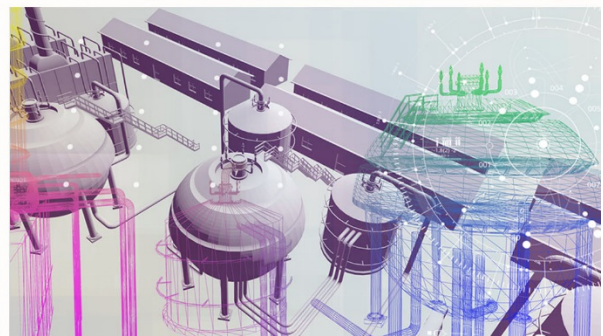
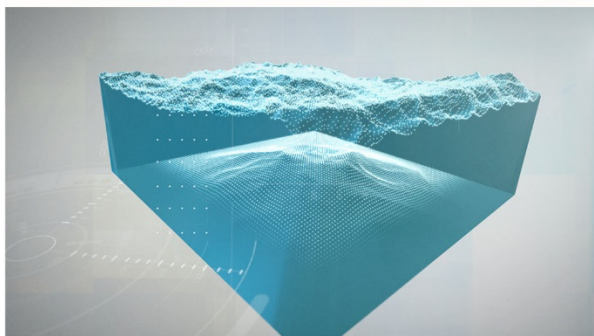
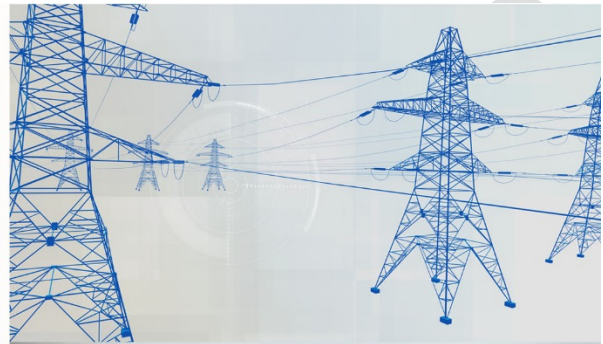




Request for Expression of Interest

Heavy Duty Vehicle Efficiency Programme: Flettner Rotor Supply, Install and Commission Project



F.A.O. Paul Trinick, Project Manager

Email: hdv@eti.co.uk

Tel: +44 (0) 1509 202062 or Switchboard +44 (0) 1509 202020

SUMMARY OF EXPRESSION OF INTEREST INFORMATION

Summary of Key Information	
Title of Project	Flettner Rotor Supply, Install and Commission Project
Request issue date	17 March 2016
Closing date for submission of Proposals	15 April 2016
Notification of Intention to Submit a Proposal and return of Non-Disclosure Agreement	31 March 2016
Contact for enquiries	Paul Trinick
Email	info@eti.co.uk
Telephone	01509 202062
Address for notification and submission of Proposals	ENERGY TECHNOLOGIES INSTITUTE Holywell Building Holywell Way Loughborough LE11 3UZ

Contents

1. Purpose of this request for Expressions of Interest	4
2. ETI Introduction	4
3. Terminology Used in This Document	4
4. The Proposed Project	4
5. Submission Contents	9
6. Requirement for Non-Disclosure Agreement	12
7. Important Notices	12
APPENDIX A - GENERAL DUE DILIGENCE REQUIREMENTS	15
APPENDIX B - NON DISCLOSURE AGREEMENT	16
APPENDIX C – GLOSSARY	23
APPENDIX D - GENERAL ARRANGEMENT DRAWING FOR EXAMPLE VESSEL	25

1. Purpose of this request for Expressions of Interest

The ETI has identified Flettner Rotors as a potential, insufficiently demonstrated, technology for reducing fuel consumption in ships. It is the intention of the ETI to procure a project to design, supply, install, commission and trial Flettner Rotor(s). Through this Request for Expressions of Interest (“**EoI**”), the ETI is looking to identify credible third parties who are capable of designing, building and installing (and providing support post-installation) Flettner Rotor(s) which meet the performance requirements of the ETI on a vessel to be specified by the ETI in the timescales outlined in this Request for Expressions of Interest.

2. ETI Introduction

2.1 Introduction to the Energy Technologies Institute

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 (formerly the Technology Strategy Board) and the Engineering and Physical Sciences Research Council (EPSRC).

The ETI's 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 energy efficiency, reduce greenhouse gas emissions and help meet energy and climate change goals.

The ETI is not a grant-giving body. The ETI is a commercial organisation which makes targeted commercial investments in technology projects, which can involve the ETI funding entire projects or working with the project participants or third parties to co-fund project activity.

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

2.2 ETI Approach to Health, Safety and Environment (HSE)

The health and safety of those who may be affected by ETI projects and the protection of the environment that may be impacted by ETI projects are of paramount importance to the ETI and its Members. The ETI therefore expects those who receive funding from the ETI to demonstrate a commitment to delivering excellence in health, safety and environmental management as well as demonstrating that all applicable legal requirements are met. The management of HSE matters during the course of the Project will be defined during the Project Commissioning Process and relevant provisions included in the project contracts.

