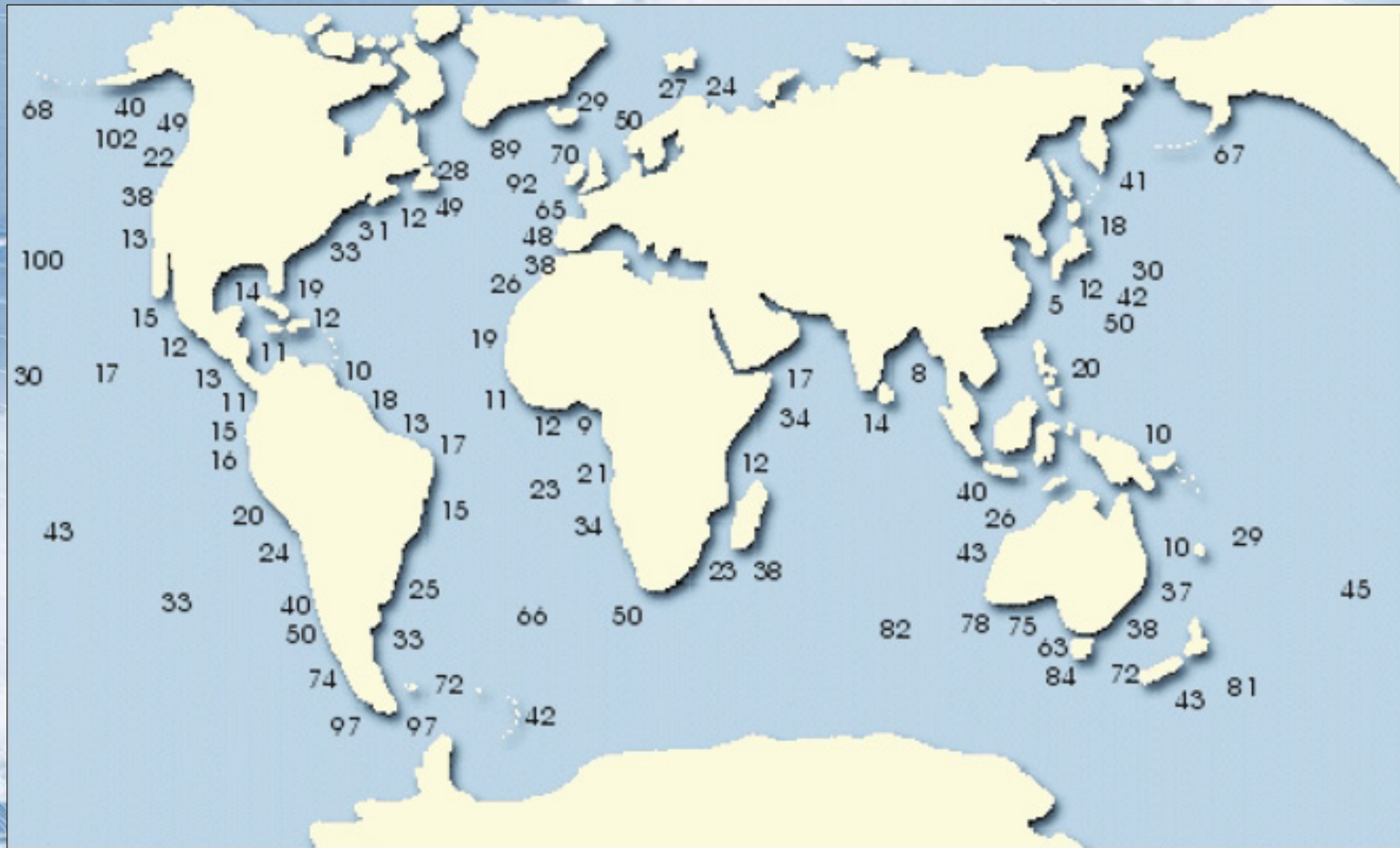


European Marine Energy Centre & European Strategies

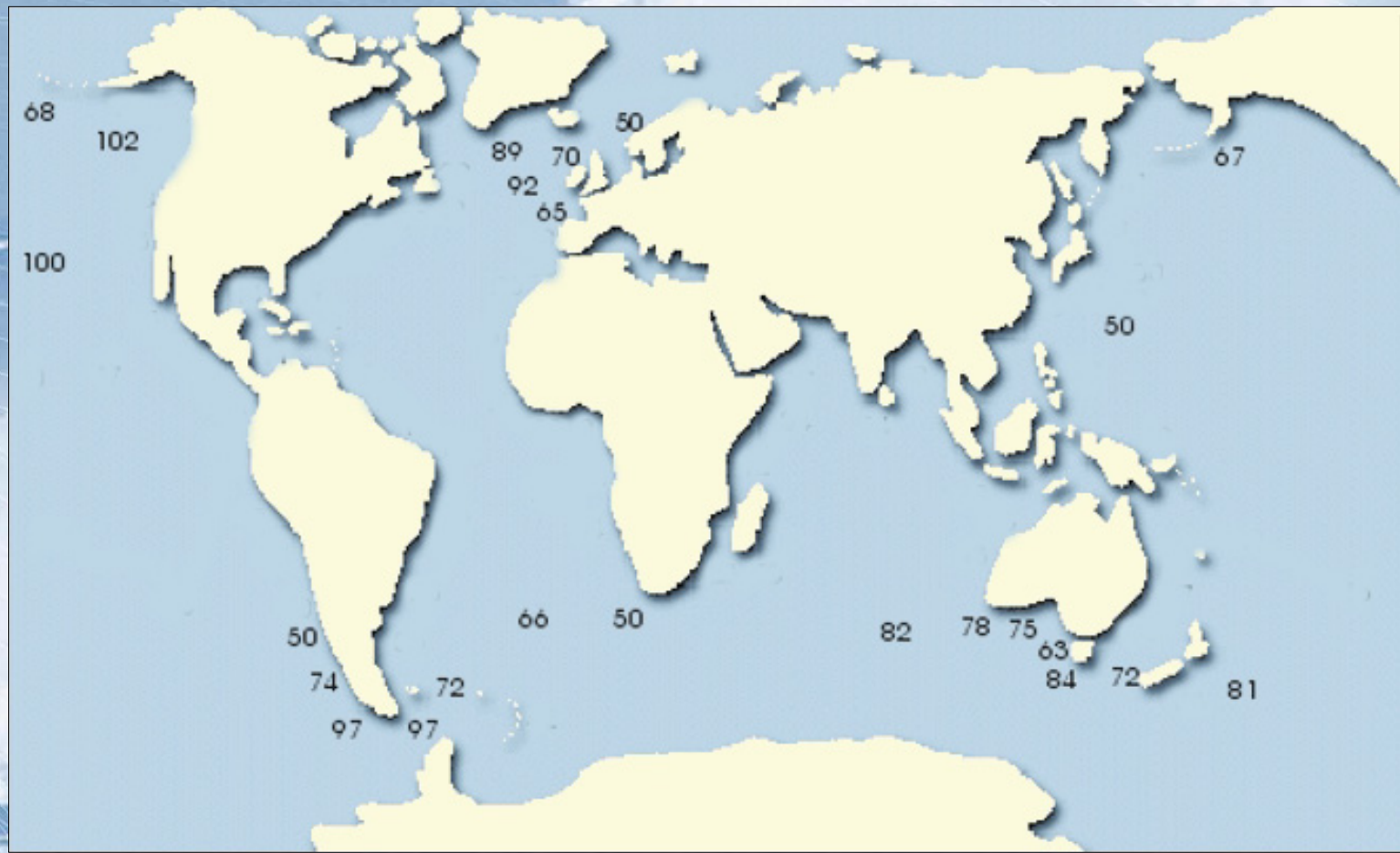
OREG Symposium – 2005

Neil Kermode
Interim General Manager

Wave Resource



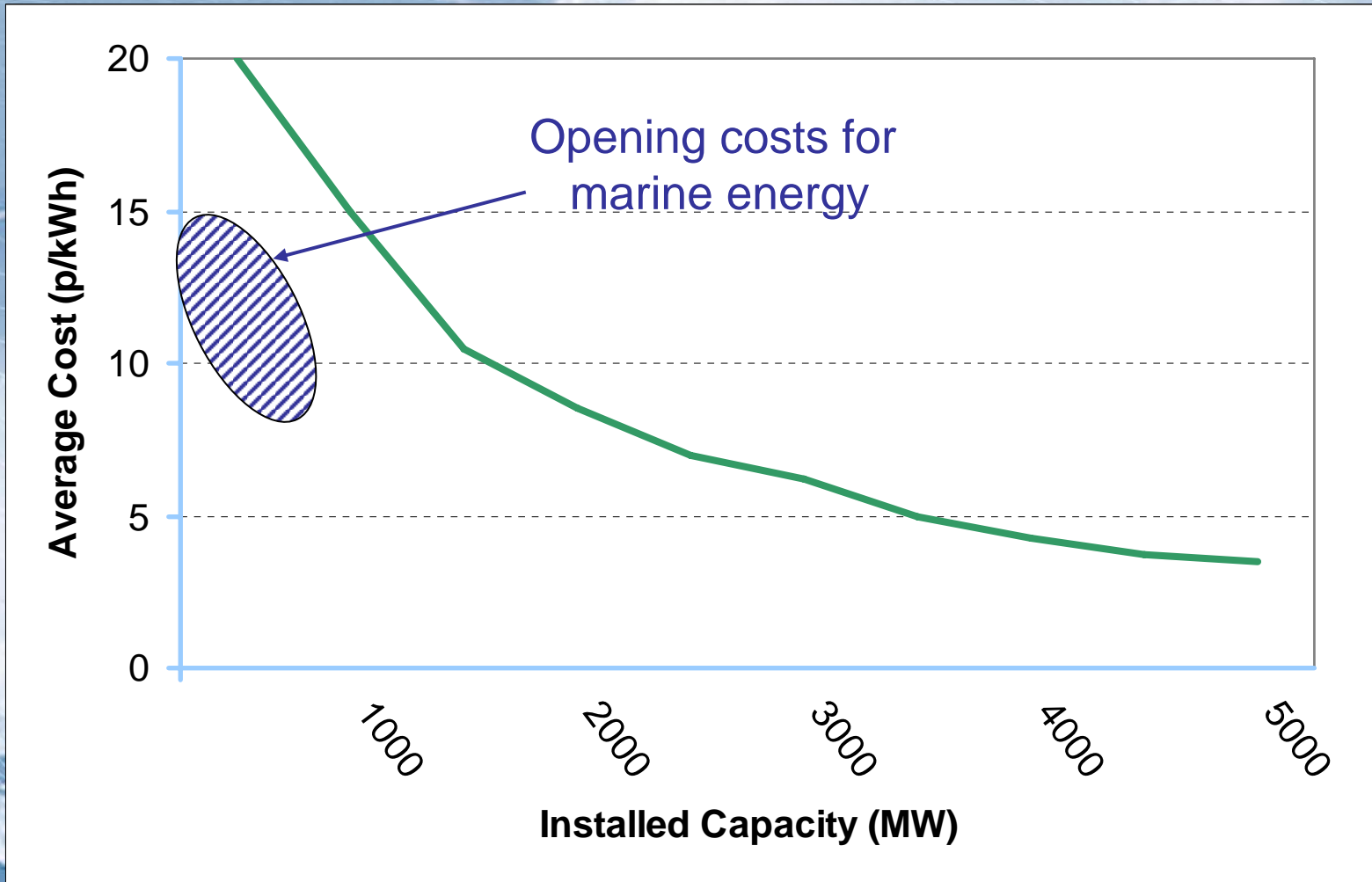
