

Offshore renewable supply chain companies are invited to develop commercial solutions with project developers chosen at first stage of NeSSIE competition

October 31st, 2018

Innovative supply chain companies in the offshore sector are being invited to work with three large-scale project developers on commercial solutions for corrosion and material challenges in the North Sea Basin, as part of the NeSSIE competition.

The launch of the second stage of the NeSSIE competition was announced today by MSP Paul Wheelhouse, Minister for Energy, Connectivity and the Islands, at the Ocean Energy Europe Conference and Exhibition in Edinburgh, alongside the announcement of the chosen stage one project developers: Simec Atlantis Energy, SSE and the European Marine Energy Centre (EMEC).

The aim of the first stage of the NeSSIE (North Sea Solutions for Innovation in Corrosion for Energy) competition was to find three offshore renewable project developers that are interested in carrying out demonstration projects related to corrosion in the North Sea Basin.

The second stage of the NeSSIE competition, launched today, invites offshore renewable supply chain companies to put forward commercial solutions for the projects and companies outlined in stage one.

The details of the project developer challenges are:

- SSE is looking for solutions to corrosion management and remediation for offshore wind turbines
- SIMEC Atlantis Energy is looking for a number of solutions around operational tidal turbines
- European Marine Energy Centre (EMEC) is looking for solutions for marine energy converters, subsystems and connectors, particularly in the wave sector

The supply chain companies which enter stage two of the project will also be put forward to meet the three project developers at the forthcoming European corrosion conference in Glasgow on 24 January 2019.

Once stage two is complete, the NeSSIE project partners will work with the project developers to develop business cases for each demonstration project and will help to identify potential funding packages to deliver them.

As the race to decarbonise our energy system and tackle the energy trilemma of security, affordability and environmental sustainability continues, **the NeSSIE competition, which is backed by the European Commission, is designed to help the offshore renewables industry in the EU tackle corrosion issues** to support these goals, **lower the cost of low carbon electricity and create** up to EUR 84,000 million of supply chain opportunities across Europe by 2050.



Jan Reid, Team Leader in the energy and clean technologies team within Scottish Enterprise and responsible for NeSSIE, said:

“NeSSIE is an EU-funded project that aims to identify three large-scale investable demonstration projects and investment sources in the field of corrosion and new materials in the North Sea Basin. We are delighted to announce the three successful companies from stage one are SSE, Simec Atlantis and EMEC. The companies represent leading developers in offshore renewables across offshore wind, wave and tidal energy and are well placed, given their expertise, to lead this European partnership in seeking to build further upon our strengths in working in the harsh environment of the North Sea basin. We would like to thank all of the NeSSIE partners for their support and collaboration in this crucial stage. The next stage of the project will include opportunities for companies to engage in a variety of ways including a major conference in Scotland at the end of January, details to be announced.

Brian McFarlane, Head of Projects, Offshore Development at SSE said:

“NeSSIE gives the supply chain an opportunity to bring new products and services to the market and potentially trialled on operating offshore renewable assets. SSE look forward to having new exciting concepts identified, and are committed to working with the supply chain to better manage one of the industry’s most prevalent challenges.

“SSE is interested in seeing innovative corrosion management and remediation solutions being brought to the offshore renewables sector. As the UK’s offshore wind portfolio matures, corrosion will become a major focus in maintaining asset integrity and be a significant factor when assessing the feasibility of asset life extension.”

Cameron Smith, Director of Business Development and Public Affairs at SIMEC Atlantis Energy said:

“SIMEC Atlantis are delighted to be chosen as one of the project developers to take forward the NeSSIE project which will promote further innovation from our existing, local, supply chain. This is yet another example of the industry working together to find solutions to common challenges.

“Now that the world’s first commercial scale, multi-turbine tidal array, our MeyGen project, has moved into the operational phase, we look to the future; specifically to the roll out of large commercial tidal energy schemes in Scotland and overseas. These cost competitive, commercial projects can only be realised if we continue to innovate and look for optimal solutions across the tidal array system including addressing and mitigating the effects of corrosion.

“Through the support provided by the NeSSIE project, working together with our supply chain to demonstrate future solutions, we can accelerate this process. This is one of the many important cost reduction exercises which we are implementing to realise the cost reduction pathway identified in a recent report by the Offshore Renewable Energy Catapult”.



Matthew Finn, Senior Business Development Manager, at EMEC said:

“Wave and tidal energy technologies operate in extreme marine environments with high loadings and limited access for operation and maintenance. They are also subjected to much higher oxygen levels in these turbulent seas, so corrosion poses significant long-term challenges for technology developers.

“We’re looking for solutions that are cost effective, reliable and can survive this harsh, corrosive environment, and want to make use of lessons learned from the testing activities that have taken place at EMEC as well as from solutions that have been used in other offshore sectors. Through the NeSSIE project, we plan put the supply chain’s solutions through a comprehensive demonstration programme at EMEC’s test site in Orkney working with a number of our clients who are operating on site.”

