

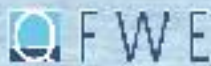
# Floating Wind Solutions

## A global perspective on the floating offshore wind industry

Carlos Martin, CEO, BlueFloat Energy



Organized by



Quest Offshore

The logo for FWS (Floating Wind Solutions), featuring a blue wind turbine icon to the left of the letters "FWS" in a bold, white font.

FWS

The Marriott Marquis, Houston 1-3 March 2022

# Who we are

- **Mission:** Develop new offshore wind energy projects **globally** by combining **outstanding global industry knowledge with local development expertise**
- **Team:** one of the **most experienced teams in floating wind** development globally, from **various backgrounds** and covering **all the floating supply chain**
- **Business approach:** Agile, rigorous, passionate, lean, ethical
- **Partners:** high reputation, complementary skills, same approach
- **Focused growth strategy around 2 axes:**
  - Adding value through **floating wind expertise in mature markets**
  - **Early mover** in high-potential markets



- **Long-term, proven track record of creating value** for investors and management teams
- Decades of experience in **developing, financing and operating global energy projects**
- **Long-term perspective to investments**

**Floating Wind Solutions**



# Our global presence

- Existing presence
- Target geographies



**Floating Wind Solutions**



# Our vision

## Floating offshore wind is fundamentally different than fixed-bottom

- **Platform:** Proprietary platforms concepts, not yet consolidated, very different from many angles: fabrication, stability, scalability, industrialization, material, etc. ➡ **>50 NDAs with technology developers, updates on any innovation, engagement with WTG OEMS**
- **Turbine:** same turbines, but big changes: coupled analysis, reinforcements, controller, procurement process ➡ **2-year experience in multiple technology WTG coupled analysis and integration**
- **Engineering, procurement and construction:** more interfaces, technology selection, lack of rigorous view on addressing risks and interfaces ➡ **Capacity to run a multi-contract strategy thanks to real experience in delivering floating projects**
- **Transport and installation:** pre-laying, wet vs. dry storage, quayside WTG installation, port towing for large correctives, installation sequence ➡ **8-year experience in installing floating prototypes and projects**
- **Electrical:** dynamic cables, floating or underwater substations, connectors ➡ **Joint efforts with cable and substation developers**
- **Ports:** draft, bearing capacity, swell, wind, surface, investments required ➡ **Global expert in ports for O&G EPC contractor**
- **Site assessment:** Geotech, currents ➡ **Site assessment director from leading floating developer**

**Floating Wind Solutions**



# Our value proposition

Select ideal floating structure for each site

Optimize interface between platform and wind turbine

Design industrial plan and supply chain

Select ports minimizing investments



Lead technical proposal to maximize tender competitiveness

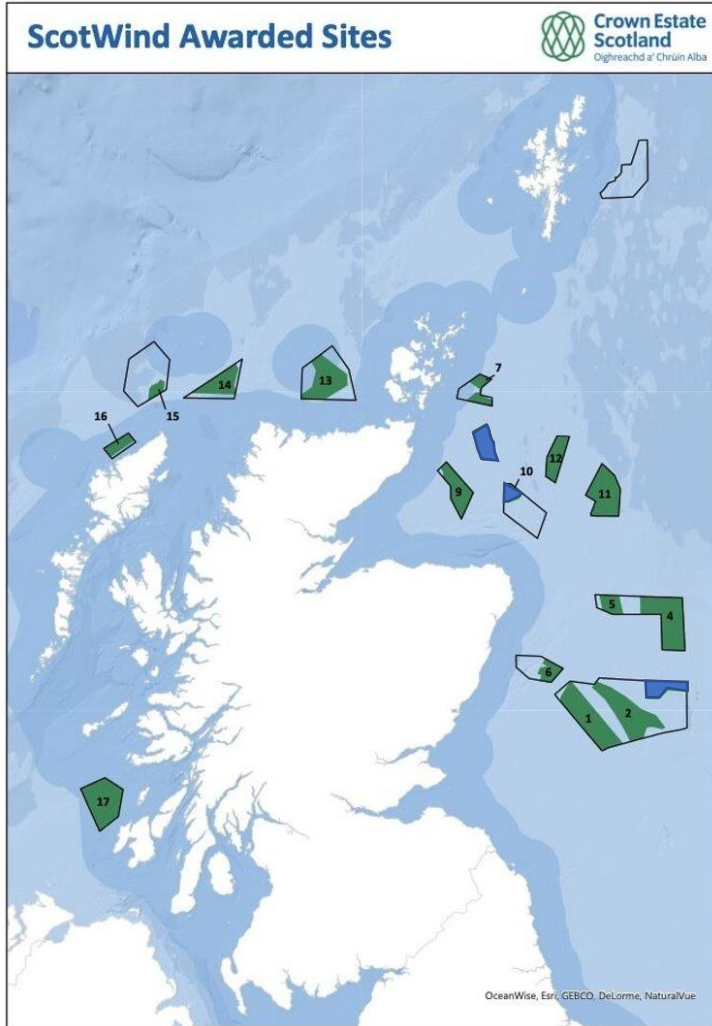
Educate stakeholders on floating wind during development phase

