Floating Wind *Solutions*

Leveraging the Established Global Offshore Supply Chain

Conference Program

Floating Wind Solutions, Conference & Exhibition

The Westin Houston, Memorial City

28-29 June 2021

Organized by

FWE Quest Offshore

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Floating Wind *Solutions*

The mission of the Floating Wind Solutions Conference & Exhibition is to showcase the many capabilities of the established Global Offshore Supply Chain and create a platform for bridging Supply and Demand while facilitating development of this industry. Floating Wind Solutions' mission is to utilize this platform to bring together the many critical players within the Wind and Offshore industries enabling accelerated adoption of Floating Wind Energy globally. This premier event's primary goal is to accelerate the Energy Transition, by focusing on the industrialization and commercialization of Floating Wind Energy. A world class Advisory Board of industry experts supervise the conference content safeguarding the program; FWS along with our Advisory Board and other stake-holders are committed to the principles of this mission.The FWS 2021 Conference program excels in a strong line-up of subject matter experts from all over the globe showcasing proven know-how, experience and technology, readily available to the industry.

Hywind Scotland. Operational since 2017. Photo courtesy of Equinor.

FWS's first edition was originlly planned for February 2021, however due to Covid pandemic delyed to June 2021.
FWS has the ambition to be atrue Global event, planned to return to Houston in Quarter 1 of 2022.

Q FWE Quest Floating Wind Energy

In 2018, Quest launched a SaaS business Q FWE – Quest Floating Wind Energy, LLC. a company focused on Economics & Finance, Technology and Market Intelligence within the alternative energy landscape of offshore wind, specifically floating wind energy.
Based on over a 100-years of combined experience in all relevant aspects and disciplines of the Global Energy Industry, Quest Floating Wind Energy provides strategic advisory and consulting to end-clients within the global Energy and Financial sectors. Q FWE delivers highly focused market intelligence tools, products and services to the entirety of the Renewables Supply Chain across offshore wind encompassing Floating and Bottom-fixed.

The mission is to unite, educate and expand the global offshore floating wind industry leveraging Quest Offshore's resources and vast experience to bring together the various disciplines and services within this burgeoning sector. Over the past 3.5 years, Q FWE has gained hundreds of subscribers and thousands of followers and is recognized as the leading provider of market intelligence in the Floating Wind Energy industry.

Quest Offshore

Quest Offshore possesses expert knowledge of the entire Energy Value Chain with decades of experience empowering our clients with Clarity, Insight and Vision. Quest is dedicated to providing market expertise, strategy & advisory and technical conferences to our Offshore Energy clients including MCE Deepwater Development, the leading deepwater oil & gas event in Europe, now in its 17th year.
In addition Quest owns and organizes the Deepwater Executive Summit and the Global Offshore Brazil Summit. Quest was the managing partner of the premier edition of OTC Brasil and was the creator of numerous other Offshore Energy events, such as Subsea Houston, Marine Construction Houston, DeepGulf and the Offshore Risk Forum.

For more information please contact Andrew Chadderdon

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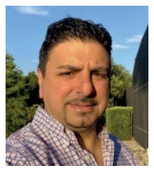

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Von Thompson
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xodus

Windfloat Atlantic. Operational since 2019. Photo courtesy of Principle Power. Photo by Dock 90.

AKER OFFSHORE WIND

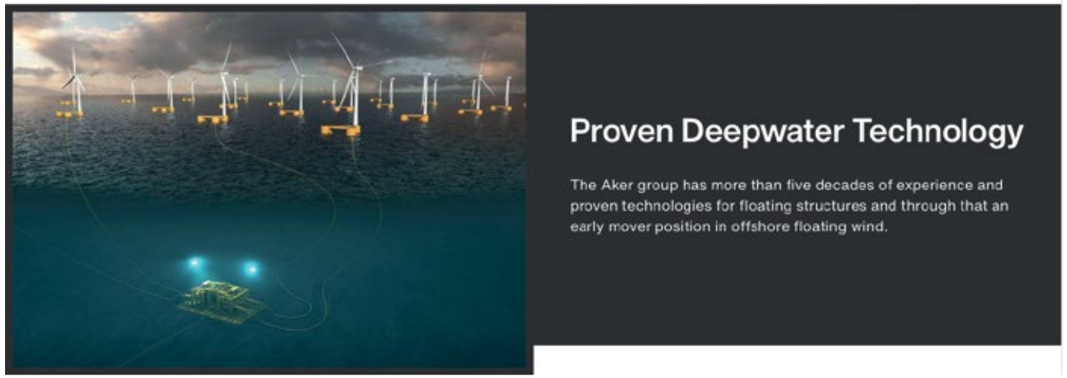
Aker Offshore Wind is a Norwegian offshore wind developer striving to create a sustainable future – one driven by clean, green energy.

We have the needed experience and technologies to shape new frontiers and unlock vast amounts of energy production with minimal environmental footprint. It's the reason we are driving the industrialization of deep water and floating offshore wind and taking an early mover position in the development of large-scale deepwater wind farms across the globe.
We have resources at our disposal to become a leading deep water independent power producer, including over five decade's worth of expertise, industry-leading technology and powerful alliances. With value creation as our priority, we will grow value milestone by milestone and project by project, expanding capability and reach on a solid platform of performance.
We have operations in Norway and internationally. The company has a portfolio of development projects and prospects in Europe, North America and Asia. Aker Offshore Wind is listed on Euronext Growth in Oslo, Norway, under the ticker AOW-ME.

