



# VI Marine Energy Conference



June 25th, Bilbao

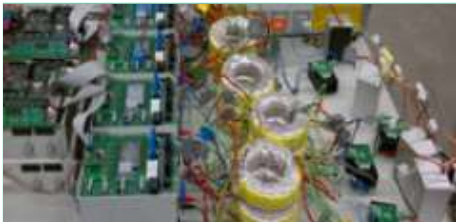


## PRESENTATION: WHO WE ARE



# AREAS OF ACTION JRL - ORE

1



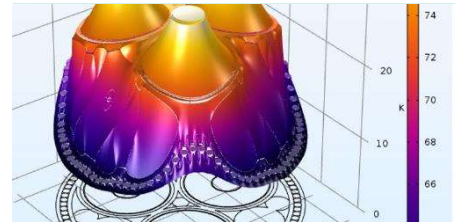
**POWER ELECTRONIC  
CONVERTERS**

2



**GRID INTEGRATION**

3



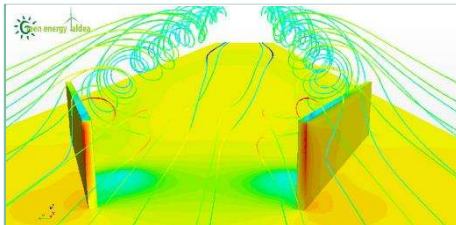
**DIGITAL MODELS**

4



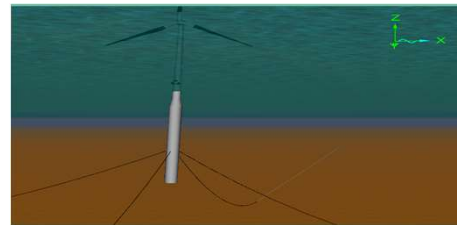
**CONTROL STRATEGIES**

5



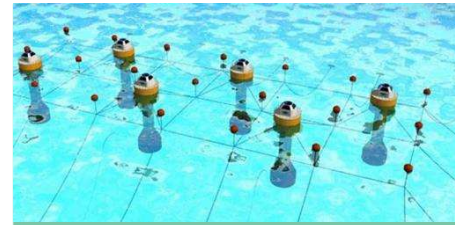
**FLUID DYNAMICS**

6



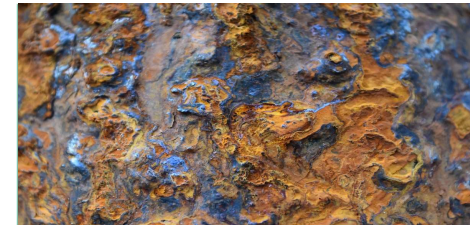
**OFFSHORE RENEWABLE  
ENERGY TECHNOLOGIES**

7



**TECHNO-ECONOMIC  
ANALYSIS**

8



**MATERIALS FOR OFFSHORE  
RENEWABLE ENERGY**



## ORGANIZATION OF EWTEC 2023

**European Wave and Tidal Energy Conference (EWTEC)** series are international technical and scientific conferences.

RESEARCHERS



LABORATORIES  
BIG SCALE  
FACILITIES

BASQUE  
INDUSTRY



## VI Marine Energy Conference

9:30	<b>Igor Campillo</b> , Director of Euskampus. Opening session
9:45	<b>Jose Luis Villate</b> , member of JRL-ORE and Offshore Renewable Energy Director at TECNALIA. <i>Experience in real sea projects</i>
10:05	<b>Pablo Eguía</b> , member of JRL-ORE and UPV/EHU. <i>Power electronics and grid connection of Offshore Renewable Energy</i>
10:25	<b>Urko Izquierdo</b> , member of JRL-ORE and UPV/EHU. <i>Numerical and experimental methods for fluid dynamics in offshore renewable energy applications</i>
10:45	<b>Keynote lecture</b> by <b>Antonio Ugarte</b> , CENER Wind Energy Department Director. <i>The R&amp;I of Offshore Wind in Europe</i>
11:30	COFFE BREAK
12:00	Round table: " <i>R&amp;D challenges of Offshore Wind industry in the Basque Country</i> ". Moderated by <b>Marcos Suarez</b> from Basque Energy Cluster. Participants: <b>Iñaki Zabala</b> (SENER), <b>Naiara Doblás</b> (SIEMENS-GAMESA), <b>Juan Moya</b> (SAITEC), <b>Jasone Altuna</b> (IBERMÁTICA)
13:00	<b>My poster in 180 seconds</b> . Selected posters
13:30	LUNCH with poster session
15:00	Meeting session between <b>students</b> and <b>companies</b>



