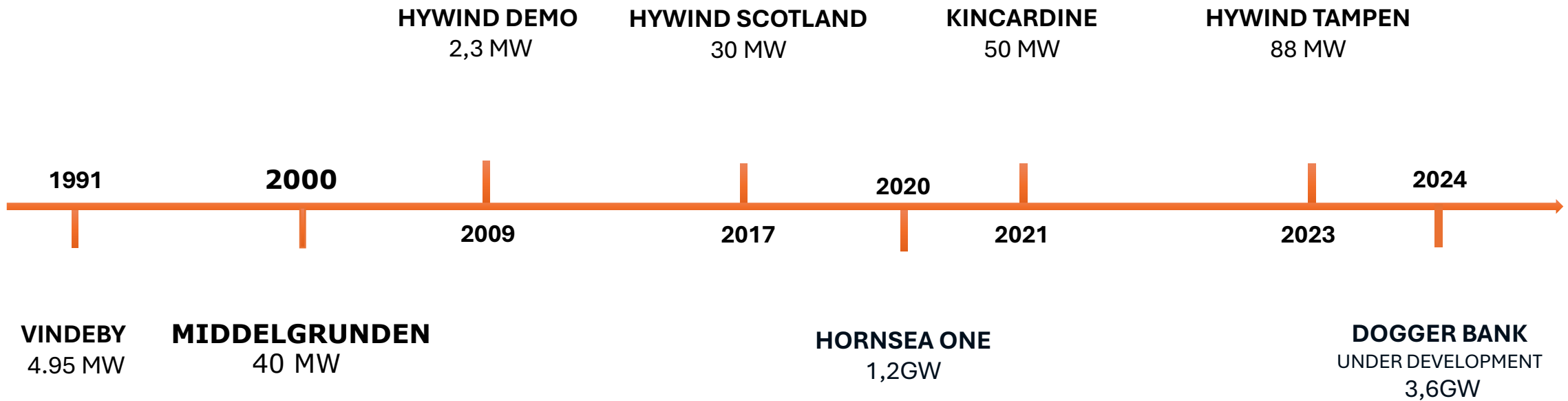


# Offshore Wind – Understanding the risks and liabilities from this growing industry

Mats Johan Waage  
Senior Underwriter  
NIORD – Enabling Endless Energy

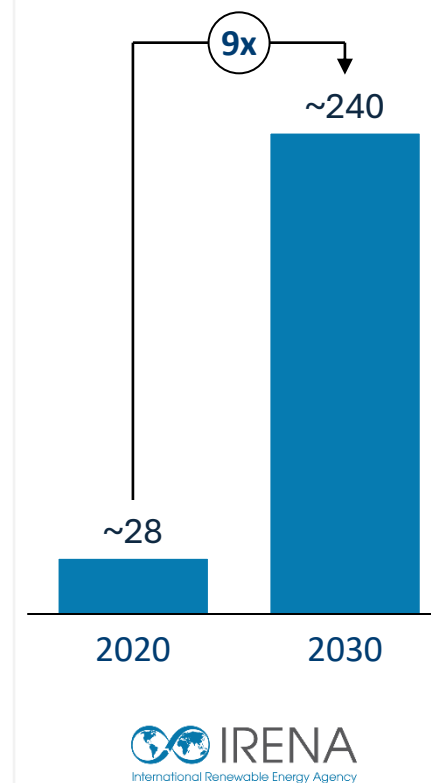
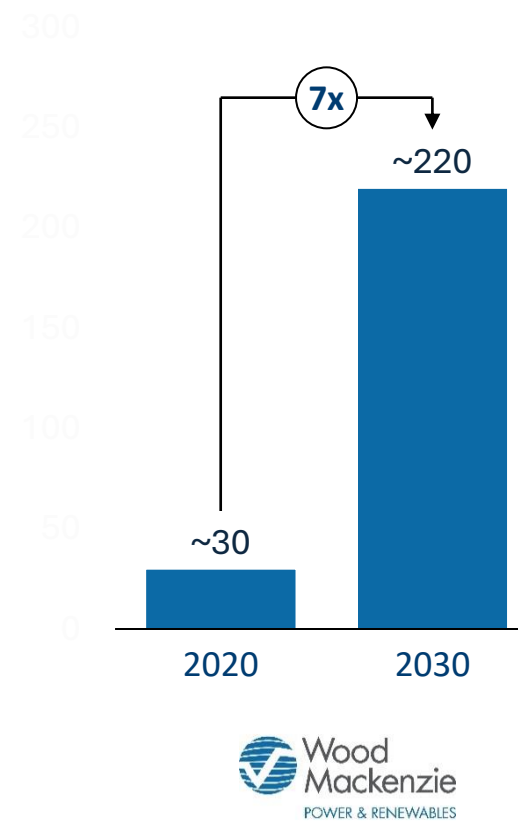
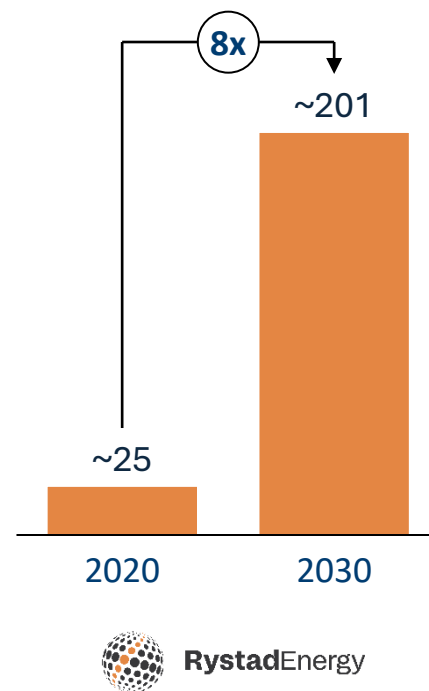
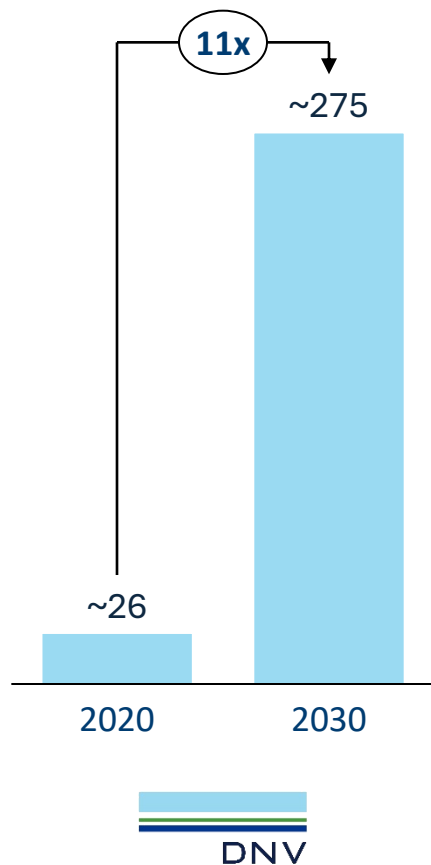
# Offshore Wind History and Future





# Expected growth of capacity (GWs)

-> floating expected to be 5-6% => 10-12 GW



Source: DNV Energy Outlook 2022; Rystad Energy Offshore Wind; Wood Mackenzie and International Renewable Energy Agency (IRENA)