Our collaboration with the Aker group give us access to unparalleled competence and five decades worth of offshore expertise and experience. More than 50 years' experience designing, delivering and servicing offshore floating and deepwater facilities in harsh environments across the world.
- Experience from designing 160 floating structures (semisubmersibles, spar buoys, TLPs and ship shape) that are some of the most advanced in the world, including 60% of the world's semisubmersible platforms and the largest semi-submersible in the world
- Access to unique deepwater jacket technologies to drive down costs and unlock acreage also on intermediate depths (50-70 m) where monopiles and floaters are often less optimal
- Unique subsea technologies (such as dynamic power cables) and world-class offshore project execution
- Innovation in installation and execution to reduce the need for large, specialty vesselsLarge Norwegian construction site at Verdal available for optimization of supply chain for North Sea basin projects

AKER OFFSHORE WIND

Photo courtesy of Aker Offshore Wind.

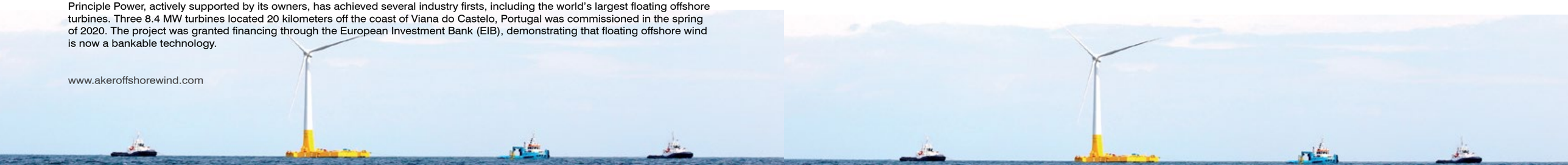


The Aker group has more than five decades of experience and proven technologies for floating structures and through that an early mover position in offshore floating wind. The technologies are mature enough for commercial-scale developments and innovation continues to drive down costs while supporting local job creation in the markets we operate.

Aker Offshore Wind has invested in Principle Power – a strong technology brand in the offshore floating wind industry – allowing for further acceleration of development through their field-proven technology. Principle Power's floating foundation design, WindFloat® has pioneered floating wind. The pilot was in successful operation from 2011 to 2016 off the coast of Portugal.

Principle Power, actively supported by its owners, has achieved several industry firsts, including the world's largest floating offshore turbines. Three 8.4 MW turbines located 20 kilometers off the coast of Viana do Castelo, Portugal was commissioned in the spring of 2020. The project was granted financing through the European Investment Bank (EIB), demonstrating that floating offshore wind is now a bankable technology.

www.akeroffshorewind.com



Monday - June 28, 2021

7:00 - 5:30	**Registration & Badge Pick-up** (in exhibition hall) Sponsored by Technip Energies	TEN
7:00 - 8:00	**Continental Breakfast** (in exhibition hall)	
8:00 - 9:30	**Early Morning Session** **Keynote Session: State of Industry and the Path Forward**	
9:30 - 10:15	**Coffee Break** (in exhibition hall) sponsored by Vryhof Group	VRYHOF
10:15 - 11:45	**Late Morning Session** **Cost Reducing Scenarios**	
11:45 - 1:15	**Lunch followed by Coffee** (in exhibition hall) sponsored by Acteon Group	ACTEON
1:15 - 3:00	**Early Afternoon Session** **Mooring Systems & Technology**	
3:00 - 3:45	**Coffee Break** (in exhibition hall) sponsored by Vryhof Group	VRYHOF
3:45 - 5:15	**Late Afternoon Session** **Floater Production for Commercial Scale**	
5:15 - 6:00	**Special Session** **Presentations and Discussion on ESG-related Subjects**	
6:00 - 7:30	**Reception** (in exhibition hall) sponsored by Aker Offshore Wind	AKER OFFSHORE WIND

Tuesday - June 29, 2021

7:00 - 5:30	**Registration & Badge Pick-up** (in exhibition hall)	TEN
7:00 - 8:00	**Continental Breakfast** (in exhibition hall)	
8:00 - 9:30	**Early Morning Session** **Power Cable Systems & Substations**	
9:30 - 10:15	**Coffee Break** (in exhibition hall)	
10:15 - 11:45	**Late Morning Session** **De-Risking Projects. Management & Controls**	
11:45 - 1:15	**Lunch followed by Coffee** (in exhibition hall) Sponsored by Huisman	Huisman
1:15 - 3:00	**Early Afternoon Session** **Assembly & Installation**	
3:00 - 3:45	**Coffee Break** (in exhibition hall)	
3:45 - 5:15	**Late Afternoon Session** **Operations & O&M Scenarios**	

7:00 **Registration** (in exhibition hall) Sponsored by Technip Energies

7:00 - 8:00 **Breakfast** (in exhibition hall)

8:00 - 9:30 Keynote Session: State of Industry and the Path Forward

Session Chairs: **Paul Hillegeist**, Q FWE - **Alla Weinstein**, Trident Winds

Welcome & Introduction
By *Paul Hillegeist, Quest FWE*

Keynote : Advancements in Digital Wind Energy Technology
Presenter *Jonah Margulis, Aker Offshore wind*

Floating wind technology is developing at a rapid pace and digital solutions are a significant contributor to driving down the levelized cost of energy (LCOE). This presentation will provide a brief overview of where we are as a floating offshore industry, where the significant cost reductions are expected to come from, and provide a real world example of how digital solutions are providing real value and driving down costs today.

Keynote : Going from Technology to Commercialisation
Presenter *Leif Delp, Equinor*

The presentation will provide an overview of what will it take going from rather novel floating concepts and technology, which means going from floating wind demos/demo parks and move to commercial scale parks 500MW+ within a decade.
Topics to be covered will be: Floating LCOE & cost reduction potential – optimized floater solutions for mass production including mooring and dynamic cables solutions – how to mobilize supply chain and meeting the demand beyond 2030 - what will it take to industrialize floating offshore wind?

