



# Transmission

The Main Arteries of Offshore Wind



# Presenters



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# Transmission Assets

- Transmission Assets connected to Offshore Windfarms
- Save Interconnectors for next time
- Substations and Export Cables



# Transmission Assets Technical Risks

- Challenges with subsea cables
- Challenges with substations
- Exposures to windfarm revenues resulting from physical damage to the transmission assets

# Contingent Business Interruption

- Access for Power to Shore:
  - Facilitated by TSO
  - Find your own way (and divest)
- Business Interruption cover and Contingent Business Interruption cover
- Need for revenue protection
- CBI:
  - Scheduled Assets in Slip
  - Farm PD OAR Section 1 Conditions on Scheduled Assets = Cover
- Key Loss Mitigator:
  - Swift Repairs

# CBI Scenarios & MENTI

- You are underwriting ClubFloat windfarm (not the transmission assets)
- Important events:
  - 800 meters of exposed Export Cable (excluded from cover in the OAR policy covering the transmission assets)
  - Interface between the Floating Substation and the Export Cables (defects issue)
  - Security measures around the Onshore Substation.
- No conditions provided – your reasonable opinion!

# Q1 – Anchor Drag

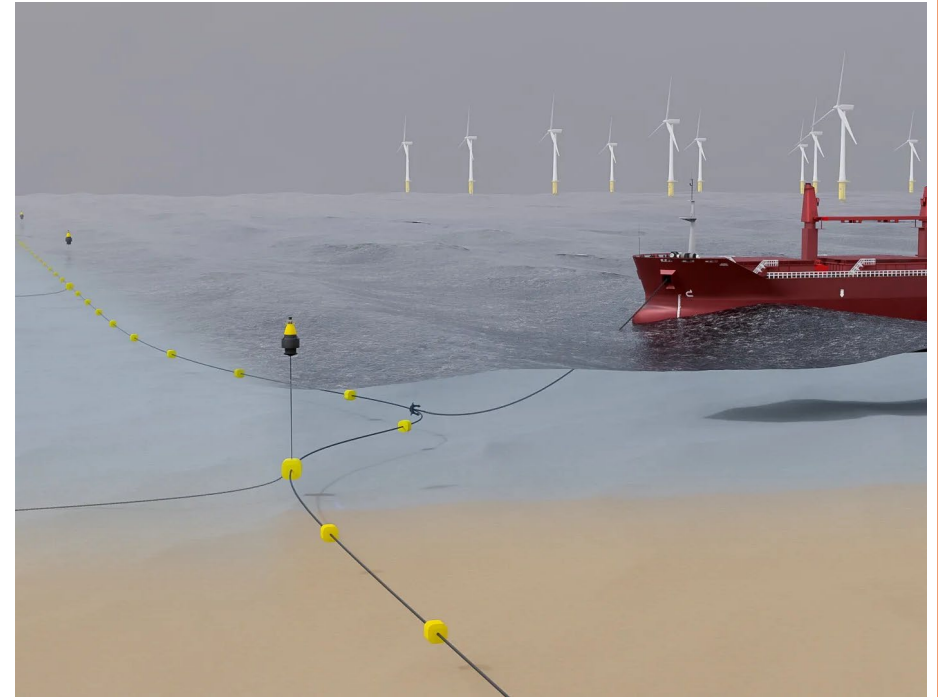
A drifting vessel drops emergency anchor in the area where the Export Cables are exposed. One cable is damaged and out of operation for 5 months. This results in a CBI claim under the ClubFloat OAR.

What is your view on this claim?

**A:** The claim should not be covered as the cable is clearly not sufficiently protected.

**B:** The claim should not be covered as it should be the responsibility of the Norwegian authorities to indemnify ClubFloat for the loss of revenue resulting from the anchor drag.

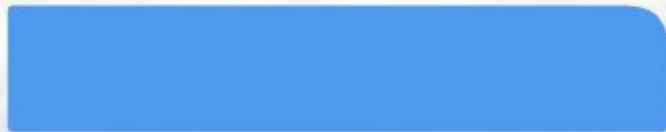
**C:** The claim shall be paid in full. Technical integrity of scheduled assets and exclusions on other policies are irrelevant to ClubFloat OAR.



Source: maritime-professionals.com

Q1 - Anchor drag. What is your view on the claim?