# From Onshore to Offshore

- From Onshore to Offshore
  - Onshore Property Insurance Conditions
  - Onshore EPCI Contracts
  - All adopted for offshore
- From Bottom Fixed to Floating
  - Further changes to conditions required?
  - Risk changes
  - Floating is more “mariny”
  - Analogy to FPSOs



# Structure of Cover

## Construction Phase

- Section I: Physical Damage Construction All Risk
- Section II: Delay in Start-Up
- Section X: Third Party Liability

## Operations Phase

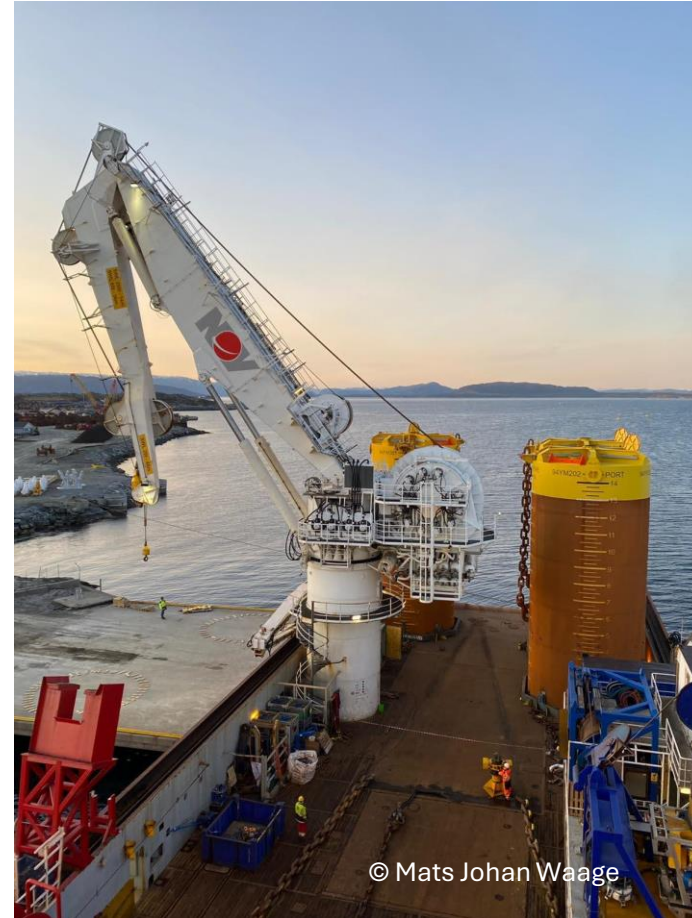
- Section III: Physical Damage Operations All Risks
- Section IV: Business Interruption
- Section X: Third Party Liability
- P&I?

