



Happy 2014!

In this issue we'll be updating you on developments in some of the programme's activities since September, and looking ahead to some of those coming up during the new year.

ISSMER recommendations adopted

During 2013, the MREKEP funded a workshop led by **Dr Sandy Kerr (ICIT)** to develop the social and economic research for the marine renewable energy sector and the report identified the following three priority research areas:

- Values, community benefits, and public understanding:
 - developing models for community benefit ;
 - minimising value conflict in the development; and
 - understanding the economic impacts of commercialisation.
- Consultation, communication, and knowledge flow:
 - improving the process of consultation within consenting and planning processes.
- Innovation, futures, uncertainty, and planning processes:
 - integrating marine and terrestrial planning and regulatory processes within the EU,
 - understanding the drivers of innovation and translating this into economic and societal benefits

The outcomes of the workshop were subsequently adopted in the **Wave Wind and Tidal research and training prospectus** recently published by the RCEP strategy fellow (tinyurl.com/qx8s4ax)

Key recommendations of the prospectus include the need for closer linkages between the research councils and innovation bodies such as the TSB and ETI to enable interdisciplinary research to be nurtured via joint-funding calls (e.g. NERC-TSB), KE networks or possibly establishing a central organisation responsible for coordinating such collaboration. The report also identifies the need for PhD training via both Centres for Doctoral Training, industrial PhDs and project-based funding models, some of which should be interdisciplinary in nature.

You can read more at <http://www.issmer-network.org/> and from recent Energy Policy publication [Establishing an agenda for social studies research in marine renewable energy.](#)



Radar installation overlooking the Pentland firth as part of a KE internship project with Meygen Ltd. Photo: Dr Paul Bell.

NERC business and policy internships

During 2013 the MREKE programme facilitated a number of internship projects partnering NERC science with several organisations including **Mojo Maritime, Meygen Ltd, RSPB, HR Wallingford, NaREC, Regen SW, Ultra Electronics, Baker Consultants, Gardline and Wave Hub** to tackle particular issues for the MRE sector. Projects ranged from an assessment of the feasibility of using AUV /gliders in offshore windfarm site surveys, to field demonstration of the capabilities of X-band radar for coastal remote sensing.

The scheme has proved to be an excellent vehicle to directly apply excellent NERC-funded science, for the benefit of host organisations, and has given interns valuable experience and fresh perspective to either bring back to their existing role, or apply to new challenges. Two of our interns now have employment in consultancies - **Adrian MacLeod (SRSL) and Silvana Neves (Baker), Ian Ashton, Elizabeth Masden and David McCann** all have PDRA working collaboratively with industry and **Rick Brintjes has a KTP with HR Wallingford**. The remainder are continuing with their post graduate studies. To build on the success of the first projects, a further call for interns was progressed in Nov 2013 and a new set of projects commissioned.



Exhibition at NOC

On October 14, 2013 the MREKE programme participated in an exhibition to showcase the impacts of NERC funded marine science in the marine renewable energy sector at the National Oceanography Centre, during the naming of the new NERC research vessel, RSS Discovery. This allowed us to highlight the importance of NERC science in a rapidly growing industry which is of major societal and economic importance.

The exhibition was visited by HRH The Princess Royal and the Minister for Science Rt Hon David Willetts MP.

You can follow **@MREKEP** on twitter for up to date information on events that the programme is involved with or attending, funding alerts and more.

Renewable UK and 'Position paper' launch

In September the MREKE programme exhibited at the annual RenewableUK conference and a highlight of the event was the launch of three position papers outlining the 'state of the science' in three key areas relevant for wave and tidal development. The papers provide a synthesis of research and monitoring to date and aim to assist both industry and regulators in developing a common understanding of potential impacts of technology on the marine environment. The Position papers were developed by **PMSS in collaboration with SMRU Marine** with input from industrial stakeholders, key consenting bodies, NGOs and regulators, and were presented by **Kit Hawkins Senior consultant at PMSS, at the recent Coastal Futures conference, at SOAS**. Downloadable from www.mrekep.net.

WaveCert project

KE programme associate Fraser Macdonald has had a proposal accepted through the recent TSB-NERC 'Solving problems with Environmental Data' call. The project brings together **BGS, SAMS, Heriot Watt (ICIT), and Stevenson AstroSat Ltd.**

The 12 month project will study the technical feasibility of a planning and monitoring tool based upon space remote sensing data, bathymetry data and environmental modelling to aid in and heighten the economic exploitation of wave and tidal energy generation. The study areas will be Pentland Firth; using the Heriot Watt Suntans model as a proxy for assessing the capabilities of using satellite data, and Inner Hebrides; Using the INIS Hydro data set, associated sediment data, and drifter technology, to generate and validate a hydrodynamic model for the area. The project will also assess the potential to model sediment deposition and bedform mobility using satellite derived data in collaboration with SAMS and BGS.

MAREMAP workshop

The Marine Environmental Mapping Programme held an industry workshop in Edinburgh to identify needs for developing the MAREMAP Toolbox to allow the Marine Renewable Energy sector to access NERC data. One of the key requirements highlighted by the event was the need for a technical workshop focussed on interpretation and developing a common understanding of mapping between scientists, industry and policy organisations. Consequently this will be taken forward later in 2014, and lead by **Andrew Colenutt at the CCO** with JNCC, CEFAS, BGS, SAMS, Marine Scotland. For further info : contact : fraser.macdonald@sams.ac.uk

Event news: Environmental Interactions of Marine Renewable Energy Technologies - 30th April to 2nd May 2014, Stornoway

The programme has arranged a suite of workshops following the main conference.

- Cumulative Impact: up scaling - from single devices to arrays
- Statistics, Data Analysis, Survey design
- Quantifying wildlife collision risks with tidal turbines
- Managing risk - from generic risk management to developer's perspectives

There will also be a full day workshop before the conference (Tues 29th) on : 'Best Practices for Monitoring Environmental Effects of Marine Energy Devices' organised by the UK-DoE – currently lead organisation in the IEA OES Annex IV Ecological effects.

For content from EIMR 2012, please see the publication '**Marine renewable energy: The ecological implications of altering the hydrodynamics of the marine environment**', Shields et al, in *Ocean & Coastal management*.



'ORJIP' Wave and Tide workshop

On November 13th, 2013 the KE programme and The Crown Estate brought together a range of key stakeholders from industry, academia, regulatory and policy organisations as well as their nature conservation advisors and NGOs, for a workshop to review the research needs for wave and tidal array development and provide input on the way forward. The workshop participants reviewed a draft version of the '**Consolidation of wave and tidal EIA/HRA research issues and research priorities**' commissioned by TCE from Aquatera Ltd, then discussed the highest priority R&D projects needed to move wave and tidal energy demonstration arrays forward. The final report includes a synthesis of the workshop discussion and is available [here](#), and discussions are ongoing regarding the need for a Wave and Tidal 'ORJIP' as a focus for taking forward R&D priorities

News from Marine Scotland: Blog launched

Marine Scotland Science - Marine Renewables Energy Programme provide scientific advice and research to support policy and licensing teams. On their blog, staff share experience from events, meetings, publications, and project updates relevant to renewable energy: <http://blogs.scotland.gov.uk/coastal-monitoring/Renewables/renewables/>
For any enquiries please email mrepnews@scotland.gsi.gov.uk