Keynote : The importance of Return on Experience when Dealing with Interface Management and Responsibility Transfer among Project Stakeholders
Presenter *Bruno Geschier, BW Ideol*

As highlighted on numerous occasions by the European Investment Bank as well as other key financial institutions across the globe, the bankability / insureability of commercial-scale floating offshore wind projects is still highly – if not exclusively - dependant on the proven track record of floating wind technologies benefiting from several years of operation of full-scale assets. Beyond the obvious seakeeping, power production and O&M track records as well as scale-up and cost-reduction capabilities, financial institutions (incl. insurers) will also gauge the maturity and experience of the interface management, risk transfer and contractual set-ups between all key stakeholders including grid operators, EPCI contractors, wind turbine supplier, floating technology provider, O&M specialists, etc. Consequently, full-scale demonstrators operating for several years are a tremendous source of learning and are on the critcial path of commercial-scale readiness. Learnings, issues, challenges and solutions that need to be openly addressed when sitting down with the people looking at financing and insuring commercial-scale projects in the billions of USD and who will need to be particularly

Keynote : A Systems Engineering Vision for Floating Offshore Wind Cost Optimization
Presenter *Dr. Amy Robertson, National Renewable Energy Laboratory*

While great progress has been made with innovations related to individual components and tools, only a comprehensive systems-based approach can allow floating wind technology to fully mature in commercial markets. A multidisciplinary effort makes it possible to simultaneously focus on a wide range of factors and then optimize designs to achieve a minimum system cost. This presentation will provide an overview of the current design methodology for floating wind systems, and then provide a vision for a fully integrated systems-engineering and techno-economic design approach to capture the complex interactions between the physics, manufacturing, installation, and operation of

Panel Discussion

9:30 - 10:15 **Coffee Break** (in exhibition hall) sponsored by Vryhof Group

10:15 -11:45 Cost Reducing Scenarios

Session Chairs: **Henrik Baltscheffsky**, Hexicon - **Denis Matha**, Ramboll

Translate O&G Cost-saving Experiences into Floating Wind
Presenter *Alan Whooley, Wood Group*

The results of a series of cross discipline workshops are presented that identify how to translate Total Expenditure (TOTEX) cost saving lessons from 40 years of oil and gas floating facilities operating in hostile environments across to economic, safe and reliable floating wind facilities. The changes in culture, technology, installation methods and operating strategy that would be needed to deliver floating wind energy at the same or lower cost as fixed wind. The impact on CAPEX and OPEX of designing floating wind farms with high reliability, high automation and maximum onshore operations.

Financing Climate in Floating Wind
Presenter *Randy Male, Director, Green Giraffe*

The presentation will provide an overview of the current state of the floating offshore wind market, anticipated growth of the market, current state of floating wind project development financing and observations on expected construction financing for floating wind projects. Topics covered: The current status of floating wind development globally, Anticipated growth of floating wind, Expectations for cost competitiveness of floating wind - Current state of development financing for floating wind, including players and structures - Expectations for construction financing for floating wind, including characteristics of initial projects likely to secure financing.

Analyses of 18 Floater Designs. Steel and Concrete
Presenter *Ignacio Pantojo, Iberdrola*

This presentation shows a Developer's reasoning behind floating wind and the internal approach to reviewing and weighing different technology. It provides an overview of floating wind designs in steel, concrete and hybrid, looking at each typical design's characteristics, Technology Readiness Levels (TRL) and evaluation of projects' CapEX in which these designs have been applied. The presentation provides an insight of the available technology and potential markets in various regions. It also compares floating wind to bottom fixed applied technology

Panel Discussion

11:45 - 1:15 **Lunch** (in exhibition hall) sponsored by Acteon Group

1:15 - 3:00 Mooring Systems & Technology

Session Chair: **Nicolas MacFerran**, SBM

Cross-over from O&G Mooring Experience to Floating Wind
Presenter *Thomas Agnevall, Strana Offshore*

The presentation will briefly illustrate the evolution of oil & gas mooring systems from the early eighties into present time, with focus on various anchor types in varying soil conditions and water depths. The technology developed over the years is now applicable to floating wind mooring systems as well, although some key differences need special attention. Delegates, new to floating wind moorings, and without any oil & gas mooring system experience will benefit from this general overview on shallow and deep water moorings and anchors.

Transition Site Opportunities for Early FOWT Deployments
Presenter *Paul McEvoy, TFI Marine*

FOWT deployment in shallow waters where existing fixed bottom wind farms could be expanded. The presentation will discuss solutions for mooring of FOWT platforms in 30 to 50m water depths, using the latest mooring technologies. Suitable sites will selected using GIS analysis with mooring systems modelled. How new mooring solutions enable the deployment of FOWT platforms in shallow waters. What environmental conditions FOWT platforms can be moored in. The type of mooring components which are required. And how to identify and investigate transition site opportunities.

Mooring System Redundancies & Maintenance Considerations
Presenter *Anil Sablok, Technip Energies*

The design margin and redundancies of critical elements of the mooring system required for different types of FOWT to ensure appropriate system reliability and certainty for commercial wind farms development and operations. Predictive analysis and maintenance of the mooring system using response based life cycle loading analysis and smart monitoring using Artificial Neural Network will also be presented. Design of the mooring line components and anchors for different FOWT platforms using response based life cycle loading and smart monitoring methods. Will help design a robust mooring system for strength and fatigue along with reduced maintenance.