Wave Resource



Wave Resource



Learning From Wind



Wave Resource

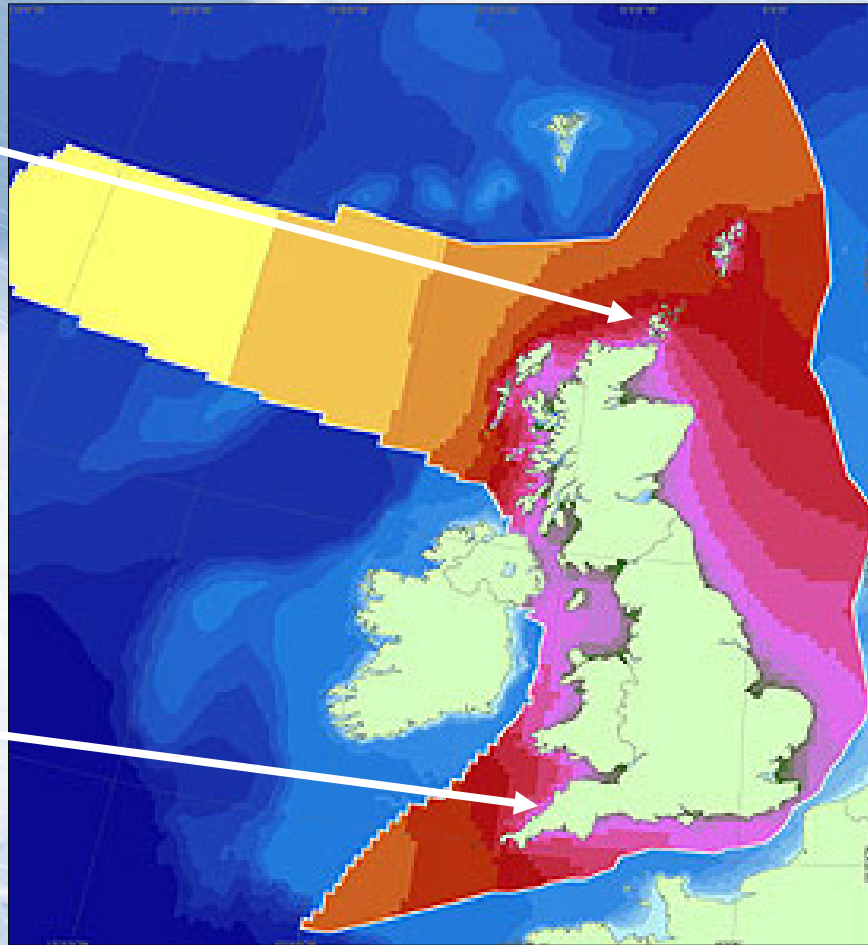


Wave Height

EMEC



Wavehub



Orkney



Orkney



EMEC's Timeline

- 1999 DTI study
- 2001 HIE Studies
- 2002 design & contract definition
