



Invitation to Tender

“Consultancy Support for developing the East of England offshore renewable energy demonstration zone”

1 SUMMARY

Renewables East (“RE”) is engaged in programmes with both the East of England and East Midlands Development Agencies (EEDA & EMDA) to accelerate the Offshore Renewables Agenda and accelerate the route to market of very early stage renewable energy technologies, increasing both the quantity and quality of investable concepts. As part of this remit, RE is advanced in developing the proposition to site an offshore demonstration zone off the East Coast, where early stage prototype marine renewable energy technologies (Wind, Tidal stream &/or Wave concepts) can be evaluated within:

- (i) Sea state conditions which cannot be accurately replicated in lab testing facilities;
- (ii) conditions less onerous than final-deployment conditions;
- (iii) a location capable of being grid connected;
- (iv) a location within short travelling distances from investment centres, such as London and Cambridge.

Specifically, this ITT invites capable businesses, consultants and service providers to contribute to the realisation of RE’s overall proposed offshore demonstration zone agenda through delivering scoping studies needed to complete the overall capital feasibility study upon which significant public sector investment would be based.

2 Background to Invitation to Tender

The East of England is the leading English region for renewable electricity, currently producing 9% of the electricity it uses from renewable sources. It benefits from wide scale deployment of **bio energy** (for example the world’s first chicken litter electricity plant at Thetford, the UK’s first **bio ethanol** plant at British Sugar Wissington, and the world’s fastest biofuelled car at Lotus in Norfolk) and 2007 saw a record year for deploying on shore renewable energy. The region’s coast is also surrounded by the majority of the UK’s Rd1, Rd2 and [proposed] Rd3 offshore wind installations, with around £50 billion capital investment anticipated by 2020 as well as being the host region for **OrbisEnergy**, a Centre of Excellence focussed wholly on R&D, innovation, business development & growth for offshore wind, wave and tidal technologies. As a result, the region is well on target to meet its 2010 target of 14% electricity from renewable sources and has also been engaged by the East Midlands Development Agency to increase exploitation of the sector growth in offshore renewables.

In order to further strengthen the regional renewable energy proposition, RE is carrying out feasibility studies to underpin the business case for additional infrastructure projects which, if realised, will enhance the region's ability to (1) capture economic benefit for businesses, (2) develop high calibre skills, and (3) increase knowledge holding in each of the areas of Primary Renewable Energy (Heat, Electricity & Transport Fuels). Each feasibility study will lead to a full Green Book business case assessment on which capital investment decisions can be based.

This ITT relates to the region's leading role in developing the Offshore Renewables Sector and builds upon a research study¹ and industry engagement already delivered by RE, which highlights a number of sites for taking forward to full development of an offshore demonstration zone for early stage wind, wave stream and tidal technologies.

Delivering this particular infrastructure project will not only help position the East of England as the 'go to...' region for renewable energy technology development, entrepreneurship & innovation, but will also provide physical prototyping test facilities for the growing number of early stage wind, wave and tidal technologies already under development within and outside the region, thus moving them closer to investment.

Increasing the quantity and quality of investable offshore renewable technologies will not only contribute to the regional low-carbon economy and knowledge economy, but will also help the UK maintain its competitive lead in terms of electricity generation from marine renewables in particular. This programme will also contribute directly to the sustainable regeneration agenda.

3 About Renewables East

Renewables East is a private company delivering the services associated with being the renewable energy agency for the East of England. The Company is funded by the East of England Development Agency (EEDA) and officially designated as an EEDA sister organisation. For the year 2008/09, RE has been allocated £2.4M from various sources including EEDA, EMDA, EU, Local Authorities and central government to continue its mission.

The objectives of the Company are:

- a. To enable the East of England to meet its adopted target for the production of energy from renewable resources, within the context of national energy policy and the need to move towards a lower carbon economy; and
- b. To maximise the rate of growth of the renewable energy sector and the economic benefits to the East of England and East Midlands' regions, especially through stimulating investment and job opportunities, supply chain development and innovation.

RE's primary work areas are Bioenergy (Biomass and Biofuels,) Offshore/Onshore Wind and the emerging marine renewables (i.e. Wave & Tidal technologies), Planning, Supply Chain Development and the On-site Renewables agenda. If you have not already done so, you may find a visit to our web-site useful www.renewableseast.org.uk.

¹ Study will be made available by RE to the successful bidder(s)

4 Scope of work

The successful bidder(s) will have the capability to provide one or all of the following support packages:

Package 1 – Offshore Site/Location Analysis & Validation

This package of work is specifically focussed on contributing to the ultimate goal of gaining the necessary permit(s) and offshore planning consent(s) for the **offshore demonstration zone(s)** in which various marine renewable technologies could ultimately be deployed. This work package will have two parts, both interdependent:

- a) **Site/Location Analysis:** From preliminary studies, three possible sites have been offered forward as the most viable regional options. These options will need to be analysed in more detail to (i) confirm the conclusions made in the preliminary studies; and (ii) further refine the site selection to either a single preferred location or a preferred location for **each** offshore renewable technology.
- b) **Route to Consenting the Preferred Site(s):** In parallel with the site/location analysis, a detailed method statement will need to be generated of the forward processes of gaining the relevant permit(s) and planning consents necessary to realise the offshore demonstration zone(s). This method statement will not only list the relevant statutory consultees and other stakeholders (Database with full organisational & individual contact details) fundamental to achieving a positive outcome, but will also illustrate a clear programme (Gantt Chart) against which their engagement should be sought to meet the shortest possible consenting date.