# Risks and Loss Statistics



# Risks Hull/Property Perspective



- New Technology – race for bigger turbines
- Defects – Turbines and Cables
- Serial Losses – e.g. LAL 175 Turbines
- Contingent DSU/BI – different jurisdictions
- Contacts – Watch Out!
- Defective Workmanship / Contractor Error
- Pile Runs – Soil/Sea-bed
- War Cargo – Suez/Around Africa
- NATCAT claims not seen – wait for it
- No EML/PML events to date – wait for it





# Julietta D stuck in storm










[Home](#) [Safety](#) [SEAFIT](#) [Green](#) [Smart](#) [Risk](#) [Others](#) [Columns](#) [Events](#) [Plus](#) [Q](#)

## Wind farm foundation to be removed after “Julietta D” collision

by The Editorial Team — December 5, 2022 in Accidents





A joint venture between Vattenfall, BASF and Allianz invited contractors to bid for the removal of the Hollandse Kust Zuid offshore wind turbine foundation, which was damaged after the bulker “Julietta D” hit it earlier this year.

More specifically, “Julietta D” found itself drifting abandoned in the North Sea during a storm, causing “significant damage” to one of the monopile foundations in January.

**RISK4SEA**  
PSC Preparation?  
1-Click Port Call Risk Assessment (POCRA)



### RECOMMENDED

- 

NYK affiliate receives AIP for ambient-temperature containment system
- 

OCI to fuel Maersk's first green methanol-powered container ship



# Juliette D stuck in storm

## Vessel hits wind turbine as master takes unnecessary risk

by The Editorial Team — May 16, 2019 in Accidents



### RECOMMENDED

OCI to fuel Maersk's first green methanol-powered container ship

ISWAN: Reports of abuse, bullying, harassment and discrimination increased

### RISK4SEA

PSC Preparation?  
1-Click PSC Preparation Checklist



© RISK4SEA.COM



The German Bureau of Maritime Casualty Investigation published its report on the offshore supply vessels Vos Stone, which hit a wind turbine under construction. Both the ship and the turbine were damaged, while three people sustained minor injuries.

### The incident

On 10 April 2018, Vos Stone was operating in the ACWIF at TP ABOL, a wind turbine under construction. While the team was making the necessary preparations to to feed the cable at TP ABOL they were called back due to deteriorating weather conditions.



By **Ryan Duff**



Gravity foundation



© Supplied by Wasserschutzpolizei

Patra L cargo ship following a collision with German wind turbine

[Cargo ship collides with Orsted wind turbine \(energyvoice.com\)](https://www.energyvoice.com)



# Juliette D stuck in storm

## Gravity foundation hit by Rock Piper in Le Havre

Thursday, September 15 2022

### WIND ENERGY – FECAMP

As the last three gravity foundations prepare to leave the port of Le Havre this Thursday, September 15, 2022, one of the structures already in place off Fécamp was hit by a ship.



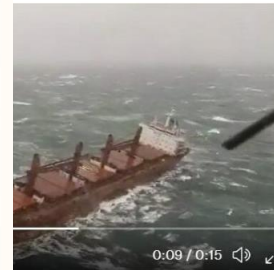
Gravity foundation hit by Rock Piper in Le Havre (ocean-energyresources.com)



Green Smart Risk Others Columns Events Plus Q

## Foundation to be removed after collision

22 In Accidents



between Vattenfall, BASF and contractors to bid for the Hollandse Kust Zuid offshore wind foundation, which was damaged "Julietta D" hit it earlier this

ically, "Julietta D" found itself drifting in the North Sea during a storm, causing "it damage" to one of the monopile foundations in January.



