IMT Atlantique
Bretagne-Pays de la Loire
École Mines-Télécom

Renewable Marine Energies - Post-master degree

Accredited by the Conference of Grandes Ecoles

This post-master is co-accredited with ENSTA Bretagne and The Naval Academy.

On-line applications through the ENSTA Bretagne website

Master's programme directors: **Christophe Laot** (IMT Atlantique) and **Jean-Yves Pradillon** (ENSTA Bretagne)

Programme objectives

The subject of renewable marine energies involves many technical, scientific, economic, legal and social issues. Indeed, for the implantation of an energy production system on a given site it is not only necessary to define and design it for the best energy return, while accounting for the hostility of the marine environment and its consequences on the durability of the system. Its possible impact on environment and biodiversity, and potential problems of social acceptability and usage conflicts with other utilizers of the coastal area must also be considered.

The objective of this master's is to equip engineers or master's graduates with the necessary skills to

integrate marine energy engineering teams and lead large system projects calling for multidisciplinary technical and scientific skills.

An original pedagogical approach

This training course aims to equip its future graduates with solid skills in the energy field for use in a marine environment. To achieve this, Grandes Ecoles, universities and research institutes have come together to offer a quality multidisciplinary training course with teachers who are top-level researchers and engineers. The desire to take our selected students to the best possible scientific level has led these partner institutions to design a teaching programme which is both ambitious and quite intensive. However, this has been done with sufficient gradualism for students to be capable of tackling complex industrial projects by the end of their studies.

An environment of excellence

Due to its geographical location and its coastline, Brittany has significant marine energy resources, particularly in the area of waves, wind, currents and tides. It is therefore particularly well-suited terrain for experimenting with energy production systems, using these resources. This has been a trigger for the creation of a veritable sector of French industry in this field, which is both creating and exporting technologies.

Partner Network

The Master of "Renewable Marine Energies" course benefits from a network of partners in excellence. The "core" of this network is made up of three institutions authorised to deliver the post-master professional certificate (ENSTA Bretagne, the French Naval Academy and IMT Atlantique) and three associated institutions (Ifremer, the National Engineering School of Brest and the University of Western Brittany, specifically through the European University Institue of the Sea and the Brest University Institute of Technolgy). This training course has also received support from the Mer Bretagne competitiveness cluster, the Brest Chamber of Commerce and several industries of the sector, including Acergy (specialist in the Offshore field), Météo France, Epshom and Cetmef.

Career opportunities

Several different types of professional activity are accessible to graduates of this course. They may conduct on-site implantation research for large energy operators or specialised research units, concerning the resources available, the infrastructures and servitudes to be determined, operating modes, environmental impact, or the legal and regulatory consequences to be taken into account. They may also be designers or project managers for energy production systems and platforms in large industrial groups or SMEs. Lastly, in time, they may join local or national governmental bodies as project managers.

Candidate profile

This master's aims to give students overall knowledge of the issues surrounding renewable marine energies. This course is therefore more specifically aimed at students with a master's level qualification, for example; an engineering university or university degree, wishing to complete their training with a year specialising in the emerging niche sector of renewable marine energies.

Programme information:

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Application fees: aucun

Tuition fees may be covered by in-service training funding organisations such as, Pôle Emploi (French National Employment Agency), the French National Employment Agency (FNE) or a student loan granted by banks according to their specific conditions.