- 2003 construction
- 2004 opening
- 2005 tidal site commenced



The Wave Site

- 2km from shore
- 50m water depth
- Atlantic waves regime
- 25kW/m + energy level
- 20m+ peak wave
- 1m wave for O&M

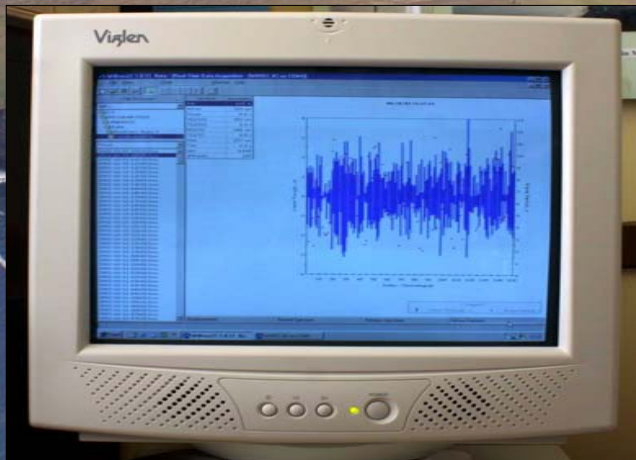


The Assets

11kV Cables



Substation



Data



Waves

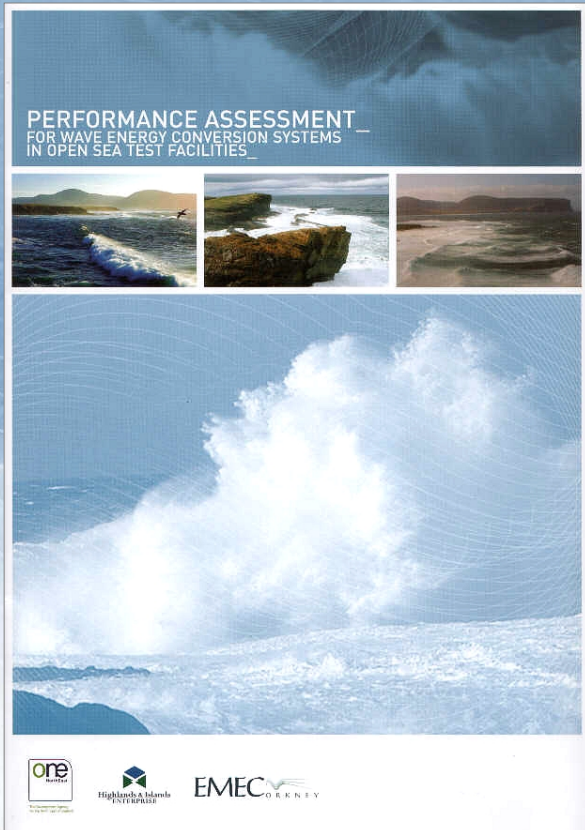
EMEC Soft Provisions

- Power Purchase Agreement
 - Grid Connection Agreement
 - Consents
 - Emergency Response
 - 24/7 Cover
 - Wave / Meteorological Power Data
- Accredited Standards