Package 2 – Offshore Site Location Grid Connection

This package of work is specifically focussed on the ultimate goal of gaining the necessary permit(s) and offshore planning consent(s) for the **grid connection**, including the size and nature of the subsea cable (AC vs DC vs HVDC) and its route from the offshore demonstration zone(s) right the way through to the shore and inland to the necessary substation infrastructure. This will need to be based on the predicted power supply from the sea trial site for export to the Network Operator. For each of the shortlisted locations, the availability and/or cost of land-side grid connection is essential and will determine to a large degree the ultimate size of the offshore demonstration zone. The capacitance of the undersea link cable will need to be taken into consideration and will vary depending on the length of the cable run(s) and number of joints, all of which will need to be specified in line with relevant industrial regulations.

Package 3 – Capital Build Study (Marine Side Structure)

This package of work is specifically focussed on establishing the physical nature, cost & programme for delivering the necessary offshore civil, mechanical and electrical infrastructure which may range, for example, from a simple floating pontoon, right up to a more sophisticated offshore 'harbour' complex. This build study will also address the need to communicate with the facilities remotely from suitable shore-based facilities and as such will capture a sector view of the test gear, analysis software and other infrastructure needed to contribute to a viable operation to market and ongoing site management and maintenance provision.

Package 4 – Economic Operation Appraisal

This package of work is specifically focussed on establishing the business model option(s) for the long term operation and maintenance of the offshore demonstration zone. Accordingly, this study will investigate both the ongoing costs structure associated with the site management and

its maintenance & service requirements, but also the potential revenue streams available from (i) rental of the facilities to technology companies; (ii) sales of exported power to the grid (Incl. ROC's); (iii) subscription services (or other) for access to the knowledge accumulated through the facility, which could be valuable internationally to, for example, organisations linked with (a) low carbon innovation; (b) technology & climate research such as academic institutes (HEI's); (c) a finance and investment for the sector such as those interested in the development and exploitation of IPR. Based on the economic models for operating the facility, this study will also seek to determine the options available for funding both the capital expenditure and its long term operation & maintenance and accordingly will seek to engage input & support from the widest possible stakeholder groups.

5 Outputs & Timings

The combined outputs of these scoping study work packages are to be completed by end of Q4 2008/9 (by **31 March 2009**). These outputs will effectively provide the framework of activity and associated critical path programme needed to allocate both funding and resource for delivering the overall feasibility study during Q1-Q3 2009/10 (by **31 Dec 2009**). Ultimately, the feasibility study must provide the basis of a full Green Book business case on which capital investment decision(s) can be based and as such, the scoping studies will need to contain insight into how empirical data can and should be gathered through the feasibility stage in order to address competition analysis, demand and need, affordability and capacity criteria, technical and build spec criteria, innovation support criteria and information in support of market access and timescales, simultaneously identifying synergy and avoiding duplication.

6 Tender Details

Responses to this invitation to tender must be received by **Renewables East** no later than **1600 hours on Friday 23 January 2009** and should be sent via email to:

John Heath
Delivery Manager
Renewables East
ZICER Building, School of Environmental Sciences,
University of East Anglia,
Norwich, NR4 7TJ
johnheath@renewableseast.org.uk

Responses should be submitted electronically, and should include your total fees (including the number of people involved, their daily rates, plus any expenses and VAT), evidence of previous experience, and any additional value you can add.

The successful applicant will be notified by Friday 30 January 2009 at the latest and must be in a position to start work immediately upon notification i.e. Monday 2nd February 2009.

The materials produced will be the property of **Renewables East** and will need to be supplied in formats (hard copy and/or electronic) that can be reproduced by us without further project cost.

7 Tender Process & Assessment

Tenders should be no longer than ten pages, including a two page Executive Summary. Further information and evidence can be included in the form of appendices.

Above all else, the successful tenderer will clearly articulate specifically HOW the work package(s) will be delivered, stating how resources will be deployed to stay within the budget and timescale.

In more specific terms, tenders will be assessed against the following criteria:-

20% - Value for Money: Clear, concise evidence of how the tenderer will not only deliver the scope, but will deliver a greater/wider value to the overall project/programme.

50% - Track Record: Demonstrable (evidenced) examples of knowledge and experience in delivering work packages of a similar nature on time and to budget. Ideally, experience will have been gained either in the area of energy/utility-related capital infrastructure projects; public/private partnership (PPP) projects, or low carbon technology acceleration projects.

30% - Stakeholder Engagement, Reporting & Management: Demonstrable (evidenced) examples of existing relationships developed up and down the value chain within relevant public, private, academic and NGO stakeholder groups which could be leveraged to positively benefit this programme. Evidence should be provided about the tenderer's ability to successfully monitor and report on behalf of **all** stakeholders, either to inform strategy and decision making, or purely for the purpose of disseminating information.

8 Fees

The budget available for this work cannot exceed:

Package 1 (Site Selection) : GBP£20,000.00 ("Twenty Thousand Pounds")

Package 2 (Grid) : GBP£15,000.00 ("Fifteen Thousand Pounds")

Package 3 (Capital Build) : GBP£15,000.00 ("Fifteen Thousand Pounds")

Package 4 (Operating Model) : GBP£20,000.00 ("Twenty Thousand Pounds")

All prices are inclusive of VAT and any materials/expenses incurred in the course of this work and will be released in line with tangible evidence of progress against milestones.

9 Further Information

Should you require any further information on this brief to complete your tender submission, please contact John Heath by e-mail or post: JohnHeath@RenewablesEast.org.uk

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10 Restricted and Commercially Confidential

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