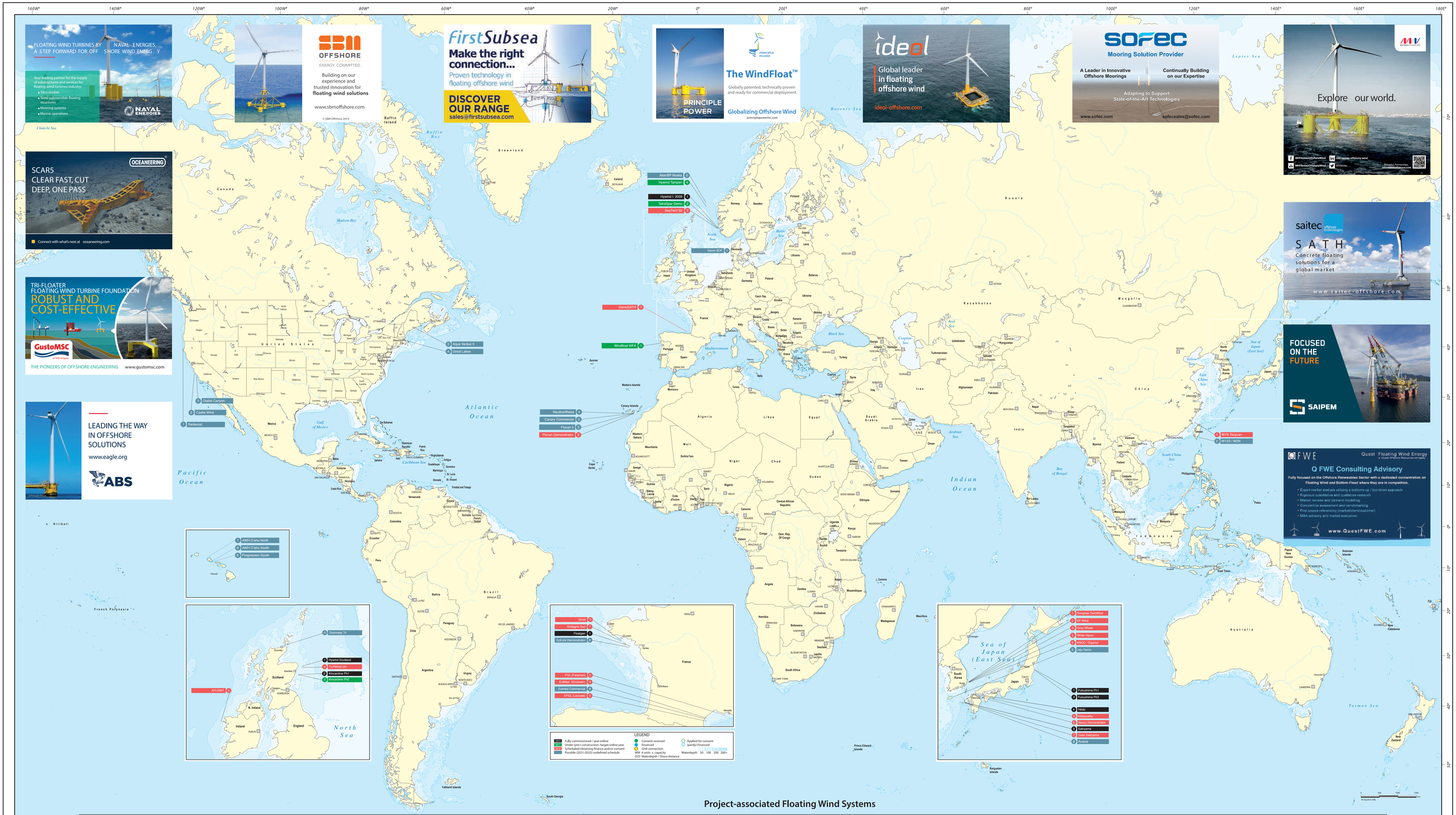
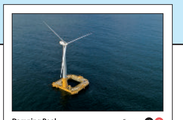