8



A: Covered. Not protected

2



B: Not covered. Government will fix

43



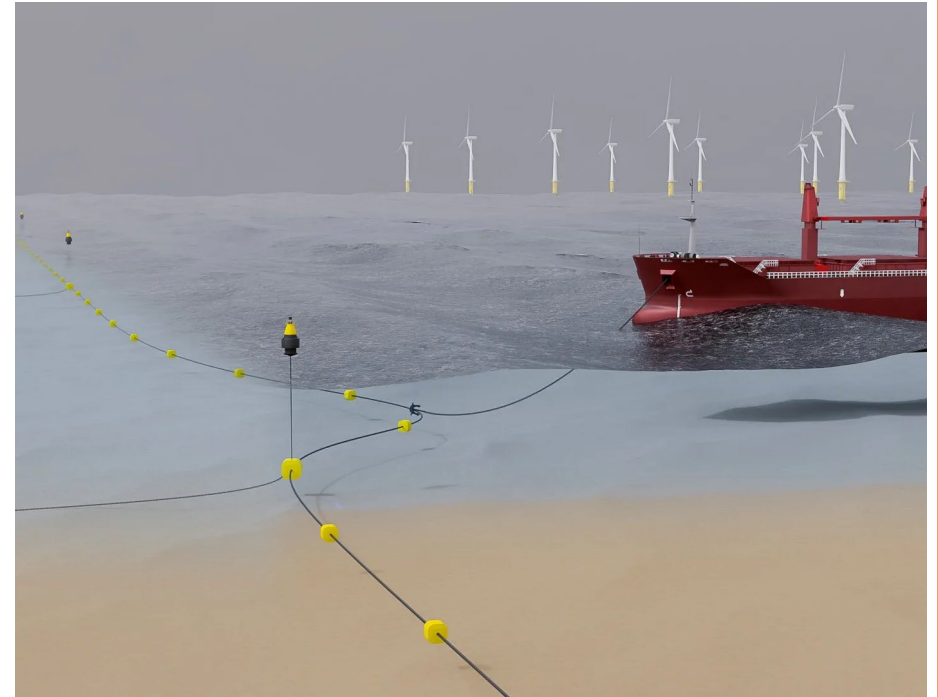
C: Covered!

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# Q1 – Anchor Drag – Summary

- Parts of export cable exposed is excluded only for the transmission asset, not for ClubFloat
- Export cable part of scheduled assets
- Need for revenue protection – Bankability



Source: maritime-professionals.com

# Q2 – Defects Exclusions

The ClubFloat OAR policy has a full defects exclusion for the interfaces between dynamic cables and floaters.

Halfway into year two of operations one Export Cable suffers damage in the interface between EC and FOSS. The damage was discovered during inspection after a severe windstorm. The storm was within the design parameters of the FOSS. It is unclear if the damage is a result of a defect in design or a fortuitous event. The transmission assets operator refuses to provide a root cause analysis. The damage prevents ClubFloat from producing at full capacity and results in a CBI claim.

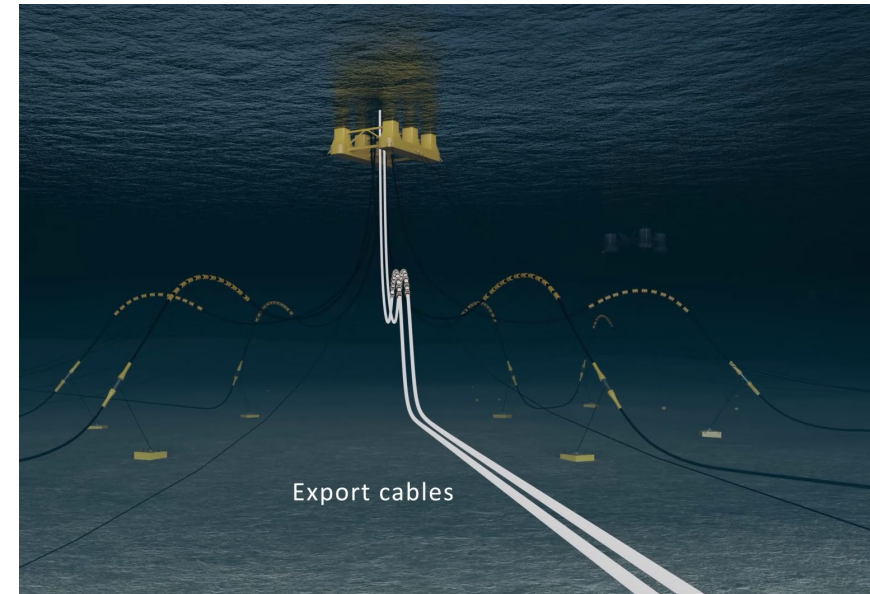
What is your view on the claim?