Mooring Options and Total Installed Cost for a Commercial Scale Wind Farm
Presenter *Tom Fulton, Acteon Group*

Mooring options and total installed costs will be presented for a commercial scale wind farm utilizing 12MW turbines in 200m water depth. Pros and cons of the various mooring systems will be presented including stationkeeping performance, mooring footprint, cost of components and cost of installation. Attendees will gain a better understanding of the various mooring options available as well as the economics for a commercial scale wind farm broken down by mooring components, prelay operations, and tow and hookup operations.

Mooring Solutions Evolution Towards Commercial Scale Deployment
Presenter *Leopoldo Bello, Vryhof Group*

Introduce Key Mooring Challenges on Commercial scale development (not seen Demonstrators) and present potential approach to design codes and maintenance philosophy as solutions. Commercial Scale development mooring design and integrity management won't be similar to those on current demonstrators or small farms. New approaches are needed.

Panel Discussion

3:00 - 3:45 **Tea Break** (in exhibition hall) Sponsored by Vryhof Group

3:45 - 5:00 Floater Production for Commercial Scale

Session Chairs: **Lars Samuelsson,** ABS, **Jerica Nolten**, EnBW

Influence of Floater Design Aspects on Serial Production, Logistics and Project Development
Presenter *Denis Matha, Ramboll*

Presentation of floater design aspects and their influence on the serial production process e.g. related to the choice of material (steel and concrete) and the structural floater arrangement (e.g. pre-fabricated modular slender structures or large volume in-situ fabricated designs). The influence of design choices on the logistics and infrastructure requirements during project development, particularly in the fabrication and T&I phases, will be presented. The presentation will provide an overview how floater design aspects influence serial production, logistics and project development.

Delivery of Floating Units in Low Infrastructure Areas
Presenter *Jamie Lescinski and Stephanie De Decker, Boskalis*

Floating wind foundations are getting ready for commercialization but local infrastructure will not always allow for local fabrication. This presentation looks deeper into which transportation solutions the industry can bring to optimize the local assembly and integration process. Transportation impact on the supply chain. The importance of tailormade transport solutions in order to benefit in terms of cost, quality and safety.

Floating Wind Solution Serial Fabrication
Presenter *Matthew Paulonis, Saipem*

This is a brief presentation on a floating wind solution focusing on the serial fabrication process of a floater, including final assembly and loadout. This features a fabrication yard in Indonesia with over 780,000 square meters of fabrication area and is currently in serial production of wind jacket foundations. Attendees will get an idea of fabrication capabilities and the steps required for the construction of a floating wind structure from plate rolling, through module fabrication and painting, and finally assembly.

Panel Discussion

5:15- 6:00 ESG Session

Three Presentations and Discussion on ESG-related Subjects - Chair : Shadi Awwad, Oceaneering, Jon Halliburton, Ensearch
Presenters: **Jason Stanley**, *VP ESG Tidewater,* **Katherine Warren**, *Sr. Managing Director ESG-Lynk,* **William Fox**, *Chief Product Officer, Data Gumbo*

6:00 - 7:30 AKER OFFSHORE WIND **Reception** (in exhibition hall) Sponsored by Aker Offshore Wind

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7:00 — **Registration** (in exhibition hall) Sponsored by Technip Energies

7:00 - 8:00 — **Breakfast** (in exhibition hall)

8:00 - 9:30 Power Cable Systems & Substations

Session Chairs: **Steve Rampton**, Vesper Marine, **Shadi Awwad**, Oceaneering

High Voltage Dynamic Export Cables for Floating Wind
Presenter *Audun Johanso and Emmanuel Martin Lauzer, Nexans*

Dynamic subsea export cables represent a significant challenge for realization of cost efficient floating wind substations. We here present the underlying technology gaps, qualified solutions and their constraints. We specifically benchmark solutions at multiple localizations and water depths. Topics: Basic understanding of the gap between traditional export cable technology and future dynamic cables, TRL level and outlook on dynamic export cables, Limitations, knowledge-, and technology gaps.

Dynamic Power Cable Layout Solutions for FOW
Presenter *Chris Patton, 2H Offshore (Acteon Group)*

The feasibility of power cable solutions for floating offshore wind turbines in a dynamic shallow water environment (~50m water depth, high floater motions and large waves/offsets) will be demonstrated. Will also give highlights and additional challenges of power cable configurations as FOW moves into deeper water. Attendees should get an understanding of the challenges and design drivers for FOW power cables.

Two Decades of Experience with Dynamic Power Cables & Substations
Presenter *Ricardo Serafim, Aker Solutions*

With the expansion of the Offshore Wind industry, going to deeper waters, increased power and distance from shore, Floating Wind becomes the offshore wind farm of the future. But with that, new challenges arise and, in particular, how to transfer energy and ensure long-life reliability. Can the industry do that with the same type cable design approach? Aker Solutions proposes new designs and alternatives for the future of Floating Offshore Wind – we invite you to learn more about our products and how they deliver the responses to the challenges of dynamic applications.

Selecting the Optimal Location for Substations in Floating Wind Projects
Presenter *Dr. Bader Diab, OWC (AqualisBraemar LOC)*

We analyze the main factors that influence the location of offshore substations (OSP). We present some of the technical challenges associated with ground fixed and floating OSPs. The presentation will cover the cost and technical drivers for OSP positioning and provide examples for context. Attendees will learn of the main electrical cost drivers in terms of placement of fixed and floating OSP types, as well as the benefits, costs and risks of the substructure, cables and installation.