## Project-associated Floating Wind Systems

**Hywind**
Equinor
Steel or concrete. Draft 36m
Operational 75m
Norway · Scotland · S.Korea · USA

**WindFloat**
Principle Power
Steel. Draft 20m
Operational >40m
France · Portugal · S.Korea · Scotland · USA



**Damping Pool**
Ideol
Steel or concrete
Draft 7.5m. Oper. > 28m
France · Japan

**Toda SPAR**
Toda
Concrete. Draft 76m
Operational >100m
Japan

**Hexicon**
Hexicon
Steel. Draft 15m
Operational >50m
Scotland · S.Korea · Spain

**TetraSpar**
Stiesdal
Steel
Operational >40m
S.Korea · Norway · USA

**Sea Reed**
Naval Energies
Concrete. Draft 10m
Operational >50m
France

**HexaFloat**
Saipem
Steel. Draft 30m
Operational >80m
United Kindom

**SATH**
Saitec Offshore
Concrete. Draft 7m
Operational >25m
Spain

**Tri-Floater**
GustoMSC
Steel. Draft 13m
Operational >45m
S.Korea

**SCD Nezzy**
Aerodyn Engineering
Concrete. Draft 10m
Operational >40m
Japan

**Windfloater**
SBM Offshore
Steel
Operational >45m
France

**Floating Wind Projects enter into the commercial scale.**

The Floating Wind Energy Industry is accelerating towards its first commercial scale projects. Over 100 projects worldwide are in development, demonstration phase or in the first commercial projects now underway. The recent entry of oil & gas producers and offshore services companies into the industry has provided significant support in the bankability and insurability of floating wind projects. The first calls in the USA as well as in Asia returned enormous interest and several full scale projects are now in early development and engineering. With full scale demonstrators in the water, the industry is now focusing on the development of a significant number of projects into development. Although there are still some challenges, the general believe is that with technological development going forward and experience building, practical costs will gradually reduce.

The floating systems shown on this map were all selected for a project development. Projects shown are those online, under construction or planned, based on Quest FWE's analysis. Projects planned are those subject to reaching milestones for consent, permissions, project financing and grid connection. Remarks to the accuracy of the data are welcomed at data@QuestFWE.com Quest FWE's Q Vision Suite provides a wealth of data on the offshore wind sector, project, financial and technical data please consult our website for the data products we offer within our Q Vision Suite or on a consultancy basis. https://questfwe.com/q-vision-new/

