



NIORD
A Norwegian Hull Club company

club float[®] needs repairs!

Major Component Exchange within Floating Wind



Presenters



Lukas Carbol
Claims Executive,
NIORD




Vidar Horneland
Senior Risk Advisor,
Norwegian Hull Club



Eelko May
Managing Director,
LiftOff





New claim notification - ClubFloat ...

 Summarize



Bin Wang

To  NIORD Claims

 Client Info



Hi Lukas,

Unfortunately, I am afraid that we are facing the scenario you discussed during the London Wind Academy last November.

One of the ClubFloat turbines experienced a generator failure on 1st September 2024, which needs to be replaced.

We are currently looking into exchange campaign alternatives, but we don't expect return to operation before the winter.

The failure will thus probably result in both PD and BI claim - costs and potential outage TBA.

Please follow-up with Vidar Horneland, ClubFloat's project manager