

MOSS MARITIME

OFFSHORE FLOATING SOLAR POWER

August 2026



WHO WE ARE

At Moss Maritime, part of Saipem, we provide leading design and engineering solutions for the offshore energy industry and other ocean-based sectors.

Building on decades of innovation and technical excellence, we specialize in pioneering and technologically advanced projects, delivering cutting-edge solutions for some of the industry's most complex challenges. Our expertise spans innovative floating systems for the energy sector, with a particular focus on LNG, hydrogen and other emerging energy carriers, as well as renewable energy applications.

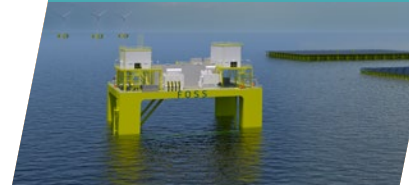
By combining deep industry knowledge with a forward-thinking approach, we help our clients turn ambitious ideas into safe, efficient and sustainable projects.

ENGINEERING SERVICES

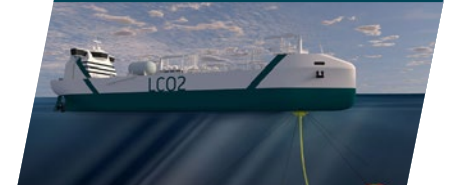
We provide **engineering, design and consultancy services** across the entire lifecycle of offshore and coastal projects, from **concept development and feasibility studies** through to **detailed engineering and execution support**.

We work alongside our clients to deliver high-value solutions that drive performance and project success.

CLEAN ENERGY SOLUTIONS



GAS TECHNOLOGIES



OCEAN TECHNOLOGY AND INFRASTRUCTURE



ECO DRILLING FLOATERS



XOLARSURF

XolarSurf is our innovative floating solar platform, designed to unlock the potential of offshore solar energy in even the most challenging environments.

Thanks to its modular and scalable design, XolarSurf can be adapted to a wide range of offshore locations, offering flexibility in both island size and configuration.

Each island is composed of multiple interconnected floaters that provide a protected and stable foundation for photovoltaic modules.

Depending on the selected layout, each floater can accommodate up to 35-45 kWp of installed capacity, enabling tailored solutions that meet our clients' specific project requirements.

WHERE CAN XOLARSURF BE INSTALLED?

We designed XolarSurf for exposed offshore locations, where wave action, wind and marine conditions demand reliable floating solutions.

To address different environmental requirements, XolarSurf is available in two standard configurations:

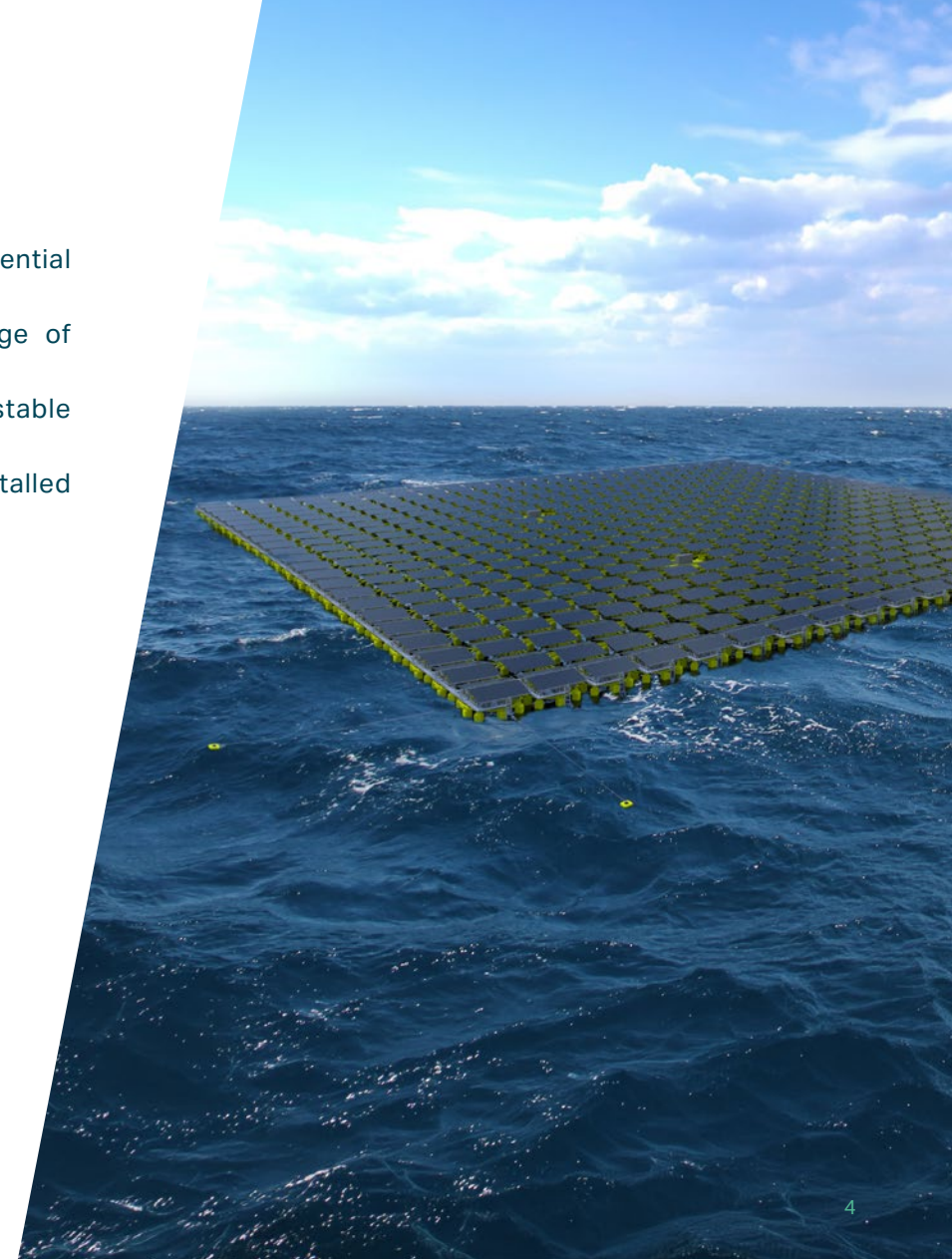
Base case design:

