



April 18, 2007

<p>Short Course on Wave Energy Environment Issues</p>
<p>Programme</p>
<p>23 April – 25 April 2007 Copenhagen - Denmark</p>

Approach.

The training seminar aims to utilise existing knowledge from Ocean Energy developers including offshore wind farms.
The method is case study based.

Program:

Time	Monday 23 April
09:00 -10:30 <u>Session 1.</u>	<p><i>Strategic Environment Assessment (SEA), Environment Impact Assessment (EIA), The directives.</i> Introduction by Cristina Huertas-Olivares, Wave Energy Centre, Portugal assisted by Iain Russell, UK manager Wave Dragon UK and Hans Chr. Soerensen, Wave Dragon, chairman of board, DK, UK, PT</p>
10:30 -11:00	Coffee break
11:00 -12:30 <u>Session 2.</u>	<p><i>Consent, License procedure, national differences.</i> Continued from Session 1.</p> <p><u>Relevant background material:</u> [1] The EIA approach to Wave Energy within the European Research Training Network WAVETRAIN by Cristina Huertas-Olivares, Iain Russell, et. al. [2] Licensing and Environmental Issues of Wave Energy Projects, Iain Russell, James Tedd, et. al. [3] Experience with and strategies for public involvement in offshore wind projects, INT. J. Environment and Sustainable Development, Vol. 1, No. 4, 2002, pp. 327-336 by H.C. Soerensen [4] Council Directive 85/337/EEC, amended by Council Directive 97/11/EC [5] Best Practise Guidelines – Consultation for Offshore Wind Developers, BWEA [6] An Overview of the Environmental Impact of Non-Wind Renewable Energy Systems in the Marine Environment, OSPAR Commission 2006 [7] Guidance Notes Offshore Wind Farm Consents Process, DTI</p>
12:30 -14:00	Lunch

Time	Monday 23 April
14:00 -15:30 <u>Session 3.</u>	<p><i>Breakdown of the general environmental impacts likely to be caused by wave and tidal devices based on existing cases and offshore wind farms by</i> Hans Chr. Soerensen, Wave Dragon, chairman of board, DK, UK, PT</p> <p><u>Relevant background material:</u> [8] Preliminary draft Environmental Assessment Makah Bay Offshore Wave Energy Pilot Project (AquaBuOY, Finavera) [9] Wave Hub, Environmental Statement, South West of England Regional Development Agency [10] Environmental impact assessment (EIA) guidance for developers at the European Marine Energy Centre [11] Wave Dragon Pre-Commercial Demonstrator, Environmental Impact Assessment Structure, PMSS No tidal device document available</p>
15:30 -16:00	Coffee break
16:00 -17:30 <u>Session 3.</u>	<p><i>Breakout session in groups dealing with environmental impacts likely to be caused by wave and tidal devices</i> Introduction by Hans Chr. Soerensen</p>
18:30 – 20:00	Dinner
20:00 – 21:30 <u>Session 4.</u>	<p><i>Experience from the monitoring program of the Danish Offshore wind farms Horns Rev and Nysted</i> by Hans Chr. Soerensen, Danish Wind Turbine Owners Association</p> <p><u>Relevant background material:</u> Offshore Wind Farms and the Environment, Danish Energy Authority This documentation in a larger book will be handed out in hard copy.</p>

Time	Tuesday 24 April
09:00 -10:30 <u>Session 5.</u>	<p><i>Feed back from Mondays afternoon breakout session</i> <i>Grouping in: “General ocean energy”, “Common...” and “Wave and tidal device specific” – environmental issues</i> A representative from each breakout group</p>
10:30 -11:00	Coffee break
11:00 -12:30 <u>Session 5.</u>	<p><i>Conflicts of interest: fishing, area occupation, navigation based on the case studies referred to in session 3</i> By Hans Chr. Soerensen and Iain Russell</p>
12:30 -14:00	Lunch
14:00 -15:30 <u>Session 6.</u>	<p><i>Mitigating of impact: Deployment and decommissioning phase based on the offshore wind studies, session 4</i> By Hans Chr. Soerensen</p>
15:30 -16:00	Coffee break
16:00 -17:30 <u>Session 7.</u>	<p><i>Mitigating of impact: Operational phase based on the offshore wind studies, session 4 and case studies session 3</i> By Hans Chr. Soerensen</p>
18:30 – 20:00	Dinner
20:00 – 21:30 <u>Session 8.</u>	<p>Route map for wave and tidal energy By Luke Reade, University of Edinburgh</p>

Time	Wednesday 25 April
09:00 -10:30 <u>Session 9.</u>	Energy analyses (CO2 balance, energy payback time) and Life Cycle Assessment (LCA)
10:30 -11:00	Coffee break
11:00 -12:30 <u>Session 10.</u>	LCA case study
12:30 -14:00	Lunch
14:00 -15:30 <u>Session 11.</u>	Establishing a monitoring program
15:30 -16:00	Coffee break
16:00 -17:30 <u>Session 12.</u>	Environmental Impact Assessment The key findings from wave and tidal cases to be presented at the CA-OE workshop April 26-27. Break up session
18:30 – 20:00	Dinner
20:00 – 21:30 <u>Session 13.</u>	Experience from establishing Environment Impact Assessment in UK with Off Shore wind project, tidal projects (Marine Current Turbine, Seagen) and wave projects (Welsh 7 MW Wave Dragon Demonstrator) By Jamie May, PMSS Ltd