

PORTOS

Ports Towards Energy Self-Sufficiency

Summary of Presentations

November 10th (CET)

Keynote 1. Communications from PORTOS partners

10h15 – 11h30

N. Kirwan (MaREI)

WP4, Linking Proof of Concepts and Society.

The presentation will outline all the work involved in WP4, Linking Proof of Concepts and Society, to date. This work package allows organisations to put forward their novel MRE device or idea. A thorough application process is overseen by the independent selection panel who score each application individually. Successful applicants test their device or idea for a two-week period in one of six state-of-the-art facilities. The test is documented, and a report is written outlining the potentials of the device or idea

J. Samuel (University of Plymouth)

An outline appraisal methodology for Renewable Energy implementations in Ports.”

WP7 is the final work package of the PORTOS project, in which we develop the energy self-sufficiency action plan and decision support tools for application to case study and other ports. This presentation will give an overview of the implementation of marine renewable energy sources in ports in terms of cost modelling, civil engineering works, and socio-economic and environmental impacts. Finally, we will discuss details concerning our roadmaps for achieving self-sufficiency and energy mix diversification at the target ports

J.V. Ramos (Faculty of Engineering of the University of Porto and CIIMAR)

Integrated high resolution assessment of marine renewable energy resources and cost-effective technology selection for the jurisdiction areas of the Port of Leixões.

F. Royano (IHCantabria)

Vision of the adaptation of the ports for the search of opportunities to accommodate the port infrastructures for the renewable energy industry.



Keynote 2. Innovative technology development

11h45 – 13h15

A. Poitou (Farwind Energy)

Energy ships as a tool for green harbors of the future

Farwind Energy is a young company that offers an innovative solution to produce and store wind energy at sea on ships that do not occupy a reserved maritime space and which can offer, on demand, energy in different forms (electricity in batteries, hydrogen, methanol or even ammonia). In this context, we believe that this technology could find its place in the design of a port of the future whose environmental impact would be largely controlled.

S. Le Berre (LHYFE)

Renewable hydrogen : a key to decarbonation and economic growth of ports.

Clean hydrogen has been identified by IEA, EU and the hydrogen council as a major vector of the energy transition, as well as for the decarbonation of industry and mobility, in order to reduce greenhouse gas emissions and global climate change. Its production can be foreseen to take place on offshore units in the years to come, in order to provide large-scale, low-cost, clean fuel using renewable marine energy (solar, tidal, wind, water...). The ports take a significant place in the hydrogen ecosystem and value chain, both for its uses (heavy or light vehicles, industry...) and for its supply chain

G. Canteins (Seaturns)

SEATURNS – A wave energy converter supported by PORTOS Project

I. Braverman (Eco Wave Power)

Performance Evaluation of the Eco Wave Power Technology and Portugal Future Plans

Announcement of first exciting results from its Gibraltar grid-connected wave energy power station and share of its near future plans for Portugal.

V. Kocher (Pytheas Technology)

Hydrokinetic Energy Harvesting for low and medium currents using piezoelectricity

The objective of the project is the development of a new non rotating hydrokinetic power plant using piezoelectricity. This system has many advantages compared to traditional devices, it is possible to harvest energy from slow and medium currents (between 1 and 2.5 m/s) without any sealing problems thanks to the non-rotative device and decrease maintenance costs.



Keynote 3. Port authorities

14h30 – 15h45

R. Cascajo (Port Authority of Valencia)

Renewable energy integration in ports as a path for decarbonization of shipping

Brief description of the ports and areas where different renewable energy generation technologies might be allocated. Highlights of the different technologies and modalities of energy production that might be used. Energy power estimation in the case of running project at the port of Valencia.

W. Stubbe (Oostende Port)

Update of DUAL PORTS and PECS projects - Port energy transition from the point of view of a port operator

H. Lopes (APDL - Port Authority of Douro, Leixões and Viana do Castelo)

APDL – Recent projects and decarbonisation plan

J.-L. Bernard (Port de Nantes – Saint Nazaire)

Update of DUAL PORTS and PECS projects - Port energy transition from the point of view of a port operator

The port of Nantes Saint Nazaire will present its plan for a green development. Within this plan, its participation to various national and international projects will be highlighted. Port logistics will also be discussed as it is one of the main topic of interest for the port as it is the hub for the installation of the offshore wind farm in Saint Nazaire. [Video](#)

Keynote 4. Ports ecological transition and activity diversification

16h00 – 17h45

E.D. Safier (Safier Ingénierie SAS)

Evolutive Transformation Innovation - technical soft management social techno-commercial profitability

Economic long-term profitable survival of European industries in the world competition is possible by evolutive Transformation Innovation based on existing skills and the socio-economic foundations of our society. Technical soft management people skills must revolutionise to unlock the potential of existing organisations increase communications empower staff and reduce the pyramid management structure based on the industrial revolution. Opportunities in the zero-carbon future are available first by innovations and then industrialisation. Cross-company collaboration in innovation in a new contractual framework is necessary with the contract around the collaborators and not between the collaborators.

H. Allaire (Serenmar)

L'intérêt des énergies nouvelles réparties pour des usages industriels et tertiaires dans les zones portuaires – potentiel du PV en autoconsommation.

W.-Y. Tan & F. Fonseca & J. Candido (LOC Group & WavEC – Wave Energy Center)

Future Proofing for Greener Port Infrastructure in Portugal

A general investigation into the port challenges and opportunities to accommodate offshore wind projects with insights into the existing port capabilities in Portugal and Spain.

G. Accarion (Akajoule)

The Estuaire Project: an industrial smart grid for the St Nazaire harbour?

The energy systems of tomorrow will probably be interconnected (gas, electricity, heat, hydrogen), multi-use (industry, building, transport) and will offer additional services (data, flexibility, storage, etc.) to the networks to which they are connected. The Estuaire project aims to offer an industrial smart grid model for the harbour of Saint Nazaire. A progress point will be made during the presentation.

F. Vince (WEAMEC– West Atlantic Marine Energy Community)

WEAMEC: the Marine Renewable Energy community in Pays de la Loire French Region involved in Research, Innovation and Education activities.

The presentation will present the WEAMEC (West Atlantic Marine Energy Community) which brings together **around thirty institutions and research laboratories** (such as Centrale Nantes-French Engineering schools, Université de Nantes-French University, IRT Jules Verne Research Institute, EMC2 cluster...) and **more than 75 partner companies and SMEs at the regional level**. **The calls for projects operated by WEAMEC** enabled the selection of more than **50 research projects** to be co-funded between 2016 and 2020, for a global budget of more than 10 M€,

involving 24 academic institutions and regional laboratories, and about 20 SMEs and 10 industrials. The WEAMEC ecosystem also offers a **wide range of training courses** in Marine Renewable Energy (MRE) industry such as the **WEAMEC's vocational training program**.

Y.-H. De Roeck (FEM– France Energies Marines)

Overview of initiatives for introducing ORE in French harbors

Together with a sound effort to decarbonize the energy needs of commercial harbors, the resilience to climate change is also an issue for these infrastructures. Hence, despite the current LCOE of these technologies, wave and tidal energy converters, when incorporated in the refurbishment of dikes and coastal protection works, seem especially relevant: damping effect and strong resilience belong to their assets. The presentation will also emphasize on territories that are not connected to the global electrical network, since they offer a first opportunity to demonstrate, at a competitive cost for supplying electricity, the benefit of the installation of MRE devices. Studies and projects taken from initiative on French harbors will be shown.