Panel Discussion

9:30 - 10:15 — **Coffee Break** (in exhibition hall)

10:15 -11:45 De-Risking Projects. Management & Controls

Session Chairs: **Jonah Margulis**, Aker Offshore Wind, **Chris Barton**, Wood

Keynote: Optimizing the Supply Chain to De-risk Project Execution
Presenter *James Cotter and Andrew Burke, Shell Renewables and Energy Solutions*

Taking a whole systems approach to right sizing project execution. Key factors in creating and delivery value in project execution, extending beyond standalone component cost reductions.

Business Models Reducing LCoE
Presenter *Henrik Baltscheffsky, Hexicon*

Collaboration with service providers and EPC companies willing to engage and invest ahead of commercial arrays will contribute to skill development and risk reduction paths attracting large scale wind farm constructions, including substation and high voltage dynamic cables. The permitting skills are local and the engineering skills are generic. Leading the combination will enhance results. Several jurisdictions cannot afford to wait and test "pre-commercial" test arrays for several years to construct the large scale windfarms in deeper waters. Shortening the calendar time to reach several GWs in operation will win.

Crane Vessels, Alternative for Floating Wind?
Presenter *Torben van Wyk , Maersk Supply Service*

Today, installations and maintenance on bottom-fixed windfarms are made possible by jack-ups and large floating crane vessels. But what will we do on commercial floating wind farms? How will the transition and impact be on craned vessel market when entering the floating wind industry, both during development and operational phases. Operation & Maintenance: craned vessel vs. towing floaters to port. How synergies between design of floaters, mooring and cable impacts the need for craned vessels in floating wind market. How can craned vessel technologies support the development of commercial floating windfarms. Why industry leaders need to come together and innovate new crane technologies.

Supply Chain Management to De-Risk Project Execution
Presenter *Von Thompson, Xodus Group*

The presentation will address the challenges of ensuring cost and schedule certainty when executing floating wind projects offshore USA. This will be a requirement for attracting investment and securing commercial success of future developments, yet there remains a disconnect between OEM technologies and the supply chain capabilities to set, handle and install such equipment at scale. The presentation discusses this disconnect and highlights the challenges floating developers will face in managing cost and schedule certainty risks. Attendees will gain an appreciation of the potential supply chain limitations on the East and West Coasts of the USA for future floating offshore wind developments and high-level strategies to overcome the risks these limitations raise.

Panel Discussion

11:45 - 1:15 — **Lunch** (in exhibition hall) Sponsored by Huisman

1:15 - 2:45 Assembly & Installation

Session Chairs: **Bruno Geschier**, BW Ideol, **Von Thompson**, Xodus

An Outlook on Floating Wind Projects
Presenter *Tyler Studds, Ocean Winds*

A presentation on Ocean Winds Project Pipeline against the background of the current changing West Coast Development progression.

Floating Wind - Marine O&M Considerations
Presenter *Bo Jardine, Shell*

Discuss the unique challenges facing the renewables and marine industries as it relates to the Operations & Maintenance (O&M) of floating wind farms. Floating wind represents one of the greatest areas for growth in offshore marine sector within the past 100 years. Developers, their Supporting OEMs, and Vessel Owner/Operators will require new vessels, new supporting technologies and new operational paradigms to ensure they can deliver their technical and commercial promises.

Windfloat® Upgrades and Associated Installation Strategies Towards Commercialisation
Presenter *Marco Wiedijk, Principle Power*

Implementation of lessons learnt from experience on the delivered floating windfarm projects of WindFloat Atlantic in Portugal, and Kincardine in Scotland and EFGL project under way in France in the 3rd generation of WindFloat design. The presentation will provide insight how the implementation of Principle Power's design, fabrication and installation experience with the delivered projects and project in execution will support solutions in the delivery of large commercial scale project that shall meet targets in terms of cost effectiveness, logistics and local content creation.

An Innovative Approach to Install Offshore Windfarms in an Efficient and Safe Way.
Presenter *Robert Thompson, Huisman*

The Windfarm Installation Vessel (WIV), an integrated solution for large floating (and fixed) offshore windfarms – slashing installation time, costs and emissions.

Panel Discussion

2:45 - 3:30 — **Tea Break** (in exhibition hall)

3: 30 - 5:00 Operations - O&M Scenarios

Session Chairs: **Bo Jardine**, Shell, **Anil Sablok**, Genesis, Technip Energies

Comparison of Different O&M Scenarios for Large Floating Wind Farm Arrays
Presenter *Denis Matha, Ramboll*

We will compare different scenarios for O&M for large floating wind farms, based on studies performed in the EU COREWIND project. Special focus will be on -tow-in to port and heavy lift operations for the exchange of large components at sea. Further, a time-based cost-modelling of the operation phase will be presented which compares floating-wind specific scenarios regarding availability and OPEX. Attendees will obtain an overview on different O&M scenarios and challenges, limitations and opportunities related to the scenarios. The audience will also learn about expected relative motions occurring between crane vessels and floaters, providing insights on compensation requirements. The cost scenario analysis will show cost-driving factors of the operation phase and give recommendations for the optimal strategy selection of commercial scale floating wind farms.

A Cost Effective O&M Strategy for Floating Wind Farms
Presenter *Jonathan Boutrot, Bureau Veritas*

The presentation will describe the global approach we have developed to manage the Asset Structural Integrity of Offshore Wind Farms (fixed and floating), making use of new technologies to enhance the efficiency and cost of the inspection & maintenance strategy. The presentation will give food-for-thought on how the In-Service phase could be approached in term of Structural Integrity Management: notions of Risk-Based Inspections, Structural Health Monitoring, Remote Inspection Techniques and obviously digital twin will be developed.