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| Project | Operator | System | Turbine | MW | D/D | Mooring | Status |
|---|---|---|---|---|---|---|---|
| FRANCE | | | | | | | |
| 1 Floatgen | Floatgen | Ideol Damping Pool | MHI Vestas | 2 | 33 - 20 | Semi-taut 6 | 2017 |
| 2 EFGL (Leucate) | EDPR | PPI WindFloat | Senvion | 4 x 6 | 70 - 20 | Catenary 4 | 2021 |
| 3 Groix-Belle-Ile | Eolfi | Naval Sea Reed | GE Energy | 4 x 6 | 70 - 20 | Semi-taut 6 | 2021 |
| 4 EolMed (Gruissan) | Quadran | Ideol Damping Pool | Senvion | 4 x 6.2 | 55 - 16 | Catenary 6 | 2021 |
| 5 PGL (Paraman) | EDF Renouvelables | SBM Windfloater | Siemens | 3 x 8 | 90 - 22 | Taut 3 | 2021 |
| 6 Eolmed Commercial | Quadran | Ideol Damping Pool | | 250 | | | 2025 |
| 7 Bretagne Sud | Eolfie | Naval Sea Reed | | 250 | | | 2025 |
| 8 EoLink Demonstrator | EoLink | EoLink | | 6 | | SPM/Taut | |
| GERMANY | | | | | | | |
| 1 Gicon SOF | Gicon | TLP | Siemens | 2.3 | | Tether | 2021 |
| JAPAN | | | | | | | |
| 1 Fukushima Ph1 | Marubeni | Semisub Mirai | Hitachi | 2 | 120 - 20 | Catenary 6 | 2013 |
| 2 Fukushima Ph2 | Marubeni | Spar Hamakaze | Hitachi | 5 | 120 - 20 | Catenary 6 | 2014 |
| 3 Goto Sakiyama | Toda | Spar (frmr Kabashima) | Hitachi | 2 | 100 - 5 | Catenary 3 | 2016 |
| 4 Hibiki | Marubeni | Ideol Damping pool | Aerodyn | 3 | 55 - 5 | Catenary 9 | 2018 |
| 5 Kitakyushu | Marubeni | Ideol Damping pool | Aerodyn | 3 | 55 - 5 | Catenary 9 | 2020 |
| 6 Nezzy Demonstrator | Marubeni | Nezzy | Aerodyn | 6 | 70 - 5 | Turret/Taut | 2021 |
| 7 Goto Sakiyama | Toda | Concrete Spar | | 8 x 2 | 100 - 5 | Catenary 3 | 2022 |
| 8 Acacia | Acacia | Ideol Damping Pool | | | | | |

| Project | Operator | System | Turbine | MW | D/D | Mooring | Status |
|---|---|---|---|---|---|---|---|
| KOREA (South) | | | | | | | |
| 1 Donghae TwinWind | Shell/CoenHexicon | Hexicon | Local | 20 x 10 | 150 - 16 | Turret/Taut | 2022 |
| 2 KFWind | EDPR/Aker | PPI WindFloat | MHI Vestas | 25 x 8 | 150 - 16 | Catenary 3 | 2022 |
| 3 Gray Whale | GIG (Macquarie) | Various options | | 25 x 8 | 150 - 16 | Catenary 9 | 2022 |
| 4 White Heron | SK E&C/CIP | Various options | | 25 x 8 | 150 - 16 | Catenary 3 | 2022 |
| 5 KNOC/Equinor | KNOC | Equinor Hywind | Siemens | 25 x 8 | 150 - 16 | Catenary 3 | 2022 |
| 6 Jeju Demo Project | Jeju Island | GustoMSC | | | 80 -15 | Catenary 3 | |
| NORWAY | | | | | | | |
| 1 Hywind I | Unitech | Equinor Hywind I | Siemens | 2.3 | 200 - 7 | Catenary 3 | 2009 |
| 2 TetraSpar Demo | Stiesdal | TetraSpar | Siemens | 3.6 | 200 - 7 | Catenary 3 | 2021 |
| 3 Hywind Tampen | Equinor | Hywind concrete | Siemens | 11 x 8 | 220 - 150 | Catenary 3 | 2021 |
| 4 SeaTwirl S2 | SeaTwirl | SeaTwirl 2 | Siemens | 1 | 200 - 7 | Catenary 4 | 2020 |
| 5 Aker/BP Noaka | BP | Equinor | Siemens | 11 x 8 | 200 - 150 | Catenary 3 | |
| SPAIN | | | | | | | |
| 1 DemoSATH | Saitec Offshore | SATH | XEMC-Darwind 2 | | 80 - 2 | Turret 6 | 2020 |
| 2 Floean Canary | WunderHexicon | Hexicon | Siemens | 4.6 | 100 - 3 | Turret 6 | 2021 |
| 3 Floean Canary | Cobra | Cobra | Siemens | 5 x 6 | 120 - 5 | Catenary 5 | |
| 4 Nautilus/Balea | Nautilus | Nautilus Semi-sub | | 5 x 5 | 120 - 3 | Catenary | |
| 5 Canary Commercial | WunderHexicon | Hexicon | Siemens | 30 x 10 | 200 - 10 | Turret 6 | |