**A:** The claim should not be covered. ClubFloat has a full defects exclusion for interfaces between dynamic cables and floaters.

**B:** The claim should be covered in full. The defects exclusion in ClubFloat OAR policy is clearly intended for the interface between the farms Inter Array Cables and Wind Turbine Floating Foundations. This is not relevant to the damage in question.

**C:** The claim should be covered in full. LEG-clauses and defects exclusions belong in CAR policies and has nothing to do in an OAR policy.

**D:** The response will depend on findings of a root cause analysis, which will be critical for deciding on whether there is any coverage under CBI.



## Q2 - Defects Exclusions. What is your view on the claim?

2

A: Not covered. Defects excluded!

12

B: Covered in full. Exclusion not relevant

0

C: Covered in full. No LEG in OAR!

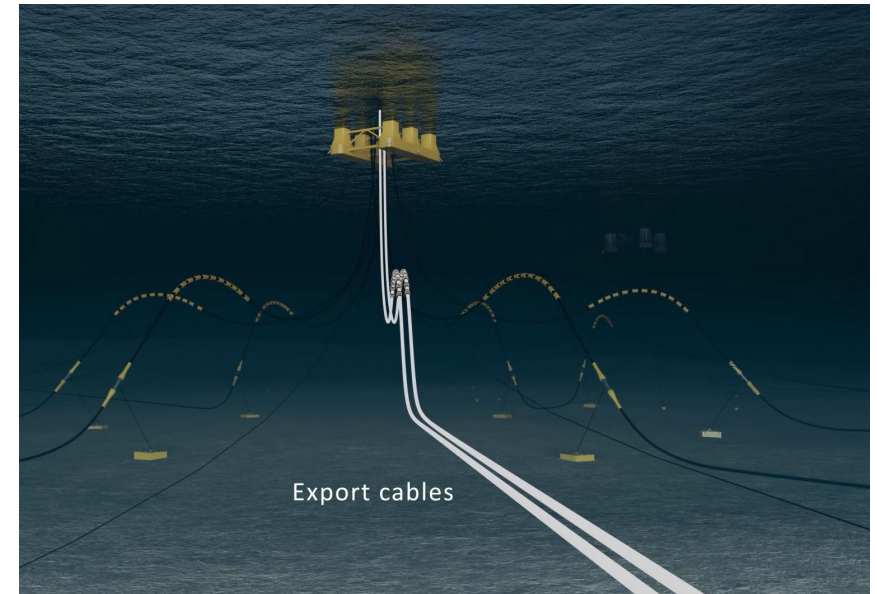
53

D: It depends, Need root cause analysis

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# Q2 – Defects Exclusions - Summary

- Exclusion clearly not written to exclude cover for this interface
- Root cause analysis can be hard to obtain when there is no contractual relationship
- Root Cause can influence who is to conduct repairs and when (warranty or open tender)
- LEG 1 and 2 used as protection against known errors in OAR policies – here it hits an unintended target



# Q3 – Terrorism

The ClubFloat windfarm has full terrorism cover in the OAR policy. The terror buy-back clause provides terrorism coverage for both onshore and offshore assets.

At the end of the policy period, the OSS suffers severe damage from a terrorist attack. The substation is out for 24 months with no alternative routes for ClubFloat to deliver power to shore. Full CBI blowout!

What is your view on the claim?

**A:** The claim should not be covered. The terror attack on the OSS should clearly not be covered given the poor defense system around it.

**B:** The claim should be covered in full. ClubFloat has terror cover for CBI claims, both for onshore and offshore assets.