Operations & IMR: The WindFloat® Way
Presenter *Clara de Moura Santos, Principle Power*

This presentation will start with presenting the drivers for LCOE cost Reduction and the specific role of OPEX. Principle Power will then explain how we take this consideration in the design of the WindFloat. Further on Principle Power will focus on the importance of a lifestyle approach to cost and risk management during the Project's Operations phase. The floating offshore wind Industry has captured the undeniable interest for the global offshore energy industry players given its well acknowledged potential. This presentation will bring insights around some of the aspects where the industry is showing huge interest to further understand – how to operate and maintain large scale floating offshore wind projects.

Timeline to Commercial Scale Projects
Presenter *Erik Rijkers, Quest Floating Wind Energy (Q FWE)*

This unique conference is aimed at identifying readily available solutions, best practices and strategies to further Floating Wind to Commercial Scale. This presentation will review the solutions that will have been offered during this conference and attempt to show the influence they may have when applied to the current state of industry and the potential they may offer to the timeline to Commercial Size Floating Project Developments.

Closing Remarks
By Paul Hillegeist & Erik Rijkers, Quest FWE

CREATING NEW HORIZONS

Boskalis creates new horizons for all its stakeholders. As a leading global dredging contractor and marine services provider we offer a unique combination of experts, vessels and services. Within the offshore wind industry Boskalis has a successful track record in providing services throughout every phase of an offshore wind project.

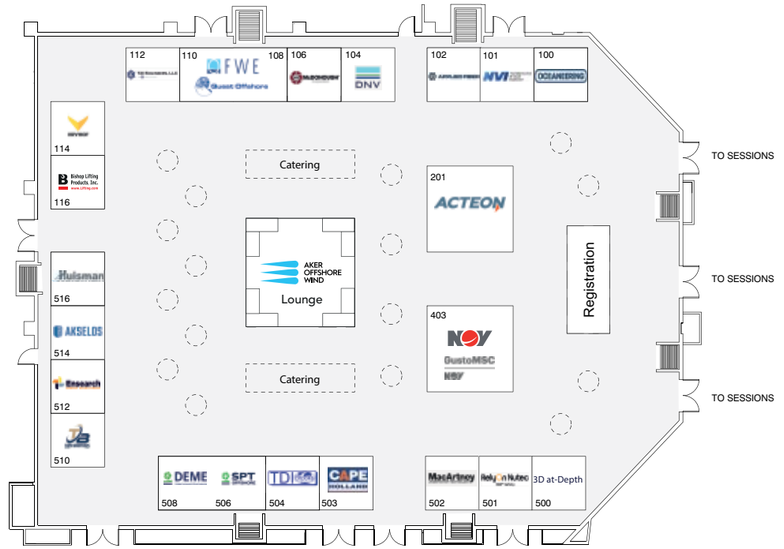
Using this experience, combined with our transport and installation solutions, we have the ability to execute and optimize the logistics and installation for floating wind farms. In this relatively new market we already established a track record for the transport of floating foundations and the transport and installation of complete floating wind turbines.

More information? offshorewindsolutions.boskalis.com

Exhibition Floor Plan

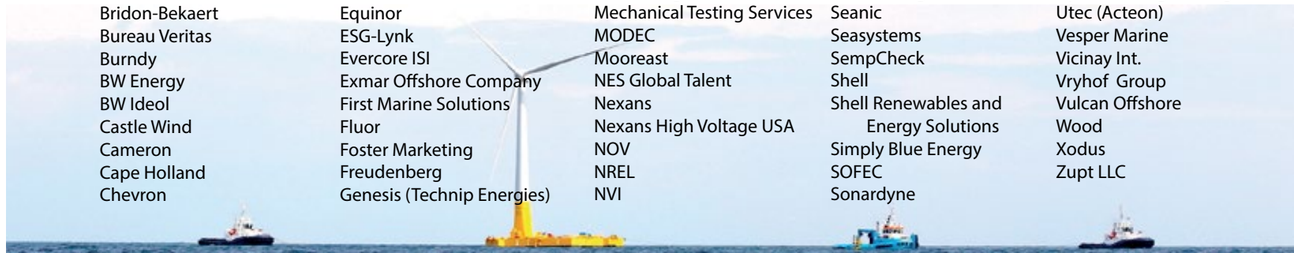
List of Exhibitors

100 Oceaneering
101 NVI
102 Applied Fiber
104 DNV
106 McDonough
108 Quest FWE
110 Quest Offshore
112 TAI Engineers
114 Vryhof Group
116 Bishop Lifting
201 Acteon Group
310 Aker Lounge
403 NOV, GustoMSC
500 3D at-Depth
501 RelyOnNutec
502 MacArtney
503 Cape Holland
504 TDI Brooks
506 SPT Offshore
508 DEME
510 Twin Brothers
512 Ensearch
514 Akselos
516 Huisman



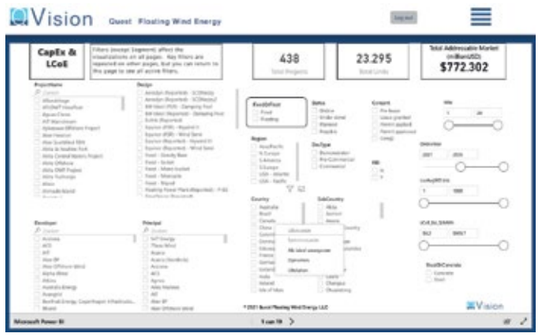
Participating Companies - as per 16 June 2021