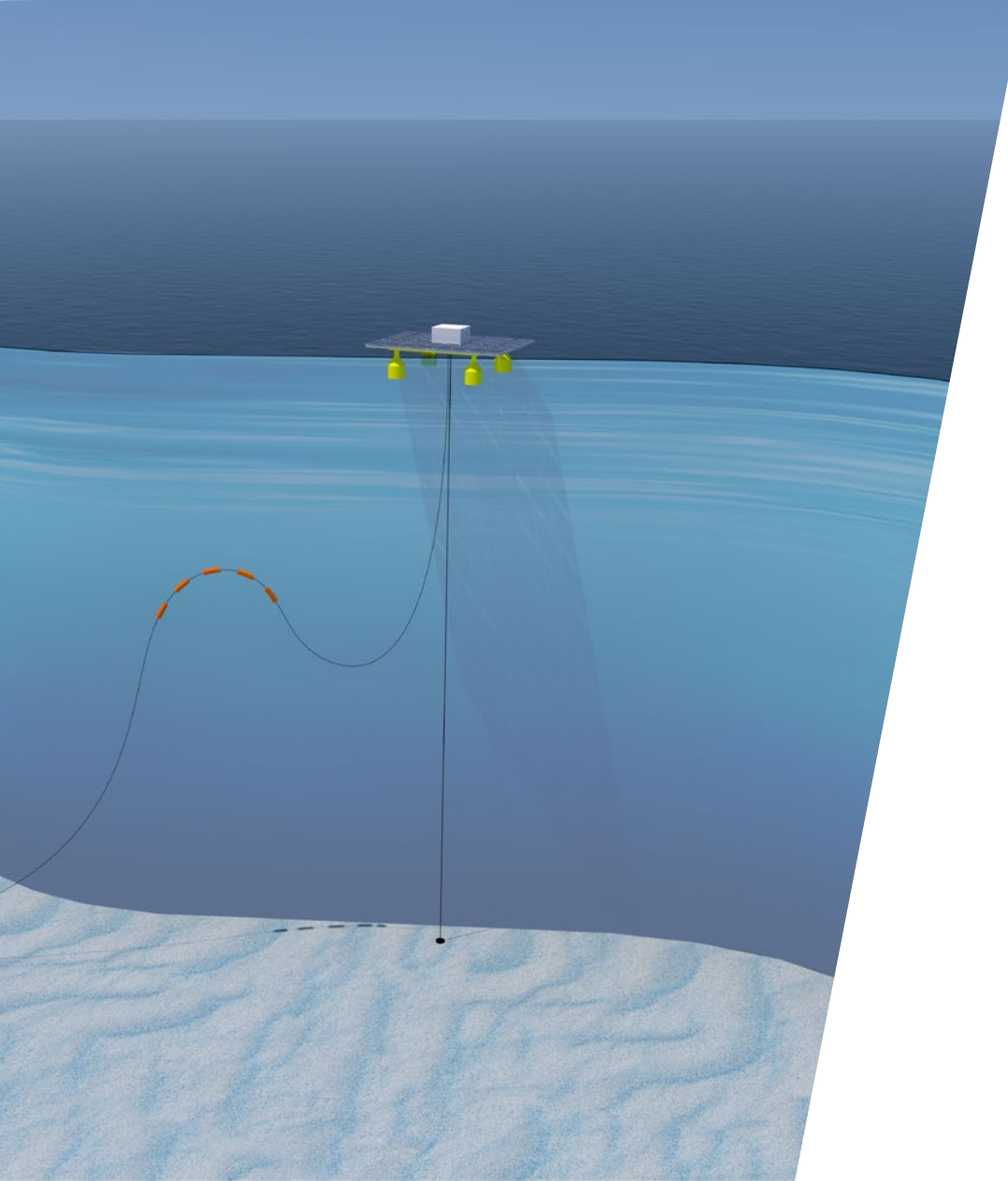
- Hs up to 4 m with Tp 10 s
- Wind up to 35 m/s 1-hr average
- Current up to 2 m/s
- Water depth from 15 m