Notes to editors:

The presentation of the three project developers are available online under the “Demo-Cases” section on <http://www.nessieproject.com>

The application details to participate to the Stage 2 of the Competition for supply chain companies can be found here: <http://www.nessieproject.com/demo-cases/stage-2>

More details on the European Corrosion conference, and to register, can be found on the NeSSIE website: <http://www.nessieproject.com/events>

Also available online are six background reports, commissioned by the NeSSIE project, that could help the supply chain applicants and the project developers, in general:

- [State of the Art Study on Materials and Solutions against Corrosion in Offshore Structures](#) This report maps the current research and standards in corrosion solutions and materials in the offshore sector.
- **[Assessment of the Economic Opportunity Report](#)** – This report assessed the market opportunity relating to corrosion solutions and new materials in the sector out to 2050. By assessing the savings in other offshore sectors in relation to corrosion and materials, alongside future market projections and the current breakdown of costs in offshore renewables, this report put together a model that assessed the savings that could be made in the industry. The report also valued the subsequent value chain opportunities that would be created by adopting new corrosion solutions and strategies.
- [Roadmap for Anti-Corrosion Solutions in the Offshore Renewable Energy Sector](#) – The roadmap presents the path forward for the development of high-value manufacturing opportunities for anti-corrosion solutions applied in the Offshore Renewable Energy sector by identifying the challenges and the priorities to focus on. This will support the identification of the demonstration projects within NeSSIE.
- [Non-technical Challenges in Developing Offshore Renewable Energy Projects](#) – This report provides an overview of the market, finance, infrastructure and regulatory status regarding ORE in Europe,



specifically for the North Sea basin countries, followed by the challenges encountered in these areas for the development of ORE towards commercialisation.

- Business and Innovation Needs. Servicing and Maintaining Offshore Structures in the Energy Sector – This report aims at identifying a set of business and innovation needs within the corrosion topic through surveying the companies working within ORE sector.
- Review of Public and Private Sector Investments in Offshore Renewable Energy – This report provides information to support the optimal design of the NeSSIE demonstration projects through showing and discussing some best-practices in the design process of demonstration projects.

About the NeSSIE project

The NeSSIE project's main objective is to develop three investable demonstration projects in offshore renewables focused on corrosion and materials. The projects will utilise the existing subsea supply chain and their knowledge to develop commercial solutions. The project will establish strategic public-private cross-sectorial partnerships in the North Sea Basin to develop and deliver these projects with the ultimate objective to delivering new business opportunities.

This project, co-funded by the EMFF programme of the European Union, started in May 2017 and will finish in April 2019 with the participation of 8 partners from 5 countries:

- Scottish Enterprise - UK
- Basque Energy Cluster - Spain
- ASTER – Società Consortile per Azioni - Italy
- Sirris - Belgium
- Svenskt Marintekniskt Forum – RISE - Sweden
- The University of Edinburgh - UK
- Fundación Asturiana de la Energía - Spain
- Lombardy Energy Cleantech Cluster - Italy

The project incorporates an Industry Advisory Group (IAG), which represents the wider supply chain and end users within the offshore sector from the regions of the Vanguard Initiative Energy Pilot. These are mainly focused around the North Sea and include the following organisations:

- Dalarna Science Park - Sweden
- Offshore Energy Cluster - Denmark
- MERINOVA - Finland
- Highlands and Islands Enterprise - UK
- SPRI Group – Spain

During the remaining of 2018, the NeSSIE project will finalise the second and third steps of the Competition that will lead, by February 2019, to deliver an investment plan for the three successful Demonstration Cases.



About SSE

SSE is one of the largest producers of renewable energy in the UK, with a diverse portfolio of renewable energy capacity. Part of this portfolio includes a total of over 2,000 turbines across both SSE's onshore and offshore wind assets.

SSE operates Greater Gabbard Offshore Wind Farm, one of the 10 largest offshore wind farms in the world. The site is based out of Lowestoft and is home to 140 wind turbines and 2 substations, capable of producing up to 504MW. SSE is currently leading the development of Beatrice Offshore Windfarm Limited in the Outer Moray Firth. The site has 84 wind turbines, 2 Offshore Transmission Modules and a capacity of up to 588MW.

About SIMEC Atlantis Energy

The Company is a global developer, owner and operator of sustainable energy projects with a diverse portfolio of more than 1,000 megawatts in various stages of development. This includes a 77% stake in the world's largest tidal stream power project, MeyGen, and 100% ownership of the Uskmouth power station which is to be converted to use a new waste derived fuel.

The plant is expected to enter commercial operations in 2020 and will sell its power to GFG Alliance companies under two 20-year power purchase agreements. A successful conversion will tackle the pressing issue of non-recyclable waste in the UK and will form the blue-print for other large-scale conversion projects across the globe.

The Uskmouth project is intended to be the first of a number of acquisitions aiming to transform Atlantis into a diversified energy company of scale, owning development and generating assets across the sustainable energy spectrum in Europe, Asia and Australia, complementing our existing UK pipeline.

<https://simecatlantis.com>

About EMEC

Established in 2003, EMEC is the world's leading facility for testing wave and tidal energy converters in real sea conditions. The Centre offers independent, accredited grid-connected test berths for full-scale prototypes, as well as test sites in less challenging conditions for use by smaller scale technologies, supply chain companies, and equipment manufacturers.

To date, more marine energy converters have been deployed in Orkney, Scotland, than at any other single site in the world with 20 wave and tidal energy clients spanning 11 countries having tested 31 marine energy devices.

<http://www.emec.org.uk/>