**C:** The claim should not be covered. It should be the Norwegian Authorities bearing the costs.



## Q3 - Terrorism. What is your view on the claim?

4



A: Not covered. Poor defense system

65



B: Covered in full. Terror included

0



C: Not Covered. Government fix

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# Q3 – Terrorism - Summary

- OSS is part of the scheduled assets
- ClubFloat OAR policy includes a terror buy-back clause
- No alternative routes for getting the power to shore



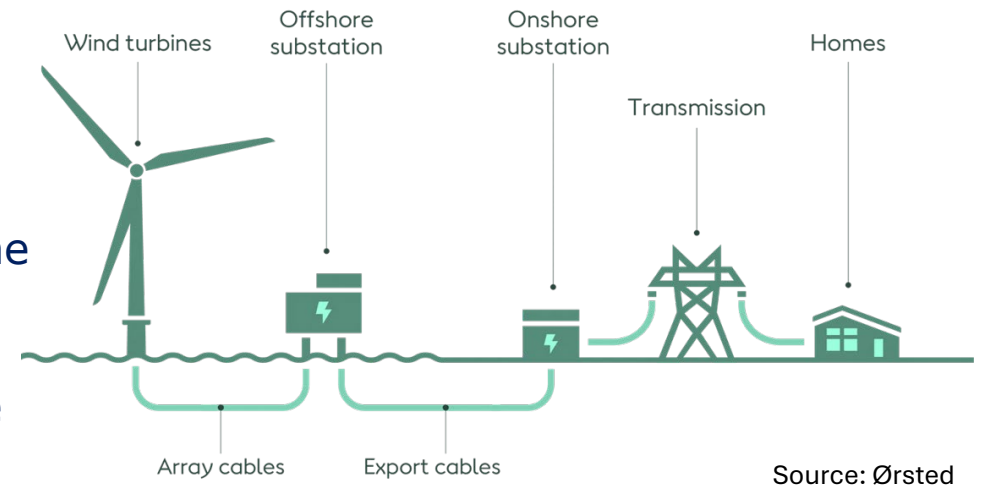
# Q4 – Scheduled Assets Information

When considering ClubFloat CBI, to what extent should you as an Underwriter be informed about technical integrity of the scheduled transmission assets connecting the farm to shore?

**A:** Same level of information as if you were underwriting the transmission assets should be made available.

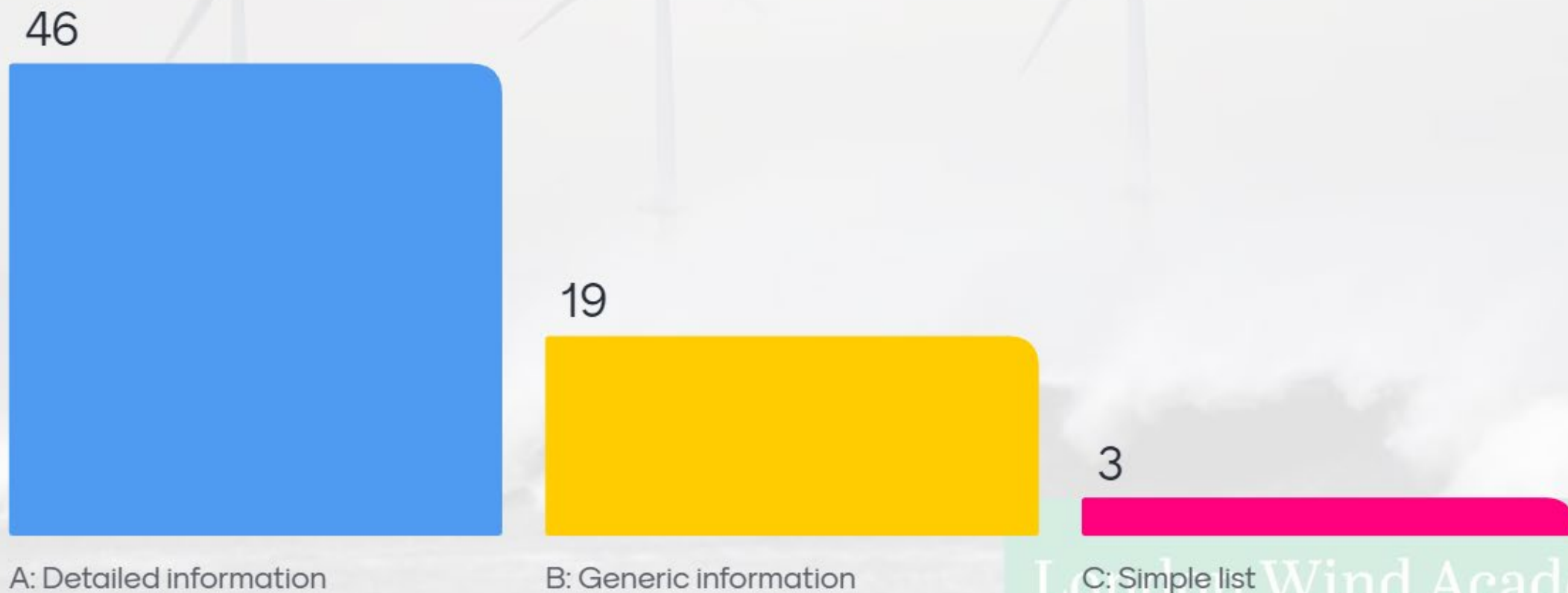
**B:** Generic high level of information. ClubFloat relies on the transmission assets made available and so should you do.

