critical to Project success. The ETI's expectation is that certainly the Project Manager and (unless there is a compelling case to the contrary) also the Chief Technologist should each be an employee of the prospective Prime Contractor.

4.3 Project Deliverables

The Project will deliver:

- A workshop held at the beginning of the Project to clearly align the requirements of the Project

- A workshop held towards the end of the Project, following submission of the draft final report where the overall analysis and technical insights identified will be presented and discussed

- A final report detailing the opportunity for increased integration of different energy networks. This will be built on an investigation and analysis of the types of interdependence that could exist, a techno-economic assessment of the extent to which they could exist, the impact of that integration and the operational considerations and technical implications of increased integration. This will include information both on barriers to greater integration of energy vectors and on any developments (technology, system, process, etc.) that could overcome those barriers.

- Appropriate data and datasets of networks and their components, developed and compiled as a part of the Project to provide the underpinning foundation for the analysis. These should be delivered in a compatible format and allow reuse elsewhere by the ETI, including for the augmentation of the ETI's Infrastructure Cost Calculator.

- Models developed as part of the Project should be made available in a form that will allow the ETI or its nominated representatives to reanalyse data or analyse new data at a future date.

4.4 Project Review Meetings

Throughout the Project the ETI expects to hold review meetings with the Project Manager and Chief Technologist, which may be at the ETI or the Prime Contractor's premises, as appropriate. The ETI may involve external advisors and/or consultants, key industrial stakeholders, or representatives from its Members, as appropriate.

The timing and scope of review meetings will be confirmed in discussions once the preferred Respondent's plans have been reviewed. Preliminary arrangements are as follows:

a) **Project Kick Off Meeting**: This will be held within two weeks of the Project start date. It will be followed, within four weeks of the Project start date, by a brief **Mobilisation Review** to ensure that all residual actions from the kick-off meeting are completed and that the Project Team is fully mobilised.

b) **Project Reviews**: Respondents should include in their Proposals appropriate Review Points at key points during the Project.

c) **Stage Gate Reviews**: As a minimum a Stage Gate Review meeting will be held at an appropriate point during the Project, and is a 'go / no-go' decision point for the ETI to determine, with support from the Project Team, whether the Project is on track to deliver the intended outcomes and whether the intended scope of the Project has been satisfactorily completed to date

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

5. 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

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 dates specified.

6.2 Submissions in Response to the RfP

Respondents are required to provide Submissions in response to the RfP to the ETI no later than the closing date specified. Submissions shall comprise of a Proposal, the form and contents of which are set out in the **Appendix E**.

6.3 Questions and Clarifications

The ETI will be available to meet with potential Respondents before the Proposal deadline to answer questions and provide further clarifications. The opportunity to meet with the ETI may, at the ETI's discretion, be restricted to those Respondents who have indicated their intention to lead a Proposal, and will be conducted in a one to one format.

Respondents should note that the ETI will not meet with Respondents unless they have submitted signed NDAs. Respondents should indicate their desire to attend a one-to-one meeting by contacting the ETI using the same contact details on the first page of this RfP, no later than the deadline for submission of the signed Non-Disclosure Agreement. The ETI shall notify Respondents of their allocated meeting dates and times when the number of attendees is known.

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 a Selection Panel as part of its evaluation process to recommend which Respondent(s) should proceed to the Project Shaping and Contract Negotiation Stage. In addition to ETI staff, this panel may include experts selected by the ETI (typically including individuals drawn from ETI Member organisations and third parties) to provide the necessary expertise to consider the technical, commercial, legal and financial aspects of each Submission.

Respondents may be requested to make a presentation to the Selection Panel to support information provided in their submission. The Selection Panel may also request further clarifications following the meeting of the Selection Panel and as part of the Project Shaping and Contract Negotiation Stage.

In the event that the ETI receives a large number of Submissions, the ETI may make an assessment to select a manageable shortlist of Respondents / Submissions for consideration by the Selection Panel.

In any event, the ETI may in its discretion decide to negotiate with more than one Respondent or group of Respondents (as appropriate) to ensure that all key issues are resolved fully and promptly, before making a final selection decision.

6.5 Selection Criteria

The ETI expects that the capabilities and experience listed below will be critical to the successful execution of the Project; Respondents are free to identify additional capabilities and experience which they consider to be critical or important to success or to provide reasoned arguments why capabilities identified by the ETI are not required.

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 Project Team to deliver the Project, including:
  - Operational considerations of energy networks including electricity, gas, heat and liquid fuel infrastructure
  - Detailed understanding of energy system development
  - Detailed knowledge of a multi vector approach to energy supply
  - Technical considerations of associated technologies at component and system level
  - Economic analysis

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.

6.6 Project Shaping and Contract Negotiation

Following selection, the ETI will invite the preferred Respondent(s) to enter into negotiations with the ETI to shape the Project and finalise the terms of the Contract. An overall period of 12 weeks has been allowed for this Project Shaping and Contract Negotiation Stage.