The Result



Open Sea Test Standard



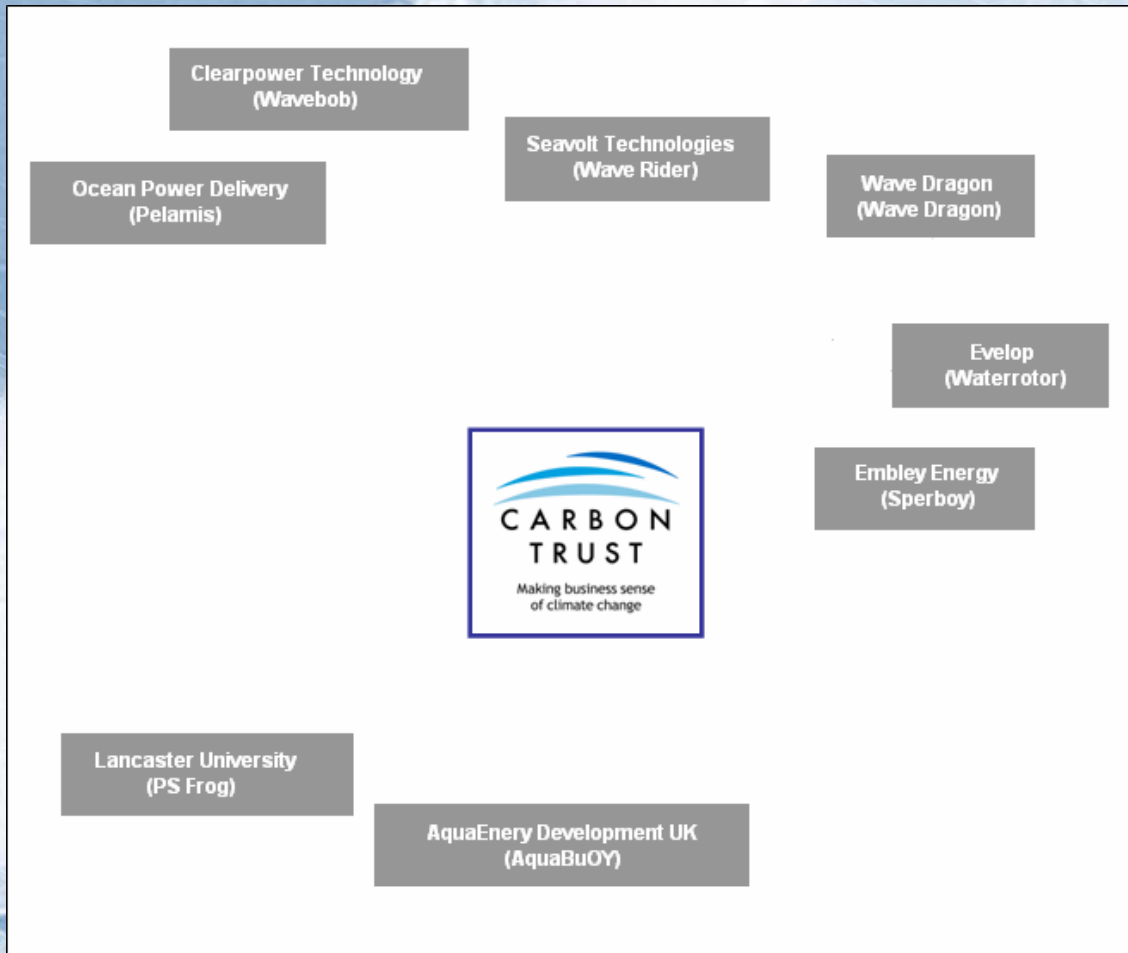
- Gives criteria for test sites & facilities
- Shows key parameters of performance
- Suggests how to measure & what to measure
- Indicates how testing and reporting should be done
- Lists the uncertainties in calculating performance