**C:** A list of scheduled assets will do. No time to go into the details!





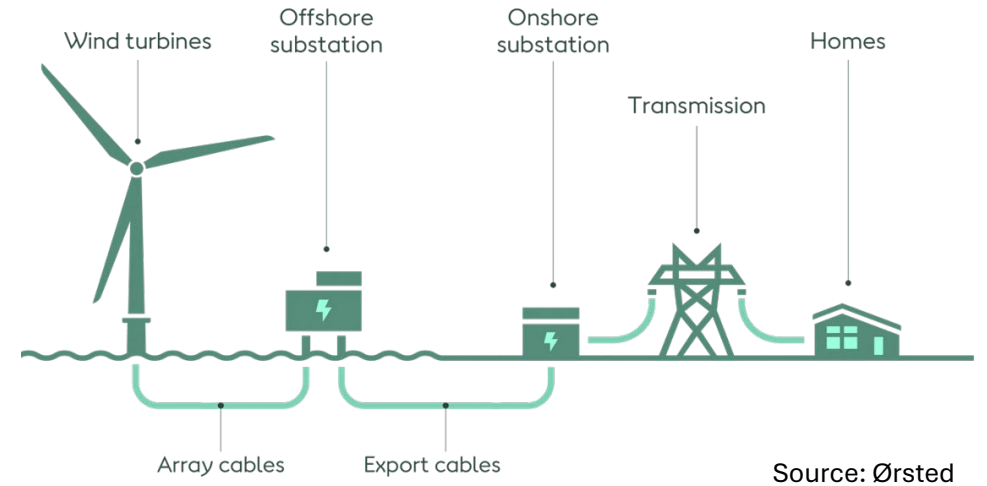
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# Q4 – Scheduled Assets Information - Summary

- Simple list of schedule assets is the norm
- Risk of being drowned in information
- Information available to the farm is the “ceiling”
- Known issues and concerns should be communicated



# Final Considerations

- Speedy repairs are key
- All stakeholder should be invested in transmission performance
- Underwrite the scheduled assets and compensation regimes
- Adjust farm OAR CBI section if needed
- Don't forget the Agg!

## Transmission Scenarios

Fast forward to 2029 and ClubFloat has entered its second year of commercial operations.

ClubFloat's transmission assets have been divested to an experienced independent operator as required by Norwegian authorities.

The divested assets include the Floating Offshore Substation (FOSS), the Export Cables (EC) and the Onshore Substation (OSS).

**You are the Underwriter** currently reviewing the Operation All Risk Insurance (OAR) for the ClubFloat farm (not the transmission assets!).

## Transmission Assets - Important Events:

- **Cable Exposed.** In some sections of the cable route seabed consists of hard sand. Sufficient cable burial was not possible to achieve in these areas. As a result, approximately 800 meters of Export Cable is exposed and therefore excluded from cover in the OAR policy covering the transmission assets.
- **Full defects coverage.** Installation of the Floating Offshore Substation was executed according to plan, and it operates as expected, regardless the market still had its doubts to the interface between the floater and the Export Cables. After long discussions and convincing arguments from the engineers, the OAR Underwriters for the transmission assets agreed to provide full coverage, with no exclusions, for this interface.
- **Terror Exclusion.** During construction of the onshore substation, it was discovered that the outskirts of the site was the breeding ground for an endangered species of seagull. Consequently, the environmental protection authorities stopped the installation of fences and security measures around the substation. Anti-wind groups are on the rise in the area and due to the poor defense system of the onshore substation, there is a high risk of potential terror attacks from such groups. As a result, a full terrorism exclusion is applied to the transmission assets.

You are only aware of the above because you are also participating on the Transmission Asset OAR Policy. No such information has been provided in the information provided from ClubFloat to its OAR Underwriters.

## So, why are these events relevant to you?

ClubFloat's OAR policy includes cover for Contingent Business Interruption (CBI).

Scheduled assets include:

- FOSS
- ECs
- OSS

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# Thank you