### RECOMMENDED

NYK affiliate receives AIP for ambient-temperature containment system

OCI to fuel Maersk's first green methanol-powered container ship

### RISK4SEA

PSC Preparation?  
1-Click Port Call Risk Assessment (POCRA)



## Gravity foundation hit by Rock Piper in Le Havre

Thursday, September 15 2022

WIND ENERGY – FECAMP

As the last three gravity foundations were being installed in Le Havre this Thursday, September 15, the Rock Piper was already in place off Fécamp when the storm hit.



Gravity foundation

## Cargo ship collides with Orsted wind turbine



02/05/2023, 4:25 pm

By **Ryan Duff**



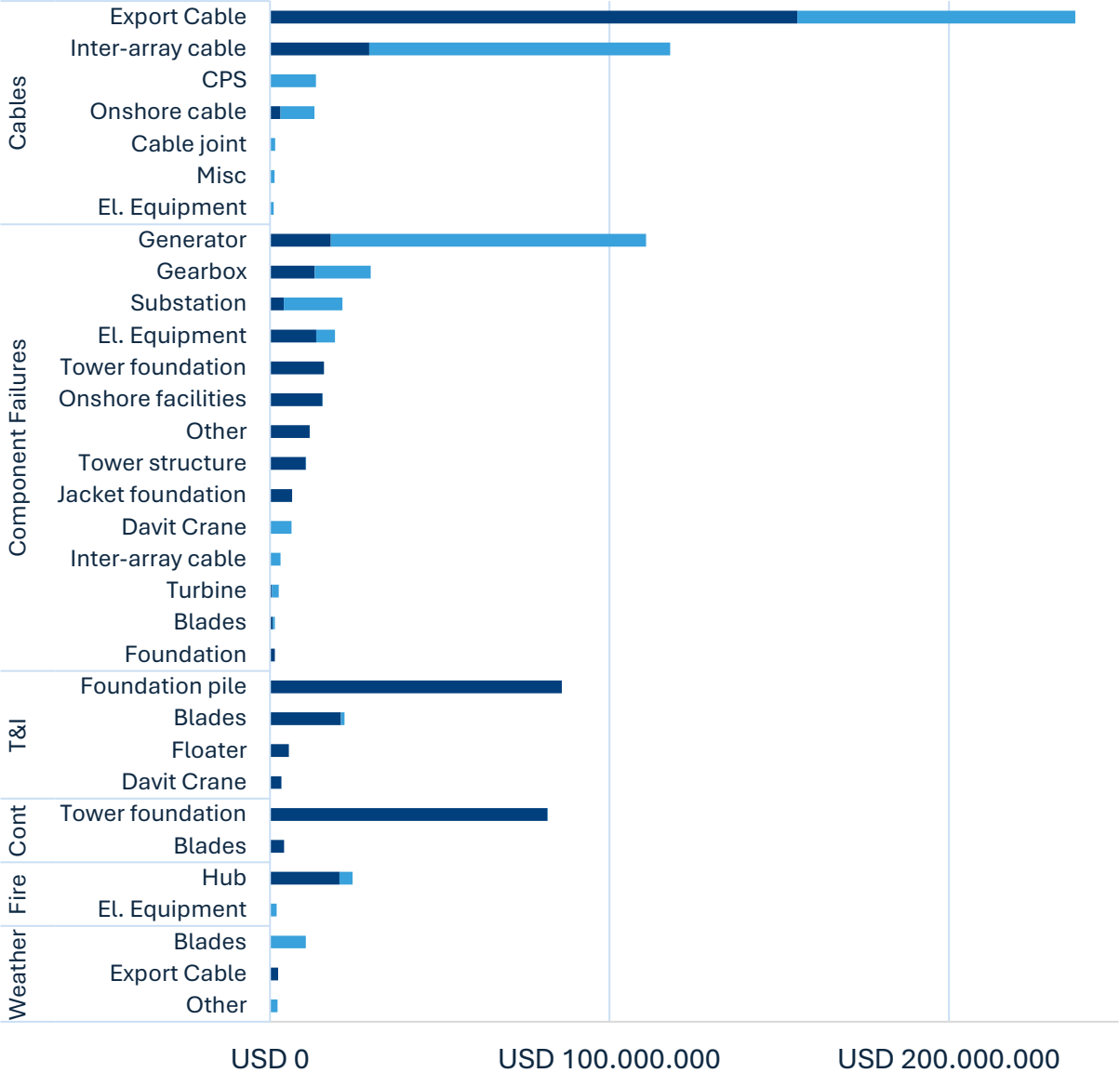
© Supplied by Wasserschutzpolizei

Patra L cargo ship following a collision with German wind turbine

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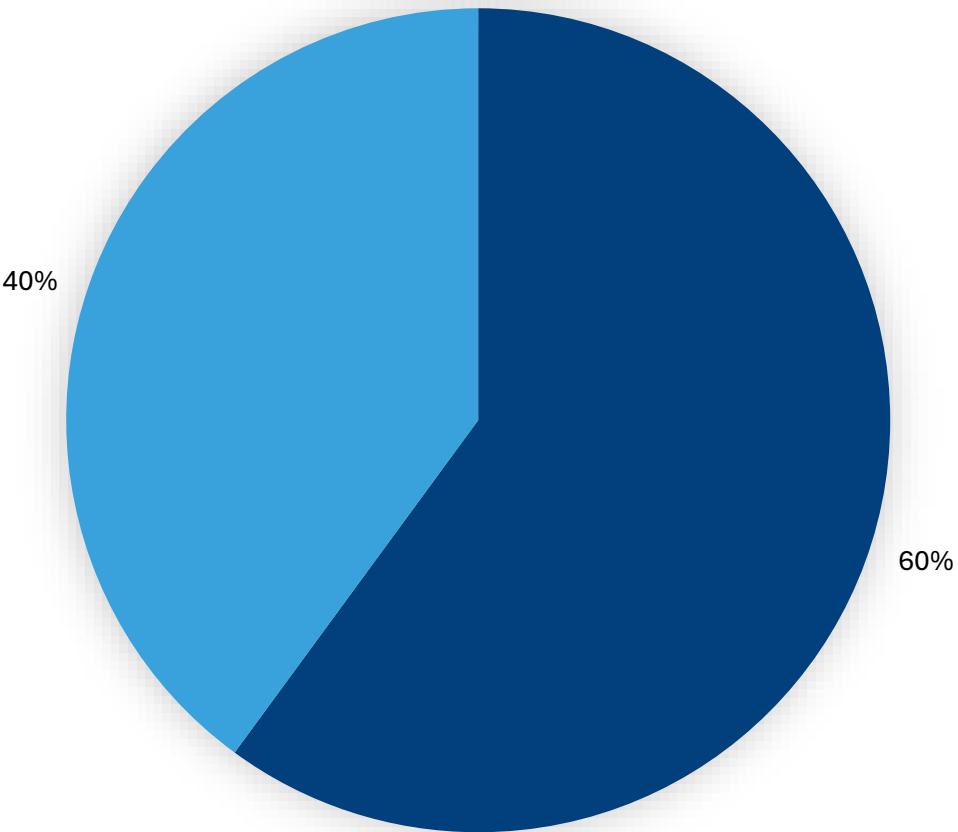


# Costs per type and event



## Costs CAR vs OAR

■ Construction  
■ Operating



# Potential Liabilities

- **Contacts:**
  - Lifting Operations – property + bodily injury
  - During Tow of Floating Turbines
  - Mooring failure – drifting scenarios
  - Other Vessels
  - O&G Platforms
  - Subsea pipelines and cables
- Obstruction e.g. of a quay or Sea-lane
- Delivery obligation to provide power to grid
- Fisheries – temporary wet storage – proper marking in maps, light buoys
- Wreck and debris removal – unclear exposure on this