| Project | Operator | System | Turbine | MW | D/D | Mooring | Status |
|---|---|---|---|---|---|---|---|
| PORTUGAL | | | | | | | |
| 1 WindFloat Atlantic | Windplus/EDP | PPI WindFloat | Vestas | 3 x 8 | 100 - 30 | Catenary 3 | 2019 |
| TAIWAN | | | | | | | |
| 1 W 1 N Taoyuan | Eolfi/Cobra | Various options | | 500 | 60 - | Catenary 5 | 2023 |
| 2 W 2 S/W 2 N | Eolfi/Cobra | Various options | | 1,000 | 60 - | Catenary 5 | |
| UNITED KINGDOM | | | | | | | |
| 1 Hywind Scotland | Hywind Scotland | Spar floater | Siemens | 5 x 6 | 100 - 25 | Catenary 3 | 2017 |
| 2 Kincardine Ph1 | KOWL | PPI WindFloat | MHI Vestas | 1 x 2 | 62 - 15 | Catenary 4 | 2018 |
| 3 Kincardine Ph2 | KOWL | PPI WindFloat | MHI Vestas | 5 x 9.5 | 62 - 15 | Catenary 4 | 2020 |
| 4 TLPWind UK | Iberdrola | TLP | DTU | 2 x 5 | 81 - 25 | Tethered 3 | 2021 |
| 5 Doumeay Tri | Hexicon | Hexicon | Siemens | 5 x 10 | 62 - 15 | Turret 10 | |
| 6 Atlantis / Ideol | Atlantis / Ideol | Ideol Damping Pool | | 100 | | Catenary 6 | |
| IRELAND | | | | | | | |
| 1 AFLOWT | EMEC | Saipem Hexafloat | | | 100 - 16 | Catenary 3 | 2022 |

| Project | Operator | System | Turbine | MW | D/D | Mooring | Status |
|---|---|---|---|---|---|---|---|
| UNITED STATES | | | | | | | |
| 1 Redwood Coast | EDPR/Aker/PPI | PPI WindFloat | | 15 x 10 | 900 - 40 | Catenary 3 | 2024 |
| 2 Castle Wind | EnBW/Trident | Various options | | 1000 | 1000 - 40 | Catenary 3 | 2025 |
| 3 Aqua Ventus II | Umaine/DCNS | Volturn US | | 5 x 6 | 75 - 30 | Catenary 3 | |
| 4 Great Lakes | Magellan/CIP | Stiesdal Tetrafloat | | 25 x 8 | 150 - 16 | Catenary 3 | |
| 5 Diablo Canyon | Lease tender | Various | | 2,200 | 1000 - 40 | | |
| 6 Progression South | Progression | PPI WindFloat | | 68 x 9.5 | 1000 - 20 | | |
| 7 AWH Oahu North | AWH Hawaii Wind | Various options | | 50 x 8 | 1200 - 15 | | |
| 8 AWH Oahu South | AWH Hawaii Wind | Various options | | 50 x 8 | 1300 - 15 | | |


**Q Vision** provides instant access to real-time data for the world's Fixed and Floating Wind Energy projects. Driven from Q FWE's proprietary database, these Microsoft Power BI tools allow for dynamic analyses of relationships across Markets and Technologies, and an enhanced understanding of project Economics.

For more info, please visit www.QuestFWE.com

Q Vision Modules: Project Economics (CapEx, Total PTUs); Market Dynamics (Tons per MW, Total MW)


# Floating Wind Energy

## Projects of the World 2019

**This map offers insight into the currently known active, planned or forecast Floating Wind Energy projects and associated floating systems. The data is from a proprietary database and remains the copyright of Quest Floating Wind Energy, LLC. Extensive data on floating wind projects and floating systems & concepts is available in the Q FWE Floating Wind Energy Database. Please contact Q FWE for more information on data packages or go to QuestFWE.com**

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