MASTER IN RENEWABLE ENERGY IN THE MARINE  
ENVIRONMENT



# CONSORTIUM



# REM in the media



## Towards the implementation of a new international master's degree in offshore renewable energy

At the beginning of 2014, the UPV / EHU proposed the creation of a European master's degree in marine offshore energy, due to the concerns of many companies and both public and private institutions in this sector that express the need for the implementation of this type of training based on specific needs. Our aim is closing the training cycle of specialists with specific knowledge about offshore renewable energy, such as: training in aerodynamics and hydrodynamics with mechanical and electrical principles applied to the marine environment, composites, lamination structures, injection, corrosion, biofouling, coatings, safety in the marine environment, installation services, repair and maintenance, economic and legal aspects of park implementations, etc. After several years of exhaustive analysis of offering of masters in these subjects in Europe, we combine the participation of several partners that complement the training to meet this lack of specific training. The technical contents are structured in six major blocks:

1. Resource and marine environment
2. Theoretical foundations
3. Connection and integration to the grid electricity
4. Engineering, development and management of offshore parks
5. Conversion technologies
6. Environmental, economic and legal aspects of marine renewable energy

With all this, we can say that the commitment to renewable energy offshore in the Basque Country is already a reality to which awaits a promising future, that continues growing and that is supported by three main pillars, infrastructure, research and training, which walk together on a sustainable bet in this changing energy future.



Co-funded by the  
Erasmus+ Programme  
of the European Union



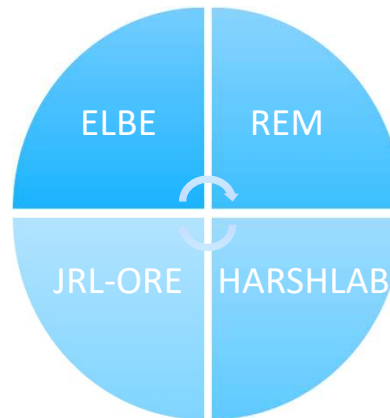


# BASQUE STRATEGY



ELBE will focus on consolidating the European alliance with the aim to develop strategic collaborations with companies and R&D entities in other leading countries throughout the world, gathers the most advanced regions in THE EUROPEAN Blue Energy SECTORS: Aberdeen, Denmark, Flanders Västssverige and The Basque Country (leader).

A Joint Research Laboratory on Offshore Renewable Energy that seeks to strengthen the research links between the parties in order to take advantage of synergies between them and to reach critical masses in the agreed scientific and technological areas.

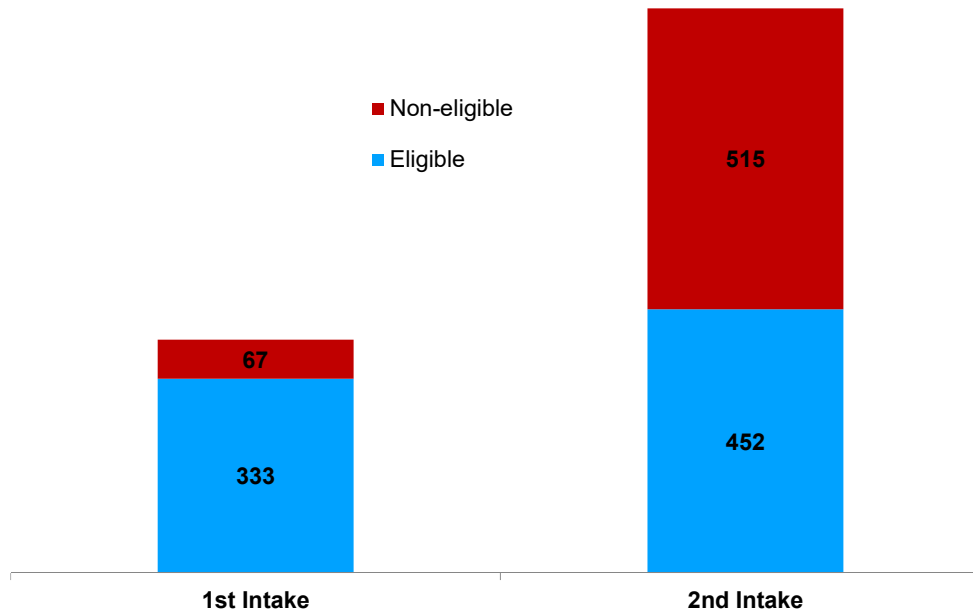


A Master in Renewable Energy in the Marine Environment is an Erasmus Mundus Joint Master Degree (EMJMD) offered by four universities: University of the Basque Country, University of Strathclyde, Norwegian University of Science and Technology and École Centrale de Nantes. It trains the student to face the technological challenges that harsh conditions offshore require

The first floating laboratory in Europe for the evaluation of standardized probes and components in real offshore environment. With a diameter of 5 metres and weighing 10 tonnes, this infrastructure is capable of housing up to 765 samples of materials and components in three exposure areas (atmospheric, splash and immersion).



