Marubeni Corporation The University of Tokyo Mitsubishi Corporation Mitsubishi Heavy Industries, Ltd. IHI Marin United Inc. Mitsui Engineering & Shipbuilding Co., Ltd. Nippon Steel Corporation Hitachi, Ltd. Furukawa Electric Co., Ltd. Shimizu Corporation Mizuho Information & Research Institute, Inc.

Fukushima Recovery, Offshore Floating Wind Farm Demonstration Project

A consortium made up of Marubeni (project integrator), the University of Tokyo (Technical Advisor), Mitsubishi, Mitsubishi Heavy Industries, IHI Marine United, Mitsui Engineering & Shipbuilding, Nippon Steel, Hitachi, Furukawa Electric, Shimizu and Mizuho Information & Research are participating in an offshore floating wind farm demonstration project funded by the Ministry of Economy, Trade and Industry.

This project consists of three floating wind turbines and one floating power sub-station off the coast of Fukushima. The first stage of this project will begin in 2012 and consists of one 2MW floating wind turbine, the world's first 66kV floating power sub-station and undersea cable. In the second stage of the project two 7MW wind turbines will be installed between 2013 and 2015.

Fukushima Prefecture expects this project to spawn a new industry in renewable energy and create employment as part of recovery efforts in the wake of the Great East Japan Earthquake. Through this project, Fukushima Prefecture hopes to develop a large wind farm. It is understood that one of the most important themes of this project is the coexistence of the fishery industry with the offshore wind farm industry. To ensure this the consortium will work hard to maintain good relations with the local fishery industry through strong communication while at the same time pursuing the commercialization of this offshore wind farm project.

We believe that creating a practical wind farm business scheme through this experimental project could lead to the deployment of large scale floating wind farms in the future. Moreover, taking advantage of the experience and knowledge gained through this, the world's first floating wind farm, this business could be expanded on a global basis and lead to the development of a new Japanese export industry.

Facility Name	Scale	Wind Turbine Form	Floating Form	Project
				Term
Floating Substation	25MVA 66kV	Substation	Advanced Spar	First
Wind Turbine	$2 \mathrm{MW}$	Downwind Type	4 Column Semi-Sub	First
Large Wind Turbine	$7 \mathrm{MW}$	Oil Pressure Drive Type	3 Column Semi-Sub	Second
Large Wind Turbine		Oil Pressure Drive Type		
	$7 \mathrm{MW}$	Or	Advanced Spar	Second
		Downwind Type		

Table1 Facility Specifications

Table	2 Cons	sortium M	[embers']	Main F	Roles
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Consortium Member	Main Rule		
Marubeni Corporation	[Project Integrator]		
	Feasibility Study, Approval and Licensing,		
	Environment, Fishery Industry, O&M, etc.		
The University of Tokyo	【Technical Advisor】		
	Development of Measurement and Prediction		
	Technology for Floating Wind Turbines		
Mitsubishi Corporation	Feasibility Study, Approval and Licensing,		
	Environment, Fishery Industry, O&M, etc.		
Mitsubishi Heavy Industries, Ltd.	Floating Wind Turbine		
IHI Marin United Inc.	Floating Wind Turbine		
	Floating Substation		
Mitsui Engineering & Shipbuilding	Floating Wind Turbine		
Co., Ltd.			
Nippon Steel Corporation	Steel Supply		
Hitachi, Ltd.	Floating Electric Power Substation		
Furukawa Electric Co., Ltd.	Undersea Cable		
Shimizu Corporation	Construction Technology		
Mizuho Information & Research	Documentation, Committee Operations		
Institute, Inc.			

Depth of the Sea	Average Speed of Wind	Max Significant Wave Height	Distance from shore
$100{\sim}150{\rm m}$	Over 7.0m/s	$10{\sim}15{ m m}$	20~40km

Table3 Experimental Project Marine Area Features

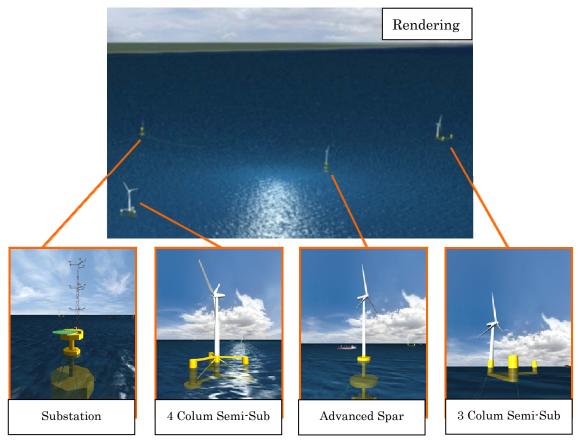


Figure1 Rendering