3. Terminology Used in This Document

A glossary of terms used in this document is provided at Appendix C.

4. The Proposed Project

4.1 Background to this Project

Heavy duty vehicles (HDV), including shipping, currently contribute 8% to UK CO₂ emissions. Fuel efficiency will be increasingly important to the future affordability, security and sustainability of HDV operation in the UK.

Given the economic, security and climate change benefits of restraining or even reducing fuel consumption there is significant opportunity for early benefits from the introduction of improved technology.

The ETI wishes to make an investment to accelerate the deployment of Flettner Rotor technology in order to reduce CO2 emissions arising from shipping operations. This EoI seeks to identify organisations capable of providing Flettner Rotor technology for a large internationally traded ship (eg a tanker or bulk carrier in 50,000 to 120,000 DWT range). The ETI intends to use the EoI Submissions to select a preferred technology provider capable of moving to the shaping phase of a full scale demonstration project.

A Respondent will be required to set out how their technology will deliver fuel savings of at **least 10%** for the Example Vessel and Example Voyage set out later in this document. It is for the Respondent to define the number and geometry of the proposed Flettner Rotor(s). It is anticipated that the system shall deliver around 30% of the vessels propulsive power when at maximum operating parameters and ideal wind speed/direction.

The Respondent will need to set out how they would design, supply, install, commission, test and then support Flettner Rotor(s) vessel installation. At sea testing of the performance of the Flettner Rotor(s) installation will take place for at least one year after installation.

A Respondent shall be wholly responsible for the costs they incur in the preparation of their Submission.

The ETI is engaged in a separate activity to confirm the identity of the Charterer, the Ship Owner and the identity of the vessel on which the Flettner Rotor(s) will be installed.

4.2 Project Objectives

The overall objective of this Project is to demonstrate that the challenges outlined below for the development of cost effective Flettner Rotors can be addressed:

- Development of a solution that is commercially viable (appropriate capital cost, O&M costs and operational requirements vs benefit).
- Establishing if the technology is acceptable to classification societies, port operators and ship owners.
- Demonstrating that the technology can be successfully installed, operated and maintained on commercial trading vessels.
- Ensuring robustness, durability and reliability of the system.
- Ensuring the operator involvement and maintenance frequency is minimised.
- Developing a potential system architecture that can be effectively packaged into vessel systems.
- Correlate real world data with computational models in order to generate industry confidence in using those models to decide on installation of the technology.

To help build industry confidence and accelerate deployment, the ETI expects to share data and insights on the Flettner Rotor real world performance under the Project (including fuel savings and operational impact) with ETI Members, the shipping industry, academic institutions and other interested parties.

4.3 Project Timescales & Project Commissioning process

Potential Respondents shall notify the ETI of their intention to make a Submission within 2 weeks of the date stated on the 1st page of this document. They should also submit a signed NDA (see section 6 of this document) at that time.

The ETI needs to receive Submissions from technology providers by the date stated in the 1st page of this document.

An ETI selection panel will review submissions within 1 month of that date and either make a selection recommendation or identify any additional information that is needed to make a selection recommendation. Respondents may be asked to provide additional information or answer questions on their Submission before the selection panel meets. Respondents will be notified of the selection panel's recommendation on their Submission shortly after the selection panel has taken place. The ETI's intention is to select a preferred technology provider at this stage. The ETI will then start Project shaping and contract negotiations with the preferred provider.

The ETI intends to select a Ship Owner and identify the vessel on which the Flettner Rotor(s) are to be installed before the end of Q3, 2016. Once they have been selected (and signed NDAs received), the Ship Owner will be invited to take part in the Project shaping discussions. It is possible that a Charterer will also be identified at this time; if so, they will also be asked to join the Project shaping discussions.

The ETI expects the Project Shaping and contract negotiations to be completed within six months of the Ship Owner being selected.

The ETI's current intention is that the Project to design, supply, install, commission and trial Flettner Rotor(s) will start in Q1 2017 at the latest. Our schedule calls for the Flettner Rotor(s) to be installed in early 2018, with trials and data gathering taking place until at least mid-2019.

4.4 Example Vessel Specification

The specific vessel for installation and operation of the Flettner Rotor under the Project is yet to be selected. The ETI is providing data in this EoI for an Example Vessel to obtain a better understanding of the technical capabilities of the potential Flettner Rotor suppliers and to obtain some indicative view of costs and timescales. Once the vessel to be used in the Project has been identified, the ETI will be seeking a specific proposal from the technology provider selected through this EoI process.

For their submission, a Respondent should use the following descriptions and general characteristics for the Example Vessel and Example Voyage

Vessel Type	MR1 Product Tanker	
Length Overall	183	M
Length B.P.	174	M
Breadth mld	32.2	M
Draft (Ballast)	7.5	M
Draft (Summer)	11	M
Deadweight	49,900	T

Table 1 - Example Vessel's General Particulars

4.5 Example Laden Voyage:

For ease of initial calculations the Respondent is to assume trial conditions (speed=14.3knots, sea state=calm, wind data as per tables provided) throughout the voyage.