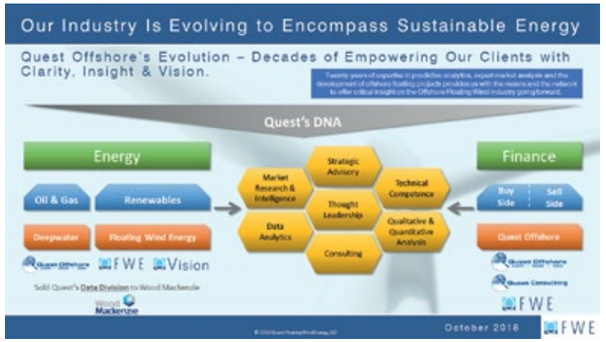
2H Offshore (Acteon)
3D at-Depth
ABB
ABS
AcqualisBraemar LOC
Acteon Group
Aker Horizon
Aker Offshore Wind
Aker Solutions
Alan C. McClure Associates
Applied Fiber
Aquatic (Acteon)
AQUEOS Subsea
Askelos
Aventa
Bechtel
Bexco
Bishop Lifting Products
BlackArch Partners
BOA Barges
Bollinger Shipyards
Boskalis
Bridon-Bekaert
Bureau Veritas
Burndy
BW Energy
BW Ideol
Castle Wind
Cameron
Cape Holland
Chevron
Cosco Shipping
Crowley Maritime
Data Gumbo
DB Consults
DCL Moorings & Rigging
Deep Wind Offshore
DeepWater Buoyancy, Inc.
Delmar
DEME
DNV
DOF Subsea
DoisA Engenharia
Doris
DSM
DSR Corp.
Edison Chouest Offshore
Enbridge
EnBW Energie
EnBW Energie North America
Ensearch
Entrion WInd
Eolfi
Equinor
ESG-Lynk
Evercore ISI
Exmar Offshore Company
First Marine Solutions
Fluor
Foster Marketing
Freudenberg
Genesis (Technip Energies)
Freudenberg
Genesis (Technip Energies)
Glosten
Green Giraffe
Gusto MSC (NOV)
Harvey Gulf
Hexicon
Holloway Houston
Huisman Equipment
Hydratech Industries
Iberdrola
Index Investment Group
Intecsea
InterMoor
JDR Cable Systems
Keppel Offshore
Kongsberg
L.E.K. Consulting
MacArtney Inc
Maersk Supply Service
Mammoet
McDonough Marine
Mechanical Testing Services
MODEC
Mooreast
NES Global Talent
Nexans
Nexans High Voltage USA
NOV
NREL
NVI
Ocean Flow International
Ocean News & Technology
Oceaneering
Offshore Engineer
Offshore Source
Offspring International
Oil States Industries
Orsted
OW Ocean Winds
Perc Engineering
Principle Power
Pulse (Acteon)
Quest FWE
Ramboll
RelyOnNutec
ReNews
Saipem
Saipem America Inc.
Sulmara Subsea
SBM Offshore
SBM Offshore USA Inc.
Schlumberger
Seanic
Seasystems
SempCheck
Shell
Shell Renewables and Energy Solutions
Simply Blue Energy
SOFEC
Sonardyne
Sparkstone Capital
SPT Offshore
Stabbart Maritime
Strana Offshore
Stress Engineering
Sunfish
Supreme Integrated
TAI Engineers
TDI Brooks
Technip Energies
Technip FMC
Teledyne
Terra Sond (Acteon)
TFI Marine
Thrustmaster
Tiger rentals
Total Energies
Trendsetter Vulcan
Trident Winds
Triton Systems
Twin Brothers Marine
Upstream Engineering
Utec (Acteon)
Vesper Marine
Vicinay Int.
Vryhof Group
Vulcan Offshore
Wood
Xodus
Zupt LLC



The Quest DNA

Within Q FWE our team assembles over 100-years of experience and professional networks focused to provide economic, technical and commercial Clarity, Insight and Vision. Backed by twenty-years of expertise in data analytics, analysis and the development of offshore and deepwater projects provides us with the means and the network to offer critical insight on the Offshore Wind industry going forward. Q FWE has created a dedicated offshore wind projects database covering both fixed and floating solutions. Our proprietary Q Vision tool tracks and monitors projects and their supply chain from early planning to commissioning and O&M. This dynamic tool provides a continuous feed of strategic insight, tactical information and robust data analytics throughout each stage of the supply chain.





Q Vision

Q Vision is our proprietary Business Analytics' tool delivering real-time data and analysis giving you a competitive advantage to win Fixed and Floating Offshore Wind Energy projects. This Microsoft Power BI tool allows for dynamic analysis of relationships across markets and technologies; robust benchmarking as well as an enhanced understanding of project economics including LCoE.
Q Vision offers 15 different "lenses", each offering a unique perspective on this fast growing industry. Once parameters have been set, the user can view a data table of all projects contained in the results through the Full Project Data lens.

Q FWE's Q Vision system tracks over 200 data fields for all floating wind energy projects in all stages of development bottom-fixed projects. This dynamic tool provides a continuous feed of strategic insight, tactical information and robust data analytics throughout each stage of the supply chain.

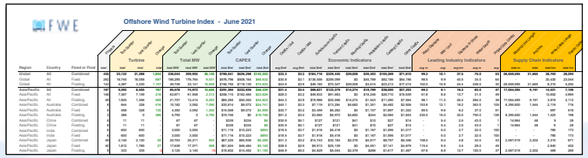
Research - Market Data - Consulting

Global Floating Wind Market and Forecast Report 2021 – 2034, Volume 3

This comprehensive 115-page market report dedicated to Floating wind illustrates the tremendous market opportunities globally across the supply chain over the next ~15 years including the most active developers, potential market size, pertinent project activity details and other vital metrics illustrated by region and construction timeline. Q FWE Market Reports are compiled from our real time Q Vision business analytics tools and 'deep' data which are the leading industry source for Bottom-fixed and Floating wind.

