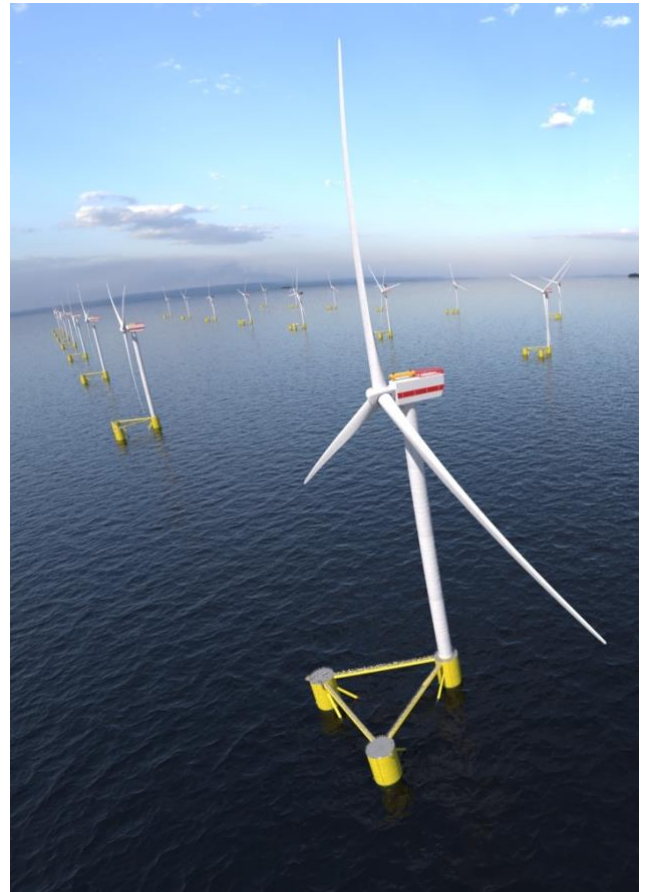


Project Description

The Case Study project considers a proposed floating wind farm in an Atlantic site. The project particulars used in the study are summarized as follows:

Farm Capacity [MW]	1000
Turbine Size (MW)	15
No. of Turbines	67
Lifetime (yrs)	30
Water depth (m)	150
Metoccean conditions	Exposed Atlantic
Mooring Lines per Platform	3
Distance from Port (nm)	65
Distance from Grid Connection (km)	50
WACC	6.3%
Capacity Factor	49%
Platform Type	Steel Semi-Sub
Anchor Type	Suction



Pre & Post Mooring System

During the preliminary engineering phase the developer found the mooring loads problematic considering the magnitude of the loads, and the availability of steel chain that would be required in the mooring system. In collaboration with Dublin Offshore the mooring system was re-engineered to inclined taut mooring with the inclusion of one Load Reduction Device on each mooring line. This reduced the design loads of the mooring system, the chain gauge, and both the anchor and fairlead sizing.

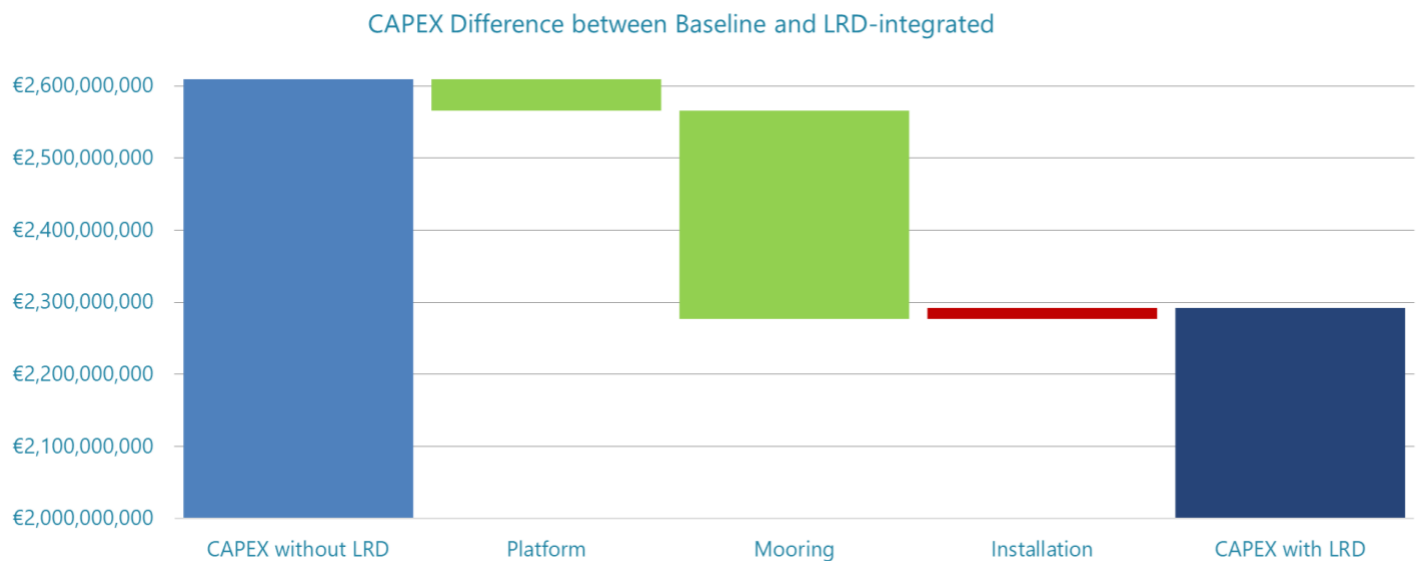
	Baseline	LRD-integrated
Mooring Peak Load	1870T	804T
Load Reduction	-	57%
Mooring Type	Catenary	Inclined Taut
Mooring Lines	3 No	3 No

CASE STUDY – SEMI SUB IN ATLANTIC CONDITIONS

Mooring Specification	170mm R5 Chain x 2700m	140mm R4 Chain x 300m, 300mm Polyester x 990m
LRD Qty	-	3 No
Anchor Size	65T	28T
Fairlead Size	170mm	140mm

LCOE Results

A Levelised Cost of Energy (LCOE) model was developed based on a steel semi-sub platform, 15 MW turbine, and semi-taut mooring system in a deepwater offshore site. This was used as a Baseline, with LRD integrated scenarios analysed for LCOE impact.



	Baseline	LRD-integrated	Impact
CAPEX	€2.61bn	€2.29bn	- €312m
LCOE	€65.7/MWhr	€58.3/MWhr	-11.3%

Want to know more?

Dublin Offshore have been working extensively in Floating Wind for several years and offer services across all phases. Our focus is reducing cost and risk on these flagship projects. Contact us on hello@dublinoffshore.ie to discuss cost reduction on your project.