Harsh:

- Hs up to 8 m
- Wind up to 35 m/s 1-hr average
- Current up to 2 m/s
- Water depth from 30 m

Thanks to its modular architecture, XolarSurf can be tailored to site-specific conditions and operational requirements. Design adaptations may include floater dimensions, structural load capacity and environmental design criteria, ensuring optimal performance for each installation.





LATEST UPDATES

We continue to develop XolarSurf, our offshore floating solar technology, with the ambition of supporting both large-scale clean energy installations and smaller renewable energy applications. We see particular potential in aquaculture and subsea oil and gas installations.

For subsea power applications, we see a strong value proposition in partnering with Saipem, combining our offshore floating solar technology and marine systems expertise with Saipem's extensive subsea and EPCI capabilities. Together, we offer a competitive solution backed by proven technical competence and execution experience.

Together, we are exploring how offshore floating solar can contribute to the electrification and decarbonization of offshore infrastructure. Built around our proprietary XolarSurf technology, the solution can provide renewable power to Subsea Installations and other offshore installations while supporting hybrid energy concepts that combine floating solar and offshore wind to improve energy reliability and reduce emissions.

Beyond power generation, XolarSurf can serve as a versatile offshore hub, configured either as a single floating unit or as multiple interconnected platforms. The system can accommodate additional equipment such as batteries, chemical injection systems, cable and pipe hang-offs, and ROV hangars, creating a multifunctional offshore asset tailored to project requirements.



LATEST UPDATES

By combining our respective strengths, we offer a scalable and adaptable solution capable of supporting applications ranging from smaller offshore power units to large-scale integrated energy hubs.

With a particular focus on aquaculture, we believe XolarSurf offers a unique and highly relevant value proposition. The concept builds on years of technology development, model testing and pilot activities, including prototype deployment at Frøya and the ongoing evolution of the system.

XolarSurf is being evaluated as a renewable energy source for nearshore aquaculture facilities, both as a standalone solution and in combination with wind, wave power and BESS. Its modular design enables adaptation to a wide range of locations, operating conditions and energy requirements.

We recognize that every site requires a tailored approach. With more than 40 years of experience in floating structure design, we are well positioned to deliver customer-specific solutions while leveraging the expertise developed through XolarSurf. Together with experienced aquaculture companies, we offer customers a robust and competitive renewable energy solution.

DESIGN DEVELOPMENT TIMELINE

2017

Scatec innovation contest, first version of design

2018-2019

Concept development with internal funding and FORREGION (RCN) funding development of numerical models with theoretical support from SINTEF Ocean. First simplified model test as part of MSc thesis at NTNU.

2021-2022

Pilot phase, 1 MWp planned installation (6x6 floaters), with export cable to shore and connection to grid. During the course of the project it was scaled down to 0.5 MWp to be able to reach 2023 installation. Engineering for both 1 MWp and 0.5 MWp completed. Offshore hook-up test and lab test of floater connector.

2020

Partnership with Equinor, concept phase, extensive model test campaign at SINTEF Ocean and first full-size park analyses. Design improvements, e.g. flexible frame to prevent wave loads reaching the PV modules.

2023-2024

XolarSurf generation 2 developed for harsh offshore conditions.

INITIAL DESIGN FOR FPV + WIND + BESS DEVELOPED

2024

Solan (one full size prototype floater with 23 kWp) installed in a benign location at Frøya, Norway. Grid connected and delivers electricity to Kystteknikk workshop and office facilities.

2025

XolarSurf generation 3 developed, taking advantage of all learnings from generation 1 and 2 development, applicable for areas with Hs up to 5 m. Solan survived two winter storms in January and one in October, with wind gusts up to 40 m/s. Storm (whole gale) with hurricane force gusts on nearby measuring station.

CONCEPT DEVELOPMENT OF UTILIZING XOLARSURF FOR SUBSEA FACILITIES



mossmaritime