Voyage Day	Steaming time	Fuel consumption	Vessel heading	Wind direction	True Wind Speed
day	Hours	HFO+LSFO (Tons)	True degree's	True degree's	knots
1	8.8	4.6	255	140	13
2	11.5	8.66	277	280	12
3	25	20.69	272	10	28
4	24	20	270	0	23
5	25	20.92	270	250	11
6	24	19.82	265	140	13
7	25	20.53	243	245	25
8	24	20.24	242	205	25
9	25	20.76	246	285	29
10	24	20.78	271	40	19
11	25	20.21	256	40	23
12	21.7	11.3	271	50	12

Table 2- Example Vessel's Typical Laden Voyage details

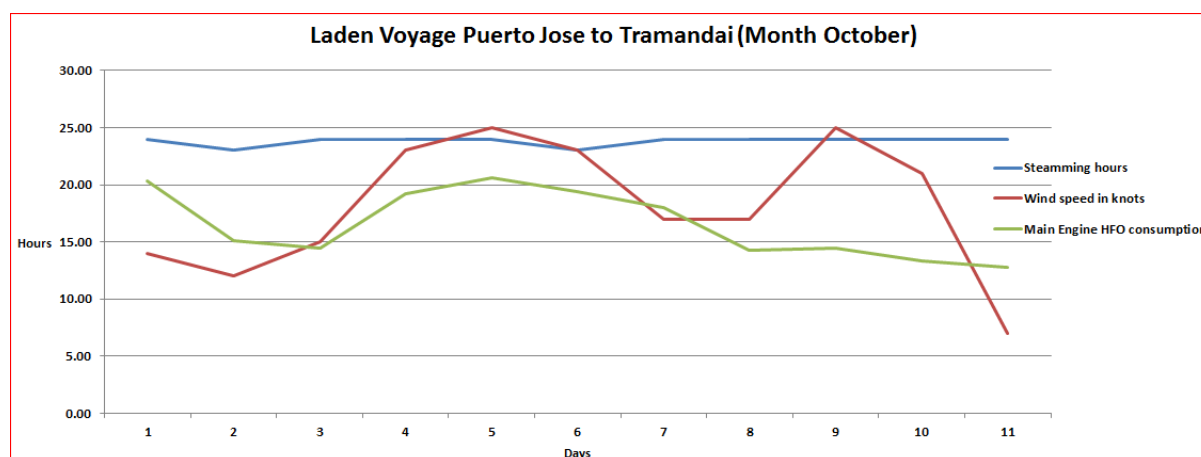


Figure 1- Plot of Steaming time & Wind Speed & HFO Consumption during Typical Voyage

Additionally, a General Arrangement drawing of a generic vessel that corresponds to the characteristics described in Table 1 is attached in Appendix D to enable a Respondent to make mark-ups as requested.

4.6 Power-Speed Curves

The curves in Figure 2 below shall be utilised within the calculations requirement detailed in 5.6 Performance Requirements. The thick blue curve line shows the shaft power, P_s , for the in service condition at the designated Nominal Continuous Rating (NCR) of 5344kW and the speed achieved at the NCR is 14.3 knots.