## STATISTICS OF THE APPLICATION (1st and 2nd intakes)

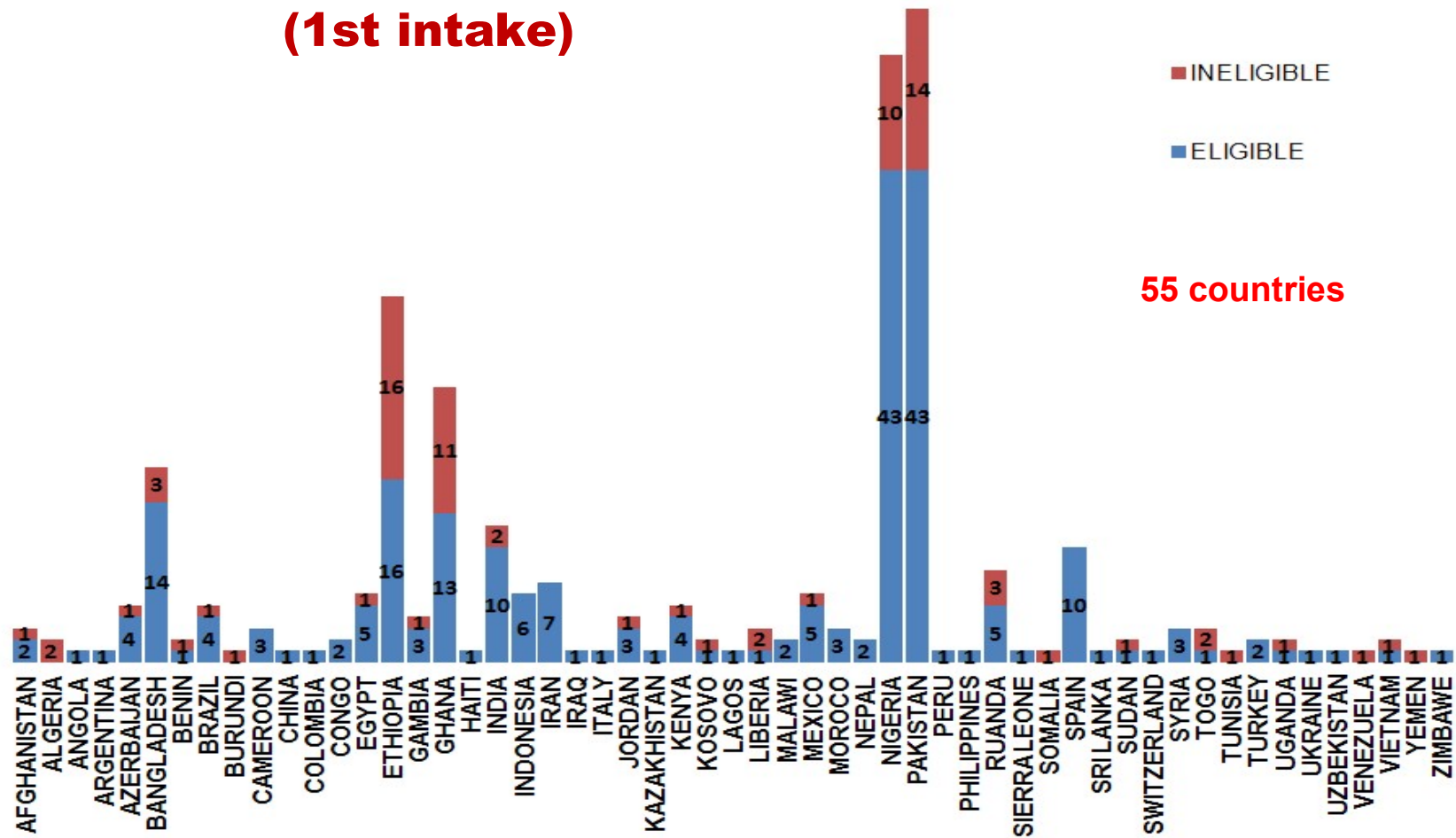


### Ineligibility (degrees):

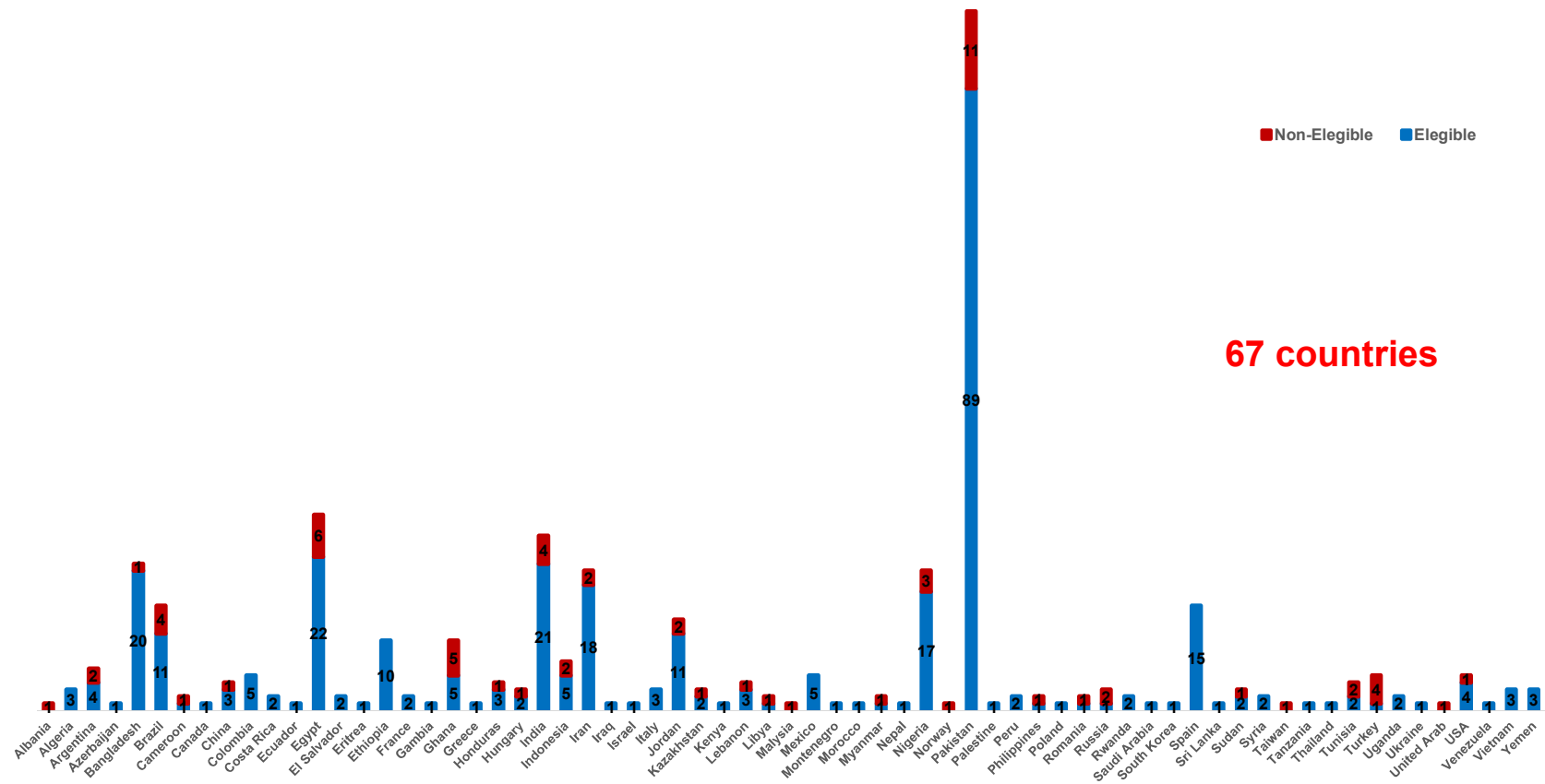
- Biology and Chemistry
- Biochemistry
- Geography
- Agriculture
- Social studies
- Metallurgical
- Urban Planning
- ...



## STATISTICS BY COUNTRY (1st intake)



# STATISTICS BY COUNTRY (2nd intake)





## TARGETED COUNTRIES (2nd Intake)



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of the European Union



## PARTNERS (REM)