- **Pollution**
  - Diesel Generators
  - Hydraulics
  - Oil filled Equipment on the substations



## Eide barge secured after dramatic drift

Norwegian owner says incident is under investigation after vessel threatened oil platforms.

31 December 2015 18:05 GMT UPDATED 31 December 2015 18:37 GMT

# Liabilities & Insurance

- Bottom Fixed and Floating:
  - Third Party Liability, typically 50/100 M USD as part of CAR
  - Wreck Removal, typically sub-limited to 25% of “affected value” or Sum Insured on both CAR and OAR
- Floating:
  - TPL also on OAR
  - Separate P&I covers in place
  - Separate TPL covers in place

## Cargo ship collides with Orsted wind turbine



02/05/2023, 4:25 pm

By **Ryan Duff**



© Supplied by Wasserschutzpolizei

Patra L cargo ship following a collision with German wind turbine

[Cargo ship collides with Orsted wind turbine \(energyvoice.com\)](https://www.energyvoice.com)

# Limitation of Liability – FOWT

- When the turbine causes damage to a third party
  - Limitation of Liability
  - Doesn't fit into current limitations conventions
  - Not navigable
  - Jurisdiction dependent
  - Arrest vs Collision Liability – Ship interpreted differently
  - Currently CMI is working on adapting the conventions for floating offshore renewables units





# Thank you!

**#IUMI2024**

**Mats Joahn Waage**  
**NIORD – Enabling Endless Energy**