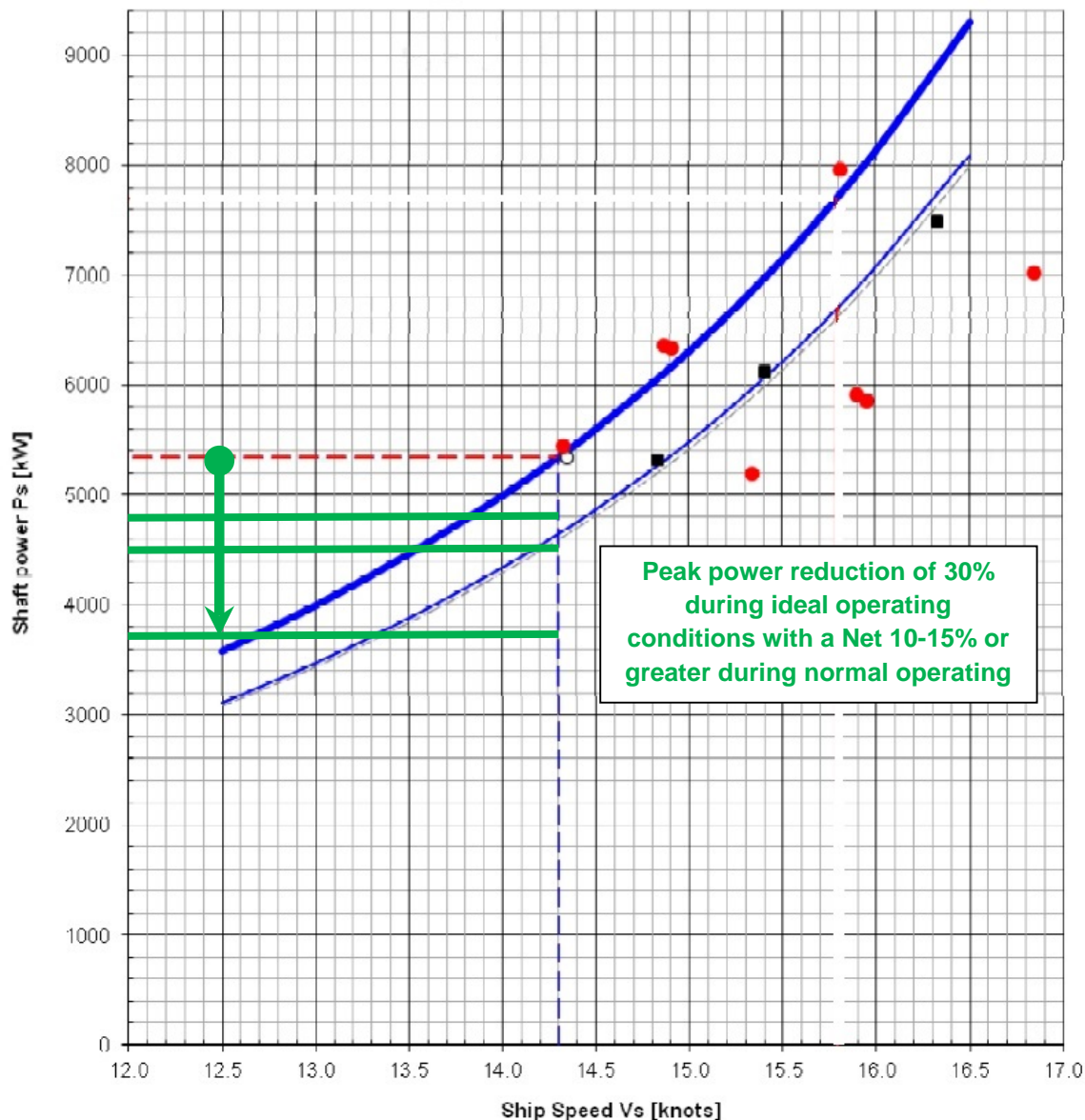


Figure 2 - Power-Speed Curves for generic MR1 tanker

4.7 Flettner Rotor General Requirements

- The Flettner Rotor(s) should deliver around 30% of the vessel's propulsive power when at maximum operating parameters and in ideal wind conditions.
- All structural design elements shall satisfy classification society rules, regulations and recommendations. For the demonstration Project any flag state requirements will also need to be satisfied.
- Able to achieve at least a net 10% fuel consumption saving over a 12 month measurement period. This will take into account the vessel operating profile and likely metocean conditions.

5. Submission Contents

The Respondent shall supply the following information in their Submission, relating to the fitting of their proposed Flettner Rotor(s) to the Example Vessel. As a guide, the Submission should be less than 25 pages.

5.1 Likely Costs and Fuel Saving Potential

- i) The Submission will indicate likely costs for both fixed and stowable Flettner Rotor(s).
- ii) The Submission shall show clear reasoning in how the fuel saving requirements are met.

5.2 System Design Philosophy

- i) The proposed number of Flettner Rotors to be fitted to the Example Vessel for the required thrust/main engine power reduction and the types of the proposed Flettner Rotor(s).
- ii) For stowable Flettner Rotor(s), the Respondent is to supply details of the stowage method.
- iii) The Flettner Rotor(s) and their supporting equipment are to be marked-up on the General Arrangement drawing attached in Appendix D.
- iv) The Flettner Rotor(s) will be fitted in a “hazardous zone” and shall be required to satisfy all statutory and classification society ‘intrinsic safety’ rules and regulations, e.g. EX certification, static electricity management and any other requirements for equipment within the deck “hazardous zone”.

5.3 Structural Design

- i) Show how the proposed design will satisfy classification society rules, regulations and recommendations.
- ii) Provide details of physical size and dimensions of the Flettner Rotor(s), including alternative proposals.
- iii) Provide Flettner Rotor(s) weight break-down at sub-system and component level, and their centre of gravity positions, including alternative proposals.
- iv) Provide a structural integration plan, include an indicative foundation design for the Flettner Rotor(s).
- v) Show the anticipated thrust transfer to ship structure and description of structural analysis methodology that would be applied to validate proposed structural integration of technology inclusive of conducting Finite Element modelling.
- vi) State the applied safety factor which shall be compliant with classification society rules, regulations and recommendations.

5.4 Power and Control system

- i) Explain the Flettner Rotor(s) operational control methodology, clearly describing:
 - (a) How the Flettner Rotor(s) are started and stopped in relation to power demand.
 - (b) How the system operates in conjunction with vessel’s heading, wind speed & direction, ships required speed.
 - (c) How the Flettner Rotor(s) are linked to the main engine control system.

- ii) Explain fault handling, including low-voltage and safe shut-down during black-out.
- iii) Describe the power system design basis; electrical and/or hydraulic.
- iv) Outline the electrical and or hydraulic power system design.
- v) Describe power demand requirements during initial Flettner Rotor(s) run up and power requirements during running at anticipated conditions, including idle, 50% load and 100% load.
- vi) Describe the control system requirements, including power supply.
- vii) Provide an electrical system single-line diagram(s), including the control systems and integration into ship systems.