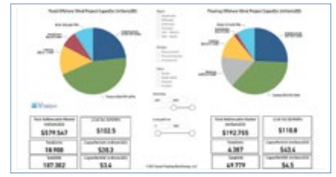
Quest Offshore Wind Turbine Index QOWTI

Quest Offshore Wind Turbine Index (QOWTI) illustrates the Total Addressable Market for global Offshore Wind. QOWTI spots important leading indicators such as average rotor diameter, average distance to shore, average MW per unit, average number of units per project in addition to benchmarking of key metrics and CapEx trends. Gain access to the world's most definitive reference index for the global offshore wind market.

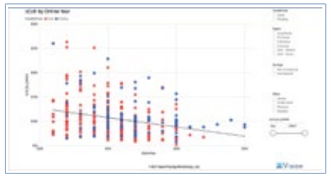


Q Vision: CapEx LCoE - your eyes on the market

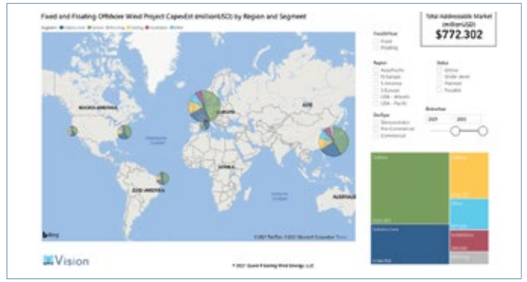
This annual access tool allows the user to investigate numerous market facets of the Offshore Wind market. The Q Vision CapEx module offers 15 distinct lenses covering the value of supply chain segments Floater, Turbine, Mooring, Cabling and Installation. The different lenses focus on developer, designer and regional differences for the future total spend—Total Addressable Market, as well as numerous tools to analyze LCoE. Includes backing data in MS Excel.



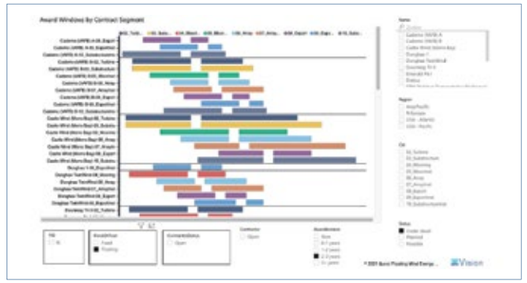
Compare Fixed & Float



LCoE by COD & TotalUnits



CapEx by Region, Hull Shape and Segement



Q Vision: Supply Chain Opportunities - get ahead of the curve

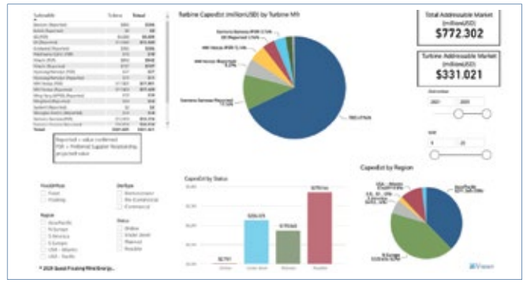
Easy access to the world's most accurate data on the Offshore Wind market Supply Chain Opportunities, contract sequencing and open awards.

The Q Vision subscription service is a dynamic platform in Microsoft Power BI enabling our clients efficient mining of our comprehensive project data into dynamic charting which provides quick actionable insights supported with full project details. These analytical tools are essential for forecasting and very useful for getting a quick overview of the potential future market for Turbines, Substructures, Moorings, Subsea Power Cables, Installation services and ultimately O&M activities

Q Vision: Offshore Turbine Locator - the helicopter view

Easy access to the world's most accurate data on the Offshore Wind market. Quest is currently tracking 400+ projects encompassing 18,000+ individual turbines (of these 119 are floating projects with over 2,500 turbines). Included are projects currently under development, planned, as well as possible.

The Offshore Turbine Locator tracks both Bottom-Fixed and Floating Offshore Wind Projects by total MW bubble size on a world map, cumulative total MW to 2033 and beyond, and cumulative Total MW by country. Each page has filters for Status, Region, Fixed or Floating, Development Type and Startup Year range. Includes backing data in tabular format on Page 9 and an MS Excel download.



Where energies make tomorrow

Accelerating the energy transition for a better tomorrow

Technip Energies is a leading engineering and technology company for the energy transition. We offer leadership positions in LNG, particularly floating LNG, plus hydrogen and ethylene as well as growing market positions in sustainable chemistry, CO_2 management and carbon-free solutions.

In offshore floating wind, we provide competitive and safe solutions ranging from robust floaters to wind farm architecture. Our design-to-operations combined with our leading mooring technologies make us a reliable partner for your projects delivery.

Through our extensive and advanced portfolio of offshore technologies, we bring our clients' innovative projects to life while accelerating the energy transition for a better tomorrow.

technipenergies.com

T.EN TECHNIP ENERGIES

TOTAL MOORING SOLUTIONS

VRYHOF

Vryhof is a trusted partner to many of the offshore industry's leading companies, delivering innovative and customer-focused anchoring and mooring solutions. We are committed to the highest standards of safety and integrity and are proud of our legacy and impeccable track record, delivering value in everything we do. Our 50-year history of setting standards and leading the way in the offshore sector makes us unique in terms of our expertise and breadth of services. In recent years, Vryhof and its installation partners have taken full scope permanent mooring projects for offshore oil & gas and floating offshore renewables by offering innovative and cost effective solutions including design, procurement, installation, life extension and decommissioning. Vryhof consists of: Deep Sea Mooring and Vryhof Anchors.

vryhof.com


INTERNATIONALLY
RECOGNIZED LEADER
IN FLOATING OFFSHORE WIND
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