

# Effect of marine atmospheric flow under extreme wind-wave conditions on floating PV systems

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## Description

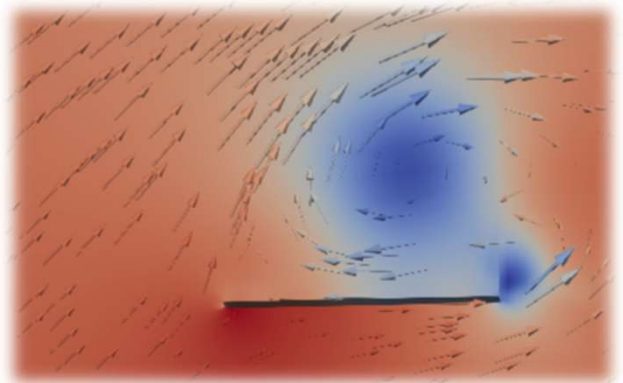
The European Offshore renewable energy strategy reveals a need to diversify the technology portfolio to take advantage of the energy potential of the European seas. However, not all offshore renewable solutions are in the same stages of development. Floating Photo-Voltaic (FPV) is still in the earlier stages of development for open sea deployment. FPV systems consist of multiple panels which are prone to extreme wind conditions. To ensure proper functioning of the FPV systems, it is important to understand the aerodynamic characteristics of the system.

## Goals

- The main objective of the bachelor project is to perform an aerodynamic assessment of the floating PV systems under various operating conditions
- Propose recommendations to protect floating PV systems against extreme wind forces.

## CFD ANALYSIS

- Compare CFD models and results with previous studies and known resources
- Simulate new scenarios in OpenFoam and pinpoint the main points contention for the simulated PV-system



## Collaboration Company

SINTEF is one of Europe's biggest independent research institutes that were established in Trondheim, in 1950.

SINTEF does assignment-based research from EU, private business and various state organizations. One such project is researching the affect the marine climate has on floating PV-systems.

