



# BEPPo project

## Blue Energy Production in Ports

Pireaus, 22.05.2015

### BEPPo objectives & outputs



Start-up project for transnational cooperation within the North sea Region,  
involving 7 PARTNERS FROM BELGIUM, DENMARK, NORWAY, UK

- Port of Oostende (AGHO)
- Highlands and Islands Enterprise (HIE) – Scotland (including EMEC)
- Wave Energy Research Group, Aalborg University - Denmark
- Ghent University, Power-Link
- Danish Wave Energy Centre (DanWEC) – Nord Jylland Denmark
- Sintef Energy Research - Norway
- Norwegian Marine Technology Research Institute (MARINTEK)- Norway

TIMETABLE: 1.11.2013 – 31.05.2015



# BEPPo

*Blue Energy Production in Ports*

## What is BEPPo?

### AIM

- \* Energy is a core sector for the competitiveness and business development in and for ports.
- \* BEPPo aims at the development and production of Marine Renewable Energies (MRE), building on the skills and the innovation capacity of ports to become marine renewable energy platforms for the exploitation of such energy resources.
- \* MRE = marine biomass, offshore wind (including floating wind), ocean current, wave energy, tidal energy and thermal gradient.
- \* BEPPo focuses on **Blue Energy** (wave/tidal/floating wind) and its **complementarity with traditional (gas/oil/coal) & new (wind/biomass) sources of power.**



### IS THERE AN OPPORTUNITY ?

Ports have:

- Direct access to sea
- Spare capacity of land
- Quality marine infrastructure
- Proximity of (renewable) energy development zones (clustering/Tech transfer)
- Ports as energy users / ports as energy providers
- Blue Growth strategy, developing new marine industries



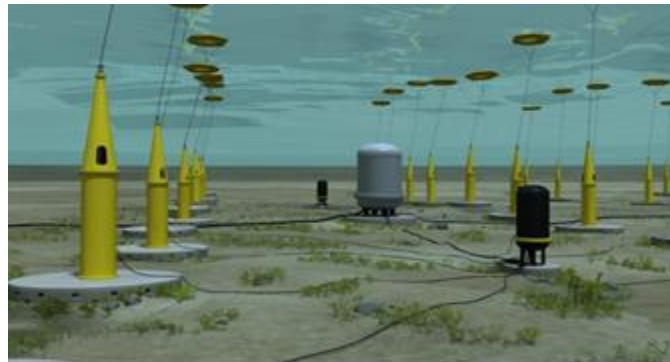
# *BEPPo* RE-Ports and marine renewable energy

*Blue Energy Production in Ports*

What are the STRENGTHS of the ports ?

Ports have:

- Marine and maritime skills
- Appropriate maritime services for production and maintenance of MRE
- Knowledge of the sea, the currents and the wind
- Marine power potential in and around ports
- Marine infrastructure, to be utilised in different applications
- Possibility of energy storage or transfer



# *BEPPo* RE-Ports and marine renewable energy

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## What are the weaknesses and threats ?

When developing MRE, ports are facing different problems:

- Lack of information and lack on transparency of information on the operations of the MRE
- Immature technologies, especially in wave, - lack of economy of scale
- Lack of concrete business models and business cases
- Lack of transparency on overall energy cost
- Lack of port and financial resources to adapt the port infrastructure in an efficient way
- Extreme flexibility of service level, considering different concepts
- High risk perception by ports and insurance companies
- Lack of marine spatial planning
- Not core business



# RE-Ports and marine renewable energy: Conclusions

1. **LOGISTIC** : Ports can meet the technical requirements for the installation of the devices, but must consider the differences between the technologies:
  - different technologies at different stages need different services;
  - Offshore wind is getting mature, tidal is on their way, wave is challenging
2. **INDUSTRIAL** : Ports can play a key role in developing the innovation clusters, by linking the MRE industry to the local supply chain, including full scale operations and farm maintenance.
3. **BUSINESS AND INNOVATION** : Ports can realise the business dimension of MRE and become the driving force for the practical implementation of the MRE technologies, integrating the produced energy in proper installations or selling to the market.





# BEPPo

*Blue Energy Production in Ports*



**AG port of Oostende – BEPPO** - [www.beppoproject.eu](http://www.beppoproject.eu)

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