Optimize data gathering and detailed site characterization

Guarantee bankability from day one

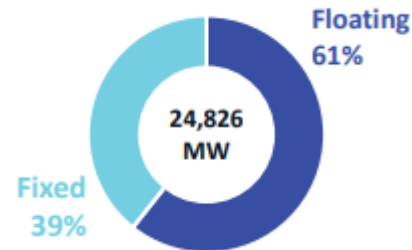
# Scotwind: a success story

15 Scotwind zones in the leasing round and a total of 74 bids were submitted



## Awarded consortiums

1	BP / ENBW
2	SSE / Marubeni / CIP
3/10	Falck / BFE
8	Falck / BFE / Orsted
4/11	Iberdrola (SP) / Shell
17	Iberdrola (SP)
5	Vattenfall / Fred Olsen
6/7	DEME / Qair
9	OW
12	Baywa / Elicio / BW Ideol
13	GIG / TOTAL
14/16	NPI
15	Magnora/Technip



## BlueFloat's results

- #1** In number of awarded projects (ex aequo with Iberdrola)
- #2** In awarded capacity (floating) per consortium to BFE/Falck (just after Iberdrola/Shell)

## BFE awarded projects

Zone	Name	Area	MW
NE6	Orion	134 km <sup>2</sup>	500
E1	Gemini	280 km <sup>2</sup>	1200
NE3	Cygnus	256 km <sup>2</sup>	1000

**Floating Wind Solutions**



# Scotwind: a success story

Outstanding technical proposal

- Leveraging on return from experience on real projects
- Highlighting key features/requirements which are unique to floating wind
- Ambitious and realistic installation schedules

Site selection

- Good enough sites, consentable and with viable grid connection
- Avoiding very best sites that were targetted by the big players

Local engagement

- Consortium with Falck Renewables
- Partnership with Energy4all, world reference in community engagement and benefits
- Launched debate on definition of local communities with SCDI

Supply chain involvement

- Preference for concrete solutions that can maximize local content
- Partnership with local solutions providers (eg., TTI)

Execution capabilities

- Consortium with Orsted
- Securing collaboration with first-class supplementary experience providers

Falck  
Renewables

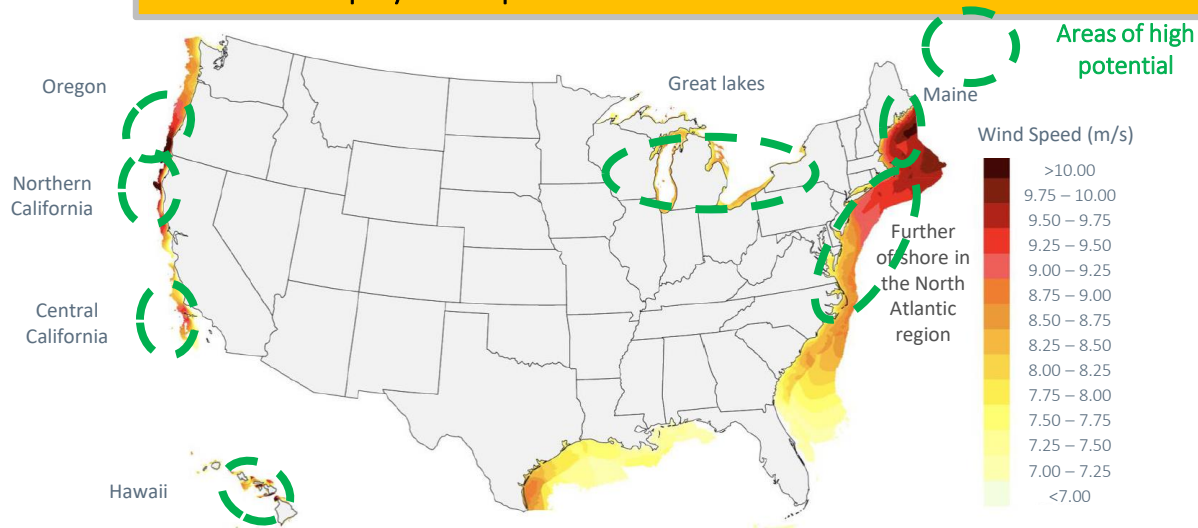


Orsted

# Floating wind potential in the USA

## U.S. Offshore Wind Technical Resource Area

Illustrative map by wind speed



Illustrative map by bathymetry depth





# Key success factors in floating wind in USA

## Example: technical challenges in floating wind in California

- 1 Interconnection issues**
  - Limited number of connection points near shore. No visibility on the restrictions and reinforcements.
- 2 Offshore Transmission Assets**
  - Ultra deep waters require a floating substation or alternatively a subsea substation
- 3 Inter-array cables**
  - Super-deep waters associated challenges
- 4 Metocean conditions**
  - Very challenging average Significant Wave Heights, that will affect accessibility to the site
- 5 Deep water mooring**
  - Super-deep waters – ~1,000 meters. Floating wind has never been executed at such depths.
- 6 Fabrication yards**
  - Local supply chain is highly constrained and underdeveloped
- 7 Assembly ports**
  - Ports with sufficient space, draft and bearing capacity are very limited