The ETI may decide to negotiate with more than one Respondent or group of Respondents (as appropriate) to ensure that all key issues are resolved fully and promptly, before making a final selection decision.

The Project Shaping and Contract Negotiation Stage will include the following activities (as required and dependent on the level of detail provided in the Respondent's Proposal):

a) detailing of the proposed technical programme, including definition of deliverables and acceptance criteria;

b) detailing and agreement of Stage Gates, where Project performance and the business case are critically reviewed and decisions taken on whether to proceed with the Project;

c) negotiation and agreement of the Contract;

d) detailing and due diligence relating to the breakdown of costs of the Project;

e) further due diligence activities as required (see **Annex A1**);

f) agreement (and approval as required by the ETI) to terms of other key contractual arrangements (e.g. Sub-contracts, Consortium Agreement);

g) gaining all necessary Respondent and ETI approvals to undertake the Project; and

h) any further information or assessment that may be necessary to meet state aid requirements.

As part of the above process, Respondents may be required by the ETI to present a final detailed offer to the ETI, addressing all technical, commercial, legal and financial issues.

Some initial technical and legal/finance meetings have also been scheduled. Further meetings will be required to complete the Project Shaping and Contract Negotiation Stage and Respondents are required to commit to provide legal, technical, commercial and managerial resources as required to achieve the target contract execution date shown.

6.7 Estimated Project Commissioning Timeframes

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

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

Request for Proposal and Selection	Dates
Issue of RfP	30 November 2015
Deadline for return of signed Non-Disclosure Agreement and submitting to the ETI a request to attend One to One meetings for Respondents	18 December 2015
One to One Meetings for Respondents	12 January 2016
Second date for One to One Meetings for Respondents	13 January 2016
Deadline for notifying the ETI of an intent to submit a proposal	15 January 2016
Closing date for submission of Proposals/Submissions	29 January 2016
Preferred Respondent(s) notified	11 March 2016

Project Shaping and Contract Negotiations	Anticipated Dates
Total duration for Project shaping and contract negotiations	8 weeks
Technical meeting 1	23 March 2016
Technical meeting 2	13 April 2016
Legal/Finance/HSE meeting 1	30 March 2016
Legal/Finance/HSE meeting 2	27 April 2016

Project Start	Anticipated Dates
Project Contract signature target date	07 May 2016
Project start	16 May 2016

7. ADDITIONAL DOCUMENTS

	Additional documents	Location
1.	Project Commercial and Legal Requirements	<web address>
2.	Important Notices	<web address>
3.	Annex A1 – Due Diligence Information Requirements	<web address>
4.	Annex A2 – General Due Diligence Requirements	<web address>
5.	Annex A3 – Statement of Compliance	<web address>

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.
Chief Technologist	The individual as described in **Section 4.2**.
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.
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).
ESME	Energy System Modelling Environment – A national energy system design tool
ETI	The Energy Technologies Institute LLP, a limited liability partnership (Company no. OC333553) whose registered office is at Holywell Building, Holywell Way, Loughborough, Leicestershire LE11 3UZ.
ETI Infrastructure Cost Calculator	An excel database that allows analysis of cost and performance data associated with electricity, gas, heat and hydrogen
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.
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).
Non-Disclosure Agreement	A non-disclosure agreement in the form provided on the ETI website.
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 Energy Storage and Distribution 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 4.2**.
Project Shaping and Contract Negotiation Stage	The project/contract negotiation stage of the Project Commissioning Process, as described at **Section 6.5**.
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 made on the future Project programme.
Stage Gate	A major Project review point involving 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**.
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.
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 **Section 6.7** 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 Future Networks: Multi Vector Integration Project, issued on 30 November 2015.

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

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

1. [Enter Name]
2. [Enter Name]
3. [Enter Name]
4. [Enter Name]
5. [Enter Name]
6. [Enter Name]
7. [Enter Name]
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 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 30 pages. Appendices are in addition to this stipulation.

Executive Summary

[no more than 2 pages]

This should briefly describe:

1. Your organisation and the Project organisation structure
2. Your relevant experience and expertise
3. Summary of the predicted cost of outcomes, approaches taken and key deliverables; and
4. 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:]

1. Project Participants – including any Subcontractors, partners and suppliers of goods/services who have key roles to play in the Project
2. 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.
3. 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 10 pages, plus appendices if required to include:]

1. Project Approach
2. Programme of work
3. Project Schedules
4. Milestones and Deliverables
5. Project Management Activities
6. Deliverables and Payment Milestones
7. 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:

1. a figure for the proposed Total Project Cost;

2. a figure for the proposed Maximum ETI Investment;

3. figures for any proposed Participant Funding and/or Third Party Funding (as appropriate);

4. 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						
Milestone 4						
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
Materials Consumed					
Capital Equipment					
Sub-contracts; Consultancy; Fees including fees for Trial and Testing					
Travel and Subsistence					
Other Costs					
Labour Costs					
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]