



DEVELOPING BLUE GROWTH POTENTIAL

Marine Renewable Energy in the Mediterranean – An overview

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Blue Growth Community – 1st Capitalization event

November 10th -11th, 2020

Report on MRE in the Mediterranean

➔ A Blue Growth Community capitalization activity



- Blue Energy potential in the MED
- ➔ - Blue Energy GeoDatabase maestrale-webgis.unisi.it
- Regional Blue Energy Labs

- Blue Energy cluster of national Hubs
- Blue Energy Platform be-cluster.eu
- ➔ - Action Plan and Strategic Research Agenda



- ➔ - BLUE DEAL Labs
- Open Days
- Business Forums

State of play of MRE in the Mediterranean

- **Peculiar features:** relative low wind, tide and current, steep bathymetry, narrow continental shelf, relatively great depth.
- **Industry context:** other countries entered the MRE market already 20 years ago.
- **Production:** there is currently no commercial development of MRE in the MED and the readiness level is low for most of the MED countries.
- **Potential:** the MED can potentially host different type of MRE: wind energy (most important), waves (small islands), but also stream (straits) and Sea Water Air Cooling Conditioning.
- **Opportunities:** MED MRE industry can develop specific technologies addressing the MED specific context.



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Offshore Wind Energy (OWE)



Gulf of Taranto (Italy). Fix foundation, near-shore wind plant (Renexia's Project), total capacity of 30 MW, expected production of 80 GWh, located 3 to 14 m depth, 2.9 km from shore. Due to be completed in early 2020 but still on-going.

Gulf of Lion (France). Three pilot projects of floating offshore farms are under construction: the EOLMED project in Gruissan, with 4 wind turbines of 6.15 MW; the PGL in Faramans, led by EDF EN. with 3 wind turbines of 8.4 MW; the EFGL project in Leucate, led by Engie, with 4 wind turbines of 6 MW. Conclusion of works is expected before 2022.

Sicily Channel (Italy). Floating wind farm 7Seas to be developed about 35 km far from the city of Marsala, at 300 m depth. 25 floating wind turbines up to 10MW each. The project is still waiting for the EIA. Supposed to be installed in 2023.

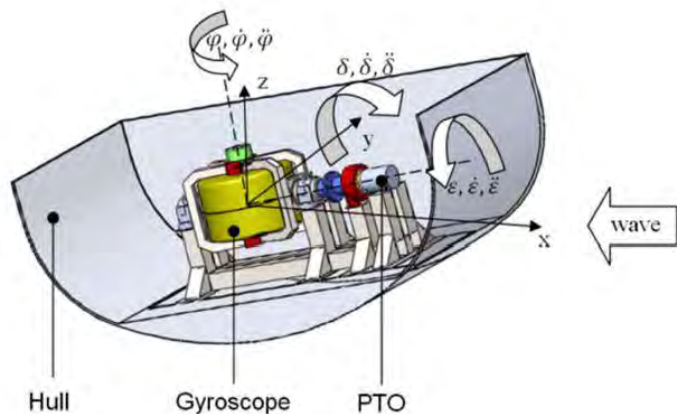


Floating wind turbine used in EOLMED project @IDEOL

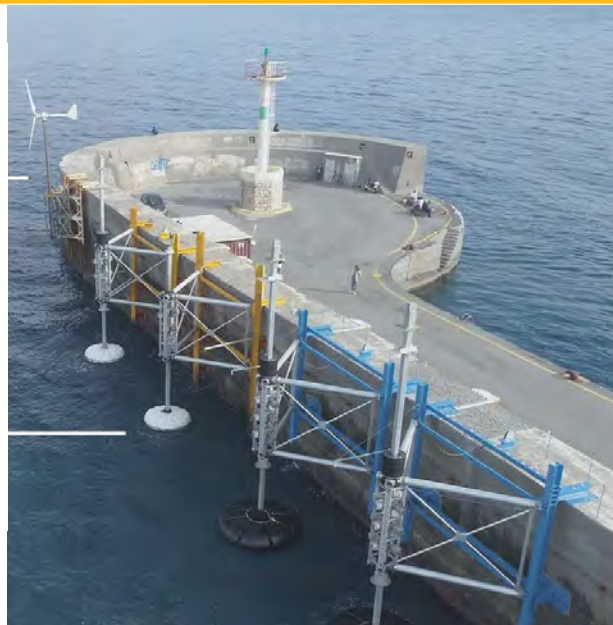


Floating wind turbine VERTIWIND @NENUPHAR

Other types of Marine Renewable Energy



Point-absorber wave converted ISWEC
@Politecnico Torino – Pantelleria and
Ravenna (Italy)

