

Heriot-Watt University

REPORT on the use of MASTS PEER funding to assist with submission of a proposal for **H2020 LC-SC3-ES-4-2018-2020 - Decarbonising Energy Systems of Geographical Islands**

This award of PEER Funding was used to help with the writing of the H2020 LC-SC3-ES-4-2018-2020 proposal (CLARIS) submitted to the European Commission (EC) in April 2018 at a value of €9m. The proposal was submitted by the MARIBE (Marine Investment in the Blue Economy) Consortium which recently completed the H2020 BG-05-2014 project which concerned the developing maritime economy and new maritime industries. Heriot-Watt University is a member of this pan-Europe consortium comprising twelve academic and industry partners in ten countries. PEER funding was matched by a similar amount contributed from the Welsh Government to the University of Swansea.

The H2020 call recognised the very specific problems faced by geographical islands in achieving reliable, cost efficient and low carbon sources of energy security. Many islands are off national grids and dependent on small diesel powered generation to local areas or to micro-grids, many more have no electricity. The call required the research, design and installation of an integrated energy pilot project with plans for installations at two more island sites. The CLARIS proposal identified the plentiful sources of natural energy (wind, wave, tide and solar) at many island sites and developed plans for a pilot installation at Chios in Greece with additional studies of islands within the Malta and Gran Canaria archipelagos. The plans allowed or transfer of technology and skills from the Scottish experience together with feedback of results.

The CLARIS consortium proposed an offshore platform combining wind, wave and solar sources of energy with additional revenue streams provided by aquaculture, desalination and algae culture. A governance structure of private interests, community groups and local councils was envisaged for the long term operation of the scheme after conclusion of the project. The Municipality of Chios Island were full partners in the proposal. A strong Scottish flavour to the project was employed introducing the Orkney Islands experience of renewable energy production and use to inform the methodology.

In addition to the requirements of the EU H2020 call contributing to climate change mitigation and the economic energy security of geographical islands, the proposal provided a shop window for Scottish research and technology in matching natural sources of energy (wind, wave and tide) to practical solutions to its incorporation into energy systems and energy use with socio-economic benefit. The research and projected results of the project related strongly to the MASTS 'Productive Seas' theme and to the work of a number of the MASTS Research Forums and in particular those concerned with Marine Renewable Energy; The Coastal Zone; Aquaculture and Marine Planning and Governance. A number of Scottish SMEs and organisations were asked to play a part in the project as contributors or consultees. These include: European Marine Energy Centre (EMEC); Aquatera; Albatern (Wave Energy Company); Shapinsay Development Trust; Eday Development Trust; and Community Energy Scotland.

The proposal scored highly in the EC assessment and particularly in the 'Excellence' category. It was not, however, successful in gaining one of the awards under the call. The CLARIS Consortium is extremely grateful to MASTS for their support of the proposal.