

NERC funded PhD at Bangor University on generating electricity from western boundary currents

A NERC funded Envision PhD project at Bangor University (School of Ocean Sciences, <http://www.bangor.ac.uk/oceansciences/>) on an exciting, and understudied, marine renewable energy resource “Using western boundary currents to generate electricity: resource characterisation, technical & practical constraints”

To reduce our reliance on fossil fuels, it is crucial that we continue to explore renewable energy resources and technologies. It is possible to convert the kinetic energy that resides in ocean currents into electricity, and the global potential of this energy resource is vast. In contrast to (twice daily) tides that are characterized by fortnightly variability, large-scale ocean currents like the Gulf Stream are relatively persistent features. In the west of ocean basins, these currents are intensified into “western boundary currents” – relatively persistent fast-flowing currents concentrated in the upper part of the water column that could be suitable for electricity generation.

This project will make use of existing datasets (including satellite data) and numerical models to compare and contrast the strength and variability of these western boundary currents from an electricity generation perspective, and to compare them, from a grid perspective, with the variability of other renewable energy sources such as wind and solar.

You will be trained in and have access to a supercomputer to run your own model simulations, in addition to investigating existing model outputs and observational data. You will receive advanced training in time series analysis, and receive training in oceanography and energy systems, with ample budget to attend international conferences where you can discuss your research with world experts.

- Applicants should hold a minimum of a UK Honours Degree at 2:1 level or equivalent in subjects such as Physics, Mathematics, Oceanography, Energy Engineering, or Civil Engineering.

Deadline for applications is 14th Jan 2018.

- For further details please contact Dr. Simon Neill s.p.neill@bangor.ac.uk
- Further information here: <http://www.envision-dtp.org/2017/using-western-boundary-currents-to-generate-electricity-resource-characterisation-technical-practical-constraints/>

Dr. Matt Lewis

Research Fellow

Centre of Applied Marine Sciences
School of Ocean Sciences
Bangor University
LL59 5AB Menai Bridge

Tel: +44 (0) 7834242430

Office: +44 (0) 1248 38 8114

Further information here:

<https://scholar.google.co.uk/citations?user=JumKKY8AAAAJ>

https://www.researchgate.net/profile/Matt_Lewis2