

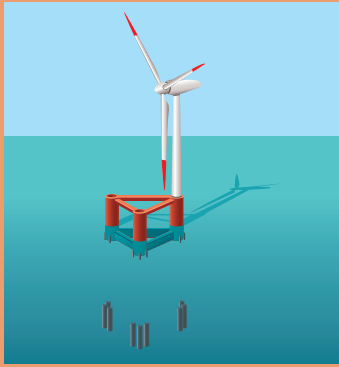
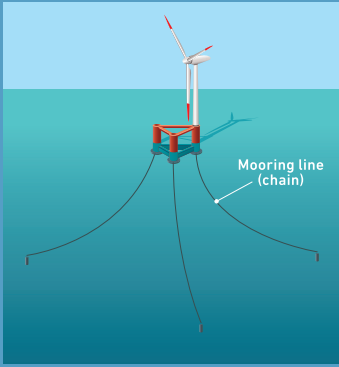
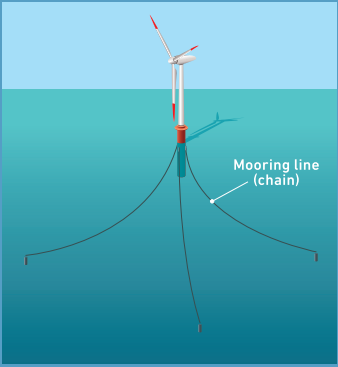
Floating Wind : Tension Leg Platform

浮体式洋上風力発電 TLP 型浮体形式

Great advantages of TLP type floating offshore wind

The mainstream offshore wind foundations are fixed-bottom types, and floating wind is hardly ever put into practical use. Especially in Japan where the coastal waters are deep, implementation of floating wind power is necessary for market expansion.

Floating wind is categorized into three types explained below: TLP with taut mooring lines, and semi-submersible and spar types with catenary mooring lines. The TLP type has no track record in Japan and technological development is needed. Compared to catenary mooring lines, the taut lines of the TLP take up less space, so there is less impact on fishing and shipping. By establishing this TLP floating type, excellent social acceptability can be exhibited.

Typical Floating Types	TLP	Semi-submersible	Spar
			
	Mooring type	Taut mooring	Catenary mooring (loose)
	Mooring foundation	Pile, suction anchor, etc. (Tech development needed)	Drag anchor, suction anchor, etc.
	Floater oscillation	Small	Large
Occupied area (Impact on fishing, shipping)	Small (Impact is small)	Large (Impact is large)	
Track record (Japan)	No	Yes	

Toward the realization of floating offshore wind

Our research and development on mooring foundations is helping the realization of TLP floaters. TLP foundations are characterized by repeated pull-out loads, and we conducted centrifugal model experiments to confirm its characteristics. We are also researching cost reduction by considering seabed survey and construction methods of large water depths.



Timeline for adoption of TLP floating wind