Support Mechanisms

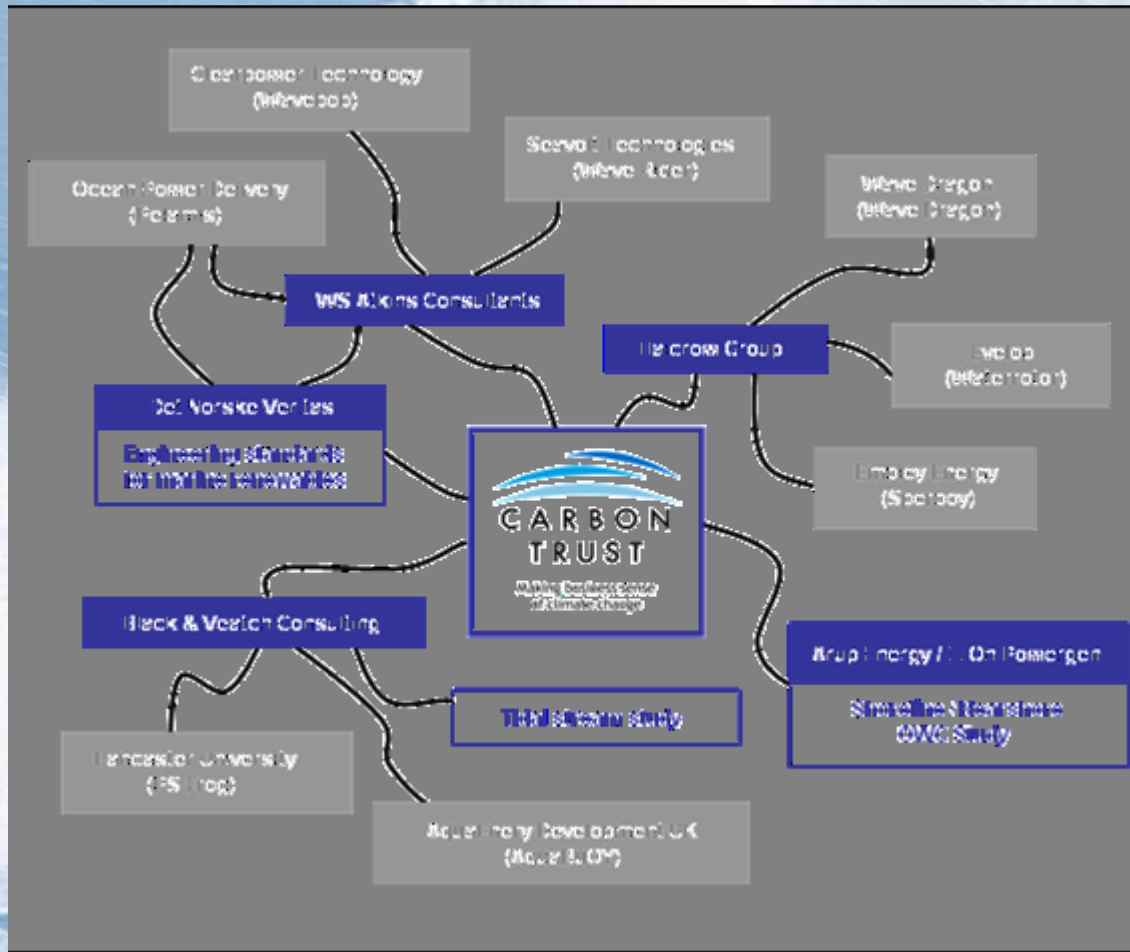
Governmental

- Capital support
- Production reward
 - UK (3p/kWh)
 - Portugal (15p/kWh)
 - Scotland (6p/kWh)
- Cultural Enthusiasm
 - Permits
 - Vision
- Organisational

