

SAGES Innovation Programme

Identification of future offshore renewable energy project locations in Scottish waters

Job Title: *SAGES Policy Placement*

Organisation: *Wave Energy Scotland, Research and Innovation Team*

Duration: *up to 3 months full -time or 6 months part-time*

Start date: *[flexible but ASAP]*

Remuneration: *University of Edinburgh Grade 06. Travel and subsistence costs covered.*

Location: *Edinburgh, but option for part time remote working*

Summary

The Scottish Government has a target to reach net zero by 2045 and this will bring large scale investment in renewable energy technologies. Offshore renewable energy will play a significant part in this and can also provide economic benefit from exporting technologies developed locally.

Many opportunities exist within Scottish waters to exploit Scotland's natural ocean energy resources. Options include offshore wind (fixed and floating), tidal and wave energy. A variety of end users are also identified for the electricity generated from these resources including utility scale electricity, hydrogen production or local use. A combination of site characteristics and end user requirements will determine the most appropriate technology and feasible option of how best to use the resources in any particular area.

Wave Energy Scotland, a funding agency established in 2014 by the Scottish Government, is at the forefront of wave energy development, having supported multiple technologies and sub-systems through the multiple stage funding programmes. Projects have ranged from the deployment of two large-scale wave energy converter technologies for extended at-sea testing to supporting technologies which can enable the future development of new wave energy concepts.

Project

In this study for Wave Energy Scotland, the successful candidate will report on the opportunities for ocean energy in Scottish waters, with a particular focus on wave energy. This will be achieved by:

- Reviewing previously announced lease areas and projects,
- Interrogating existing GIS map layers and resources,
- Developing customised GIS maps which allow future opportunities to be readily identified and disseminated,
- Identifying areas of interest for future marine energy arrays,
- Interpreting the potential for energy generation associated with the areas of interest.

The initial focus for the candidate will be on delivering the GIS analytics activities, before working alongside the Wave Energy Scotland team to interpret the potential associated with the areas of interest in the context of wave energy requirements. The interpretation of the areas of interest is expected to consider a number of factors, including the end uses for the energy captured (for example grid-connected utility scale, niche applications, hydrogen production, etc.), and the opportunities from supply chain collaborations and crossover with other technologies and industry developments.

Interpretation may also consider the co-location of wave energy deployments with other infrastructure and offshore renewable technologies in consented sites. These may include for example, sites which have already been identified for development of offshore wind through ScotWind and INTOG (Innovation and Targeted Oil and Gas) leasing rounds, or the North Sea oil and gas sector.

Outputs

Multivariate GIS analysis of Scottish waters, which combines and allows interrogation between existing single variable data layers.

An internal report, completed with support from Wave Energy Scotland, which offers interpretation of the information and categorisation of potential sites from the GIS analysis. The internal report will be used to support the development and scoping of future wave energy projects in Scotland.

A public facing report which indicates the potential locations for future large scale marine energy arrays, and highlights factors which may impact and influence the suitability of these areas. This would be informed from the GIS analysis and the internal report, and would present an unbiased statement of factors such as energy resource, distance to nearest ports, other marine users, existing or planned infrastructure developments, etc. The public facing report will be used to engage key stakeholders and disseminate the outcomes of this project.

Person Specification

We are looking for an Early Career Researcher or SAGES Graduate student who is either working towards or has recently completed a PhD. They will need to demonstrate that they have:

- Strong research, data collection and analytical skills.
- Strong communications skills (written and verbal), as post holder will be engaging with various organisations and delivering a public facing report.
- The ability to work independently and plan their own workload.
- The ability to deliver a well written report.

In terms of specific skills:

- Essential - Knowledge and experience of GIS software, to produce an interactive map of potential project locations utilising existing data.
- Beneficial, but not essential - Background in engineering, and knowledge and/or experience of offshore renewable energy, particularly wave energy.

Duration

The project would be for 3-6 months.

The candidate would be working full time, but with the option for part time working.

Location

Wave Energy Scotland have an office at ECCI, University of Edinburgh but currently staff are mainly working remotely. The candidate would not be required to attend the office every day.

Meetings with Wave Energy Scotland will take place in Edinburgh (in person), and online (remotely). Regular project meetings will occur at a frequency to be agreed at project kick off.

Opportunities

There will be the opportunity to engage with relevant industry stakeholders across a number of sectors from policy/government, technology, and project development to capture concerns and considerations pertinent to the study.

Following delivery of the report, there will be the opportunity to present the outcomes at the 2023 WES Annual Conference. This annual event, which presents updates on the WES programme as well as interesting developments in the fields of technology and policy, is attended by over 150 key industry stakeholders and will provide an excellent networking opportunity for the successful candidate.

How to apply

To apply, please provide a one page cover letter detailing why you are the right person for this Policy Placement as well as a CV (2 pages maximum) to Kristin Hopfe at the Edinburgh Climate Change Institute, email: Kristin.Hopfe@ed.ac.uk

Please include one reference that you are happy for us to contact, should you be successful.

Further details are available from:

matthew.holland@waveenergyscotland.co.uk

Deadline for applications is **Friday 5th August 17.00hrs.**

By applying you are confirming that you are available for an interview on **Friday 19th August**