5.5 Operational Performance and Safety

- i) Show how the Flettner Rotor(s) operational performance changes with sea state, wind vector and any other dependencies or limits.
- ii) Explain the fail-safe back-up provision design.
- iii) For stowable Flettner Rotor(s), the Submission should explain how the design provides for the safe stowage of the Flettner Rotors in all operational conditions, including emergencies and electrical system failure. Additionally, if design is stowable then a range of conditions under which the Flettner Rotor(s) is/are to be stowed is to be provided.
- iv) Provide evidence that the Flettner Rotor(s) meets all relevant maritime safety standards and classification society requirements, including maximum accelerations, velocities and seaway induced motion.
- v) Provide details of safety cut-outs/inter-locks encompassed within system design and configuration that permits/enables safe inspection and maintenance of the system.
- vi) Provide details of all safety features engineered into the Flettner Rotor(s) and supporting equipment.

5.6 Performance Requirements

As a base line, all calculations are to relate to power savings that can be obtainable from the fitting of the Flettner Rotor(s) to the Example Vessel for the Example Voyage specified.

- i) Show the Respondent's calculations of main engine power reduction due to the Flettner Rotor(s). This should include all Flettner Rotor effects, for example, reduced bunker consumption, reduced engine lubrication, emission savings etc..
- ii) All calculations are to be prepared for both ballast and summer draft (laden) conditions.
- iii) As shown on the curve in Figure 2 for a speed of 14.3knots (NCR) the vessel's engine is required to develop a power of 5344kW. The ETI's expected requirement for the Flettner Rotor(s) performance are guaranteed savings of around 30% on the overall main engine load under ideal conditions. The Submission is required to set out how the proposed Flettner Rotor(s) would be capable of reducing the shaft power requirement by 30%. This would equal the provision of a minimum equivalent of $5344 \times 0.3 = 1603\text{kW}$ propulsive power.
- iv) Explain how the proposed Flettner Rotor(s) will result in the effective shaft power required from the main engine to propel the vessel at the design speed of 14.3knots being 3741kW with

the Flettner Rotor(s) in full operational condition under ideal weather conditions (i.e. wind speed and direction).

- v) State the Flettner Rotor(s) thrust required against vessel size (in dwt).
- vi) Show the Flettner Rotor(s) thrust (kW) in relation to wind speeds up to BF8 for proposed Flettner Rotor(s) sizes and wind angles to relative course. The result is to be presented clearly on a polar plot.
- vii) Provide tabulated information clearly indicating the relationship between thrust delivered dependent on wind speed and direction for the system to be provided.

5.7 Navigation and Deck Operations

A description of the Flettner Rotor(s) operational control methodology which should clearly indicate:

- i) How the Flettner Rotor(s) are started and stopped in relation to power demand.
- ii) How the system operates in conjunction with the vessel's heading, wind direction, ships required speed and how all is linked to the main engine control system.
- iii) Details of the impact of the Flettner Rotor(s) on line of sight from the vessel's bridge and on ship's radar and/or other navigation systems, in compliance with related classification society rules and regulations.
- iv) The impact on ship handling shall be assessed and described, noting mitigation techniques. Similarly, any impacts on ship operations, such as loading and offloading cargo shall be assessed, again noting mitigation techniques..

5.8 Maintenance

The Submission should include is an outline understanding of the maintenance regime that will be applicable to the technology.

The preferred technology provider will be required to provide more information on the maintenance regime during the Project shaping discussions. The preferred technology provider will be required to provide a full maintenance schedule of works if the Project proceeds to contract.

5.9 Project Delivery Requirements

The Respondent should describe, in their Submission, the Work Packages they would expect to carry out as part of the Project. This description must include:

- Scope.
- Purpose.
- Lead organisation.
- Duration.
- Cost.
- Link to other Work Packages.
- Project risks associated with the Work Package.

The Respondent should also set out in their Submission any variations from the specification provided in this document and any assumptions made relating to the Example Vessel.

5.10 Project Investment

The ETI is an investor in technology, not a grant awarding body. When a project with the ETI is a substantial part of the Respondent's business, the ETI is prepared to consider providing its' funding via:

- an equity investment; or
- debt finance; or
- project funding (paid against achievement of deliverables with some form of royalty return based on subsequent exploitation of the relevant technology by the technology owner); or
- a combination of more than one of these types of funding.

The form of the ETI's funding to the Project will be determined during the Project Commissioning Process. The Respondent is invited, in its Submission to identify their ETI investment preference (and why) and any issues it believes exist with any of these funding options.

5.11 Due Diligence

The ETI requires a Respondent to provide basic due diligence information as part of the Submission.

Details of the ETI's due diligence requirements are set out in Appendix A. Further due diligence is likely to be required from the ETI during the Project Commissioning Process.

6. Requirement for Non-Disclosure Agreement

Prior to making a Submission in response to this Request for Expressions of Interest, Respondents are required to provide to the ETI a non-disclosure agreement in the form provided at Appendix B, The NDA must be received by the ETI no later than the relevant date specified in this Request for Expressions of Interest.