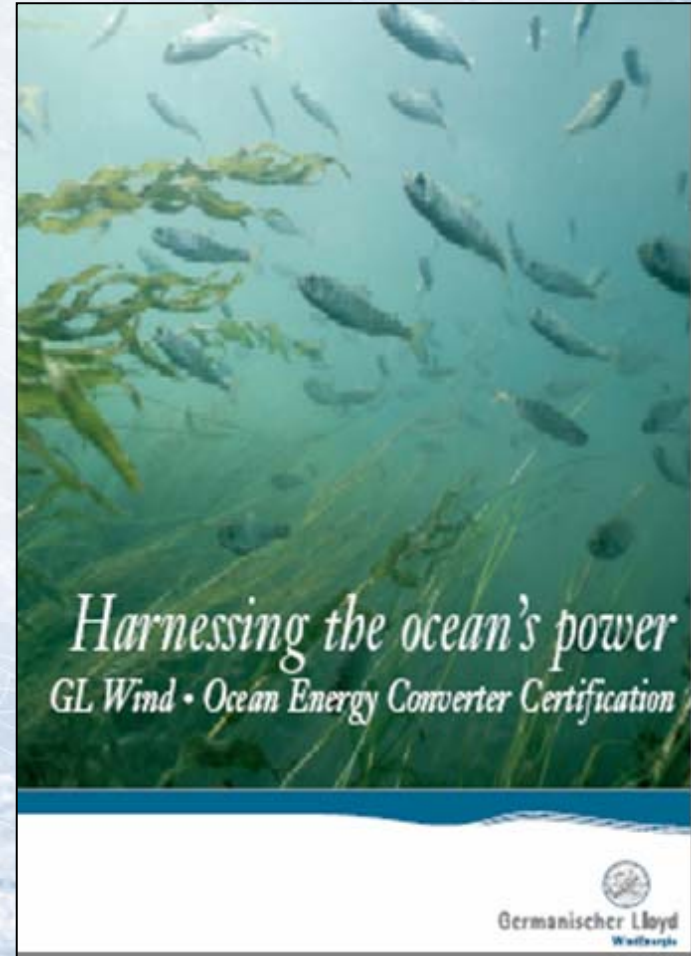
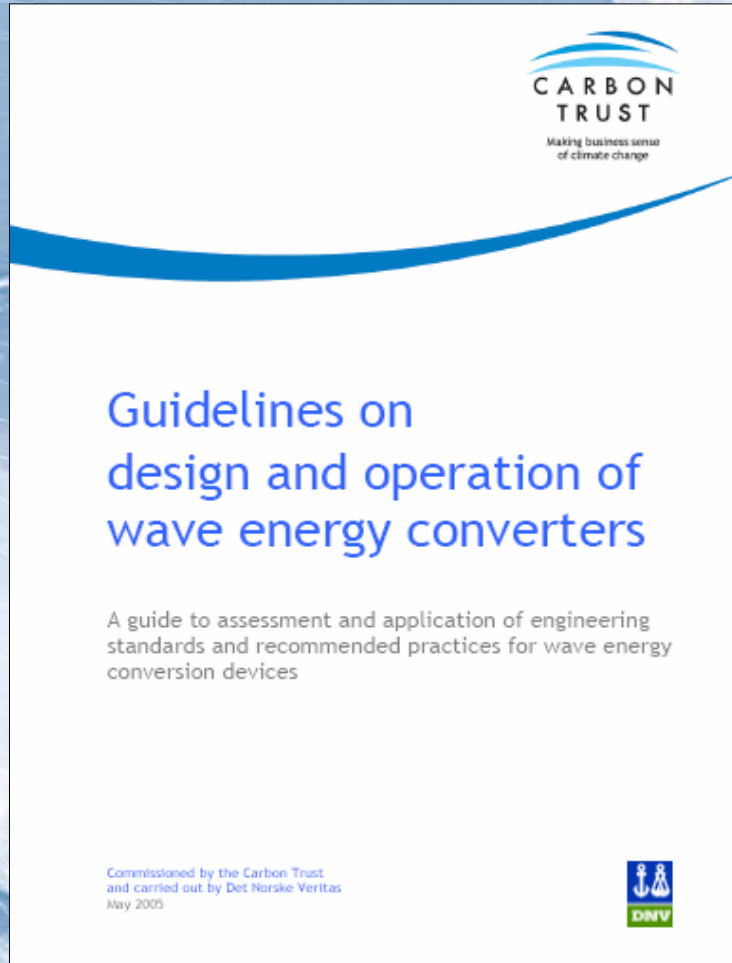
Marine Energy Challenge



Marine Energy Challenge



Guidelines/Standards



Tidal Project Site

Scope

- 4 Berths 10-50m
- Grid connected
- 3.5m/s flow
- Sheltered area
- Available 2005/6



Tidal Test Site

- **Cables laid**
- **Sub station under construction**
- **Consents in place**
- **Tidal current measurement & model**
- **Grid connection secured**
- **3/5 berths allocated for 1st tests**
- **1st developer deploying August 06**

European Marine Energy Centre

www.emec.org.uk