NEWS FROM THE AUSTRALIAN MARITIME COLLEGE

Media Release

Chiefs of Staff, News Directors

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World-first trial aims to harness the potential of wave energy farms

Key players in the ocean renewable energy sector will meet today at the Australian Maritime College, a specialist institute of the University of Tasmania, to observe a world-first trial testing the performance and impact of wave energy farms at model scale.

A number of wave energy devices will be grouped together in an array for a series of experiments under various wave conditions in the model test basin facility.

The project is a collaboration between AMC and Swinburne University of Technology with industry partners BioPower Systems Pty Ltd and Carnegie Wave Energy, and supported by funding from the Australian Renewable Energy Agency (ARENA).

Swinburne University of Technology project lead, Associate Professor Richard Manasseh, said the information gleaned from these experiments would be used to develop a free online modelling tool to assess the ocean wave energy resource in a particular area.

“This research will give industry and investors an impartial assessment of the performance of wave energy farms and provide greater confidence when negotiating large developments. It may also uncover the best arrangements for the devices to provide optimum performance,” Associate Professor Manasseh said.

Researchers are converging on AMC to discuss two ARENA-funded ocean energy projects. ARENA CEO Ivor Frischknecht said the two-day meeting would provide an overview of the projects, identify links and explore opportunities for them to work together in the future.

"This is an excellent example of knowledge sharing, bringing together expertise from across Australia's wave energy sector. This kind of collaboration is critical to advancing renewable energy in Australia and is actively encouraged by ARENA," Mr Frischknecht said.

"Wave arrays enable economies of scale, so determining how devices interact in the ocean will be crucial to the commercialisation of wave power. Testing at AMC could one day lead to wave energy arrays being deployed off Australian coastlines or islands, feeding affordable renewable energy to onshore users."

The second project is the Australian Wave Energy Atlas project, led by CSIRO in collaboration with the Bureau of Meteorology and AMC, with industry partners Carnegie Wave Energy Ltd and Biopower Systems Pty Ltd.

"The Atlas project is focused on removing obstacles for Australia's ocean energy industry. This includes making baseline information on the available energy resource and allocations of the marine domain easily available to the sector," CSIRO Oceans and Atmosphere project lead, Dr Mark Hemer, said.

AMC project lead, Associate Professor Irene Penesis, said both projects seek to understand the downstream impact of wave energy farms on the shoreline and marine environment. Very limited modelling work has been completed worldwide and results have never before been validated with physical experiments.

“No-one really understands the impact an array of devices will have further downstream,” Associate Professor Penesis said.

“When you have more than one device located near shore, each of those devices will capture energy from the waves and convert it into mechanical and electrical power. But in doing that, we’re taking energy away from the nearby system and the environment – so we need to understand what happens when we take that energy out of the waves.

“What impact does this have on our nearby shorelines and how long does it take for those waves to recover to the shore? How does it affect the marine environment and things like fish spawning patterns? These are the questions we are aiming to answer, in addition to how much power can be generated from the devices.”

MEDIA OPPORTUNITY: Media are invited to conduct interviews and take photos/footage of the wave energy farm trial in the model test basin, Australian Maritime College, **between 1.45pm-3pm on Tuesday, 15 March 2016** (Building A2, AI31 on the campus map).
https://www.amc.edu.au/sites/default/files/NH_Building_Campus_Map_2013-02-20_cropped_flat.pdf

Available for interview: Associate Professor Irene Penesis (Australian Maritime College), Associate Professor Richard Manasseh (Swinburne University of Technology) and Dr Mark Hemer (CSIRO). ARENA CEO Ivor Frischknecht available for comment via telephone.

Also in attendance: representatives from industry partners BioPower Systems Pty Ltd and Carnegie Wave Energy plus independent wave energy expert Tom Dennis.

VIDEO RESOURCES: **Video footage of Carnegie Wave Power's installation off Garden Island in WA is available for download at:**
https://app.box.com/s/lkmssv2z4k39zr0juegqi3s2z9cy2wkp

Video footage of BioPower System's installation off Port Fairy in Victoria is available for download at:
https://spaces.hightail.com/receive/yNphU/dGZpbm5pZ2FuQGJpb3Bvd2Vyc3lzdGVtcy5jb20=

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