7. Important Notices

- a) The ETI at its discretion may request clarification of a Submission, and may reject any Submission which is unclear.
- b) Neither the issue of any documentation in the Project Commissioning 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 issue of the Request for Expressions of Interest is not an agreement or offer to purchase goods or services, and the ETI is not bound to enter into any contract with the (or any) Respondent. By responding to this Request for Expressions of Interest, a 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 Submissions are final.
- d) All documents, including Submissions, 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 C). No part of a Submission, or other documents provided by Respondents, shall be returned.

- e) The ETI reserves the right at any time to (i) withdraw the Request for Expressions of Interest and terminate the Project Commissioning Process; (ii) change the basis, timetable and/or requirements of, and/or the procedures for, the Project Commissioning Process, including the timetable or closing date for receipt by the ETI of Submissions, (iii) make modifications to, or alter any of the information within, the Request for Expressions of Interest, (iv) reject any or all of the Submissions received, and (v) not invite any Respondent(s) to proceed further.
- 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 Expressions of Interest or of any other information made available during the Project Commissioning 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 Expressions of Interest independently, having taken professional advice if necessary. Each Respondent will be deemed to have examined all the documents enclosed with this Request for Expressions of Interest 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 Expressions of Interest. Each 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 Submission and any other costs incurred in connection with the Project Commissioning Process. The ETI shall not be responsible for, and shall not pay, any costs and expenses which may be incurred by the Respondent (or by any third party, including proposed Subcontractors) in connection with its participation in the Project Commissioning Process, including but not limited to any costs or expenses incurred up to and including the execution of any project contract.
- i) The ETI may, at its discretion, shortlist Respondents for the next stage of the Project Commissioning Process. The ETI does not undertake to accept the lowest bid or to accept part or all of any Submission and the acknowledgement of receipt of any Submission (and/or any invitation to any Respondent(s) to proceed to the next Stage) shall not constitute any actual or implied agreement between the ETI and the Respondent.
- j) The copyright in the documentation and any other materials supplied by the ETI and/or its advisers in this Project Commissioning 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 Submission and otherwise in connection with the Project Commissioning Process. All documentation supplied by the ETI in relation to this Project Commissioning Process must be returned on demand, without any copies being retained by the Respondent.
- k) In this Request for Expressions of Interest, any phrase introduced by the term “include”, “including”, “in particular”, “for example”, “such as” or similar expression shall be construed as illustrative and shall not limit the sense of the words preceding that term.
- l) This Request for Expressions of Interest, 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).

- m) The submission of a Submission (or any part thereof) will confirm acceptance of the foregoing provisions by the Respondent without qualification. Any attempt to qualify any of the foregoing provisions), either expressly or impliedly, may result in a Respondent being disqualified.

APPENDIX A - GENERAL DUE DILIGENCE REQUIREMENTS

A standalone copy of this form is available to download from the ETI website.

Details of Organisation
Full name:
Registered Office:
Type of Business: <input type="checkbox"/> Sole Trader <input type="checkbox"/> Limited Company <input type="checkbox"/> Partnership <input type="checkbox"/> Other – please describe:
Names of Directors/Partners/Owner:
VAT Number (for companies based in EU):
Details of Directors, Partners or Associates
Have any directors, partners or associates of the organisation been involved in any organisation which has been liquidated or gone into receivership? <input type="checkbox"/> Yes <input type="checkbox"/> No
Have any directors, partners or associates of the organisation been convicted of a criminal offence relevant to the business or profession? <input type="checkbox"/> Yes <input type="checkbox"/> No
Please give (and attach if necessary) full details if you have answered 'Yes' to either of the two previous questions.
Audited Financial Accounts
Please supply Audited Financial Accounts for the last 3 years for the organisation, or relevant part thereof.
Claims of Litigation
Please provide (and attach if necessary) details of any claims or litigation against the organisation in the last 3 years (including any which are outstanding) and/or any anticipated claims.

APPENDIX B - NON DISCLOSURE AGREEMENT

The Non-Disclosure Agreement (NDA) protects the confidential information of the Respondents and the ETI during the period of the Project Commissioning Process. For the successful Respondent(s), the confidentiality provisions in any project contract (when executed) will supersede this NDA.

Notes

In order to ensure parity across all 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 (<http://www.eti.co.uk/category/proposals>) for completion and signature by Respondents in accordance with the following instructions:

- The Respondent 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 Respondent should print and sign **TWO** paper copies of the NDA. **The NDA must not be dated on the front page.**
- The Respondent should scan a copy of a signed and undated NDA and email it to the ETI at the address on the front of the Request for Expressions of Interest.
- The Respondent 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 Respondent at the address provided by the Respondent at Schedule 1 of the completed NDA.



CONFIDENTIALITY AGREEMENT

THIS AGREEMENT is made on _____ of _____ 2016

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 or in relation to the Purpose. The Parties agree to receive such Information, and to treat it as confidential information, on the following terms and conditions.

