



Challenge 2.4

Floating wind farms

Floating installation, assembly and heavy maintenance	 Medium-term	 Low priority
<p><u>Description and scope</u></p> <p>Deepwater offshore wind sites exclude use of traditional jack-up vessels for assembly, installation, and heavy maintenance. Floating-to-floating solutions need to be further developed for use in floating offshore wind developments. These solutions will allow for efficient installation and heavy maintenance at site and help to reduce capital expenditure (CAPEX) and operational expenditure (OPEX).</p> <p><u>Recommended research actions</u></p> <ul style="list-style-type: none">• Floating-to-floating motion compensated lifting operation.• Assess loads on components during crane/lifting operations.• Adaptable substructures for float over installation or to avoid heavy high-lifts, (e.g. telescopic designs, etc.).• Adapt Rotor-Nacelle-Assembly to allow for large tilting such that blades, nacelle and tower can be assembled horizontally on the ground, towed out, then flipped up vertically offshore for installation.• Flexible and Rigid Body Dynamic modelling for improved marine operations.	<p><u>Milestones</u></p> <ul style="list-style-type: none">• Enable floating-to-floating lifting at 1,5 HS and 10 m/s wind.• Software tools able to simulate six degrees of freedom motion compensation.	