NATURSEA-PV

NOVEL ECO-CEMENTITIOUS MATERIALS AND COMPONENTS FOR DURABLE, COMPETITIVE, AND BIO-INSPIRED OFFSHORE FLOATING PV SUBSTRUCTURES

Project

The strategic objective of NaturSea-PV is to improve the overall lifetime, reliability and maintainability of marine substructures for offshore floating photovoltaics (PV), to NaturSea-PV will develop a lily-inspired PV substructure solution to meet the specific needs for Offshore Floating PV.

Our approach

The substructures will be built using newly developed environmentally friendly low carbon ultrahigh performance concrete, and it will be coated with new biobased antifouling and anticorrosive

reduce degradation and failure rates, and thus investment risk and Levelized Cost of Electricity (LCOE).

Objectives

- Develop a new conceptual concrete substructure;
- - Development of new circular materials and treatments;
 - predictive Develop improved computational tools for durability aspects;
 - Testing and validation in realistic conditions of developed material, components and computational tools;

Compatibility with socio-economic activities and maximization of sustainable impact in line with the **Mission Healthy Oceans.**

coatings.

The lily's concept of radial and tangential girders will take advantage of the flexibility and lightness of the new eco-concretes to withstand the harsh offshore metocean conditions.

The computational toolkit will serve to optimize materials properties and plan timely maintenance operations.

NaturSea-PV will strongly collaborate with associations, public bodies and regulators to assess the implementation barriers and potential impacts on the socio-economic activities and the environment, to propose corrective measurements and ensure social acceptance.



Victoria Amazonica (left) showing underside of a leaf (right)



Conceptual Offshore Floating PV sideview









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Project details

Project number: 101084348

Project full title: Novel eco-cementitious materials and components for durable, competitive, and bio-inspired offshore floating pv substructures

Project acronym: NaturSea-PV

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