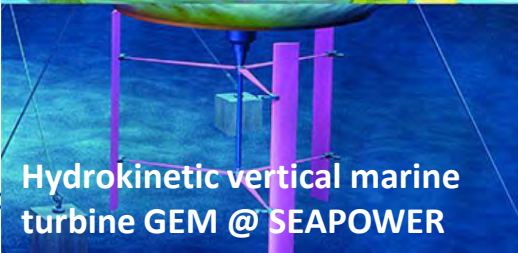


R&D wave energy facility in Iraklion
(Greece) @SINNPOWER



Sea-water air conditioning
(SWAC)
Marine geothermal plant
@Thassalia - Marseille (France)

Hydrokinetic horizontal marine
turbine GEM @ SEAPOWER



Hydrokinetic vertical marine
turbine GEM @ SEAPOWER

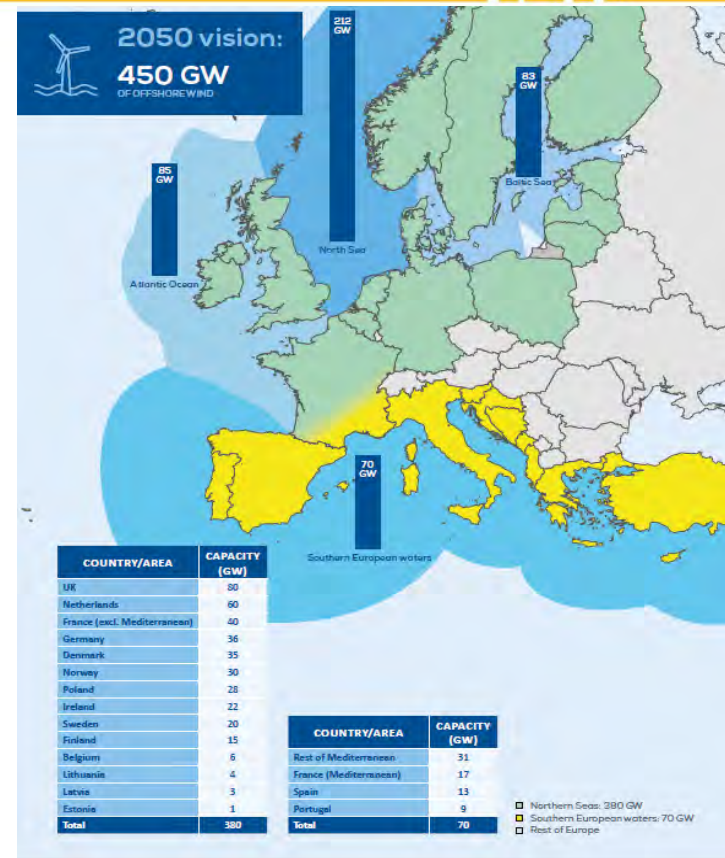
Development perspectives



Impulse from EU policy

- **Blue Growth Strategy:** specific axis on Ocean and Offshore wind energies
- **Climate & Energy package:** setting binding legislation to ensure the EU meets its climate and energy targets
- **European Green Deal:** EU is striving to become the first climate-neutral continent by 2050.

COUNTRY/AREA	CAPACITY [GW]
Rest of Mediterranean	31
France (Mediterranean)	17
Spain	13
Portugal	9
Total	70

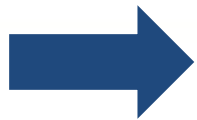


EU OWE vision at 2050

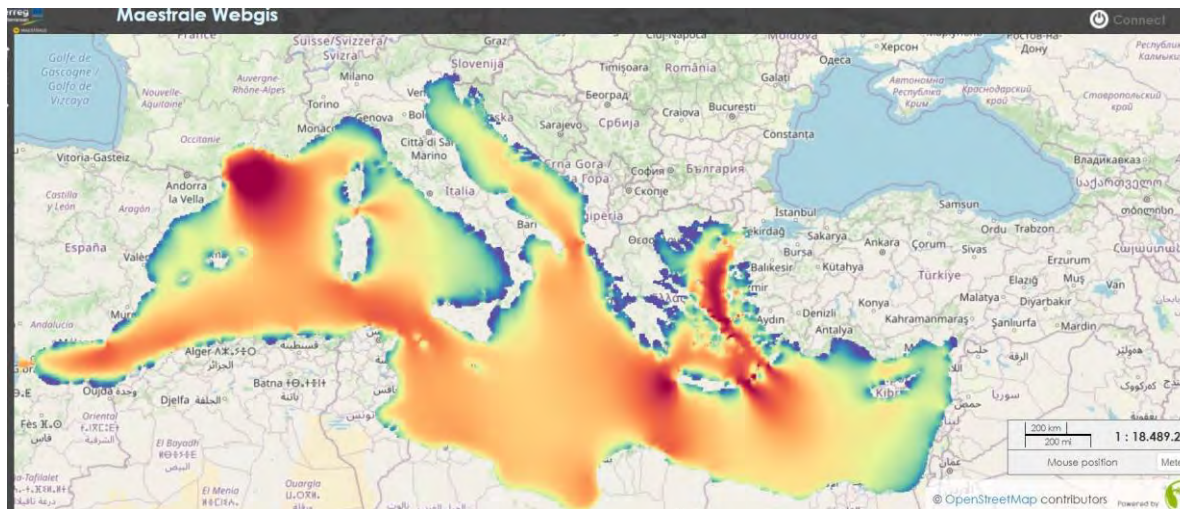
Capacity in the EU Mediterranean is expected growth to 70 GW

Source: Wind Europe, 2019

Development perspectives



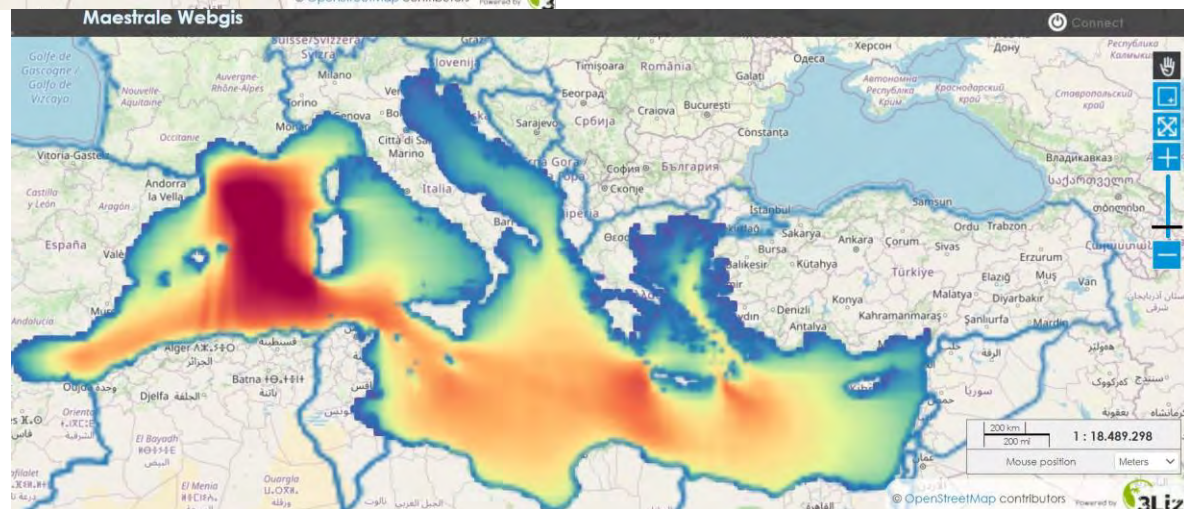
Potential for MRE in the Mediterranean



Mean annual wind energy
potential.

Source: MAESTRALE WebGIS
maestrale-webgis.unisi.it/

Mean annual wave energy
potential.
Source: MAESTRALE WebGIS
maestrale-webgis.unisi.it/



Challenges for Marine Renewable Energies development in the MED

- **Lack of defined policies for blue energy at national level, and lack of vision for the marine area.** Current reference policies target mostly renewable energies as a whole, without making any distinction on the type of energy.
- **Shortcomings in marine governance.** Management responsibilities for marine space and its uses are divided into different departments. This hinder decision-making processes and translate into inefficient authorization procedures
- **Lack of adequate financial instruments.** Substantial and stable public investment is required to commercialize the industry with the objective to reach a production cost, competitive with the other current sources of energies. The public commitment will stimulate private, long-term investments.
- **Complex licensing and consenting procedures.** There is an overall lack of knowledge about regulatory processes to be followed to get authorization to develop a MRE project. This prevents from developing various initiatives, which would contribute to the emergence of MRE as a strong economic sector
- **Potential conflicts between MRE and other sectors (coastal tourism, fisheries and aquaculture, MPAs, etc.) and issues of environmental sustainability**
- **Issues of public acceptance** (linked to conflicts) may delay consenting process and consequently commercial development.

Challenges



Conflict with fisheries

These conflicts have mostly been relevant in the North Sea, Baltic Sea and Eastern Atlantic. Member States keen to develop offshore wind farming are now looking to MSP to address these conflicts in a pro-active way.



Conflicts with coastal tourism

Conflicts mostly arise for the fears of the visual impacts of wind turbines and access to sea areas.

Overcoming barriers



Maritime and energy policy



Marine spatial planning



Governance



Funding and investments



Authorization procedures



Public participation and social acceptance



Knowledge, Research & Development, Pilot projects



Supply chain and energy infrastructures



Cooperation

Forthcoming report on Marine renewable energies

→ A capitalization report on Marine Renewable
Energies in the Mediterranean...

...released in the coming weeks !



Thank you for your attention!

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