IT IS AGREED:

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

- 1 In this Agreement, unless the context requires otherwise, the following words shall have the following meanings:
 - “**Disclosing Party**” means any Party that discloses Information under this Agreement;
 - “**Effective Date**” means the date of execution of this Agreement;
 - “**ETI Affiliates**” means the Secretary of State for Business, Innovation and Skills (and any successor governmental department or agency from time to time) and any other entity which is entitled to appoint the directors or otherwise having the ability to direct management policies of the ETI (together with any affiliates of those entities), together with their respective officers, employees, agents and consultants;
 - “**Information**” means any and all confidential information or data exchanged, submitted or otherwise disclosed in respect of or further to the Purpose or prepared for or in relation to the Purpose, including but not limited to written proposal documentation, due diligence materials, contractual documentation, reports, confidential intellectual property (including subject matter and embodiments thereof), and the fact that the Parties have entered into this Agreement and are discussing and considering a business relationship;
 - “**Project**” means the proposed project under the ETI Heavy Duty Vehicle Efficiency Programme entitled “Flettner Rotor Supply, Install and Commission Project”;
 - “**Project Commissioning Process**” means the ETI’s commissioning process for the Project as defined in the Request for Expressions of Interest or as later may be notified or published by the ETI;
 - “**Purpose**” means:
 - a the preparation and/or submission of any Submission and related documents in response to the Request for Expressions of Interest;

- b the Project Commissioning Process;
- c any activities related to the assessment by or on behalf of the ETI of any Submissions for the Project; and
- d any related exchanges of Information, clarifications, clearances, discussions, due diligence, meetings, and/or negotiations in respect of the Request for Expressions of Interest, the Project Commissioning Process and/or the Project, in each case between the Respondent and the ETI (or any of them);

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

“Request for Expressions of Interest” means the request for expressions of interest relating to the Project, issued by the ETI on 17th March 2016 and

“Submission” means a Submission (and the components thereof) as defined in the Request for Expressions of Interest.

- 2 The Receiving Party shall with regard to any Information disclosed under this Agreement by or on behalf of a Disclosing Party on or after the Effective Date:
- a hold the Information in confidence and, except as is otherwise stated herein or agreed in writing by the Disclosing Party, shall not disclose or make available the Information by publication or otherwise to any third party (including for the avoidance of doubt, disclosure in any patent application or to any patent office) and shall use any Information disclosed to it pursuant to this Agreement only for carrying out the Purpose;
 - b make copies of the Information (or any further information derived from the Information) in whatever form or medium only to the extent that the copies are reasonably necessary for the Purpose and clearly mark all such copies as confidential;
 - c take all necessary and proper security precautions (and at least as great as those it takes to safeguard its own information) to safeguard every part of the Information to prevent it from being disclosed or otherwise made available to any third party except as permitted by this Agreement; and
 - d at the request and direction of the Disclosing Party, and without delay, return or destroy any Information provided to it pursuant to this Agreement and any copies of such Information, except that one copy may be kept by the Receiving Party for archival purposes and for the purpose of defending itself against any claims arising in connection with this Agreement.
- 3 The obligations set out in clause 2 shall not apply to Information that:
- a the Receiving Party can prove (using written or electronic records), was lawfully known to the Receiving Party or in its possession prior to its communication by or at the direction of the Disclosing Party and was not communicated to the Receiving Party subject to any restrictions on disclosure or use; or
 - b is or becomes a part of the public domain through no wrongful act of the Receiving Party or any person on its behalf, provided that this clause 3(b) shall only apply from the date that the relevant Information so enters the public domain; or
 - c the Receiving Party receives from a third party without similar obligations of confidence in circumstances where the third party did not obtain that Information as a result of a breach of an obligation of confidence; or
 - d subject to clause 4, is required to be disclosed or made available by the Receiving Party pursuant to any applicable law, governmental regulation, or decision of any court or tribunal of competent jurisdiction or any government body, agency or regulatory body.

- 4 If a Receiving Party believes it is required by law to disclose any Information under clause 3(d) above, the Receiving Party shall (in each case and to the extent not prohibited in law):
- a provide the Disclosing Party with prompt written notice of such requirement or obligation (together with a copy of any relevant access request, court order or other evidence giving rise to such belief) in advance of the required disclosure, to enable the Disclosing Party to seek appropriate protective relief and/or to take other steps to resist or narrow the scope of any required disclosure;
 - b where it is not permitted in law to notify the requirement for disclosure in advance of the required disclosure, notify the Disclosing Party as soon as reasonably practicable after the disclosure confirming the nature of and extent of the disclosure; and
 - 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 legal advice, it is legally compelled to disclose.
- 5 The ETI shall be entitled to disclose or make available any Information it receives from the Respondent to:
- a such of the ETI Affiliates, and either the ETI's or the ETI Affiliates' employees, officers, secondees, agents, consultants, subcontractors, proposed subcontractors, professional advisers and proposed professional advisers where such disclosure is necessary for the Purpose, provided that all such aforementioned persons to whom any Information is disclosed by the ETI are bound by obligations of confidentiality and the ETI shall be responsible for breaches of the obligations by such persons. Each ETI Affiliate may enforce this clause in accordance with the Contracts (Rights of Third Parties) Act 1999; and
 - b the Department of Business, Innovation and Skills (or other relevant government department), the European Commission and such other bodies and/or individuals (including without limitation professional advisers) as may reasonably be required for the notification of, to seek advice in relation to, as part of an assessment of, or otherwise in relation to, State aid.
- 6 The ETI shall be entitled to disclose or make available any Information it receives from a Respondent to any other Respondent where it is necessary for the Purpose.
- 7 The Respondent shall be entitled to disclose or make available any Information it receives from the ETI to such of its employees, officers, 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 shall be responsible to the ETI for breaches of the obligations by such persons; for the avoidance of doubt, this Clause 7 does not permit disclosure by a Respondent to agents, consultants or subcontractors (or proposed agents, consultants or subcontractors).
- 8 Each Party as Receiving Party expressly agrees and accepts that except in the case of fraud, no representation or warranty, express or implied, is made by the Disclosing Party as to the accuracy, completeness, reasonableness or otherwise in respect of the use of the Information, and that neither the Disclosing Party or any of its affiliates nor any of its or their respective employees, officers, secondees, agents, consultants, subcontractors 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.
- 9 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.

- 10 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.
- 11 This Agreement represents the entire agreement between the Parties in relation to the subject matter contained herein and supersedes all other agreements and representations, whether oral or written, between the Parties relating to such subject matter. This Agreement may only be modified if such modification is in writing and signed by a duly authorised representative of each Party. Each Party also agrees that it shall have no remedies or claims under this Agreement for any innocent or negligent misrepresentation based on statements made prior to the Effective Date.
- 12 The Parties agree that the ETI may disclose that the Respondent is involved in discussions with the ETI and the subject matter of the discussions provided that the ETI will provide a copy of any press release or other announcement to the Respondent and seek the approval of the Respondent prior to its publication or release. Other than as set out in this clause, none of the Parties will make any public announcements, statements or otherwise publicise the subject matter of this Agreement (or its existence) without the prior written consent of the other Parties and no Party will use the business names or trademarks of any other Party in any way without that Party's prior written consent.
- 13 This Agreement shall come into force on the Effective Date and shall continue in full force and effect, notwithstanding the completion of the Purpose, for a period of seven years from the Effective Date unless extended, superseded or otherwise varied by a subsequent written agreement between the Parties.
- 14 The Respondent (i) acknowledges that certain Information disclosed by or on behalf of the ETI may be proprietary and/or confidential to one or more ETI Affiliates, and (ii) agrees that the terms of this Agreement (including without limitation clause 2) may be enforced by such ETI Affiliate(s) in their own right; save as aforesaid, it is not intended that a third party (other than an ETI Affiliate) should have the right to enforce a provision of this Agreement pursuant to the Contracts (Rights of Third Parties) Act 1999.
- 15 The rights of a 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.
- 16 If any provision of this Agreement is or becomes illegal, invalid or unenforceable in any jurisdiction, that shall not affect:
- a the legality, validity or enforceability in that jurisdiction of any other provision of this Agreement; or
 - b the legality, validity or enforceability in any other jurisdiction of that or any other provision of this Agreement.
- 17 Nothing in this Agreement is intended to or shall operate to create a partnership or joint venture of any kind between the Parties (or any of them), or to authorise any Party to act as agent for another, and no Party shall have authority to act in the name or on behalf of or

otherwise to bind any other in any way.

- 18 Except as provided otherwise, no person may assign any of its rights under this Agreement or any document referred to in it.
- 19 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.
- 20 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:

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

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

APPENDIX C – GLOSSARY

Term	Definition
Charterer	The company that will charter, from the Ship Owner, the vessel on which the Flettner Rotor(s) will be installed,
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.
Example Vessel	Example vessel for installation of Flettner Rotor system details of which are set out in this EoI.
Example Voyage	Example voyage for assessing fuel savings details of which are set out in this EoI.
Flettner Rotor(s)	The Flettner rotor system to be designed, developed, delivered and integrated into the Target Vessel in this Project which may comprise one or more Flettner rotors.
HSE	Health, Safety and Environment.
Member	The ETI's industry members (as identified on the ETI's website from time to time - http://www.eti.co.uk/about-us), including affiliates of such members, and Her Majesty's Government (including but not limited to those public sector members identified on the ETI's website (above) from time to time).
NCR	Nominal Continuous Rating of main engine(s).
Non-Disclosure Agreement / NDA	A non-disclosure agreement in the form provided in this EoI.
Programme	The ETI Heavy Duty Vehicle Efficiency Programme that includes the Project.
Project	The ETI project entitled the Flettner Rotor Supply, Install and Commission Project, for which the purpose, scope of work and other details are described in this EoI.
Project Commissioning Process	The process for commissioning the Project to be followed by the ETI as outlined in section 4.3.
Respondent	The organisation(s) submitting an expression of interest.
Ship Owner	Legal owner of the vessel to be used in the Project.
Submission	The response of the Respondent to this EoI.

Term	Definition
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.
Work Package (WP)	A major section of the Project scope of work, which may be identified in this EoI and/or in the Respondent's Submission, 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 D - GENERAL ARRANGEMENT DRAWING FOR EXAMPLE VESSEL

The general arrangement drawing for the Example Vessel is available via the link below:

<http://www.eti.co.uk/wp-content/uploads/2016/03/General-Arrangement-Drawing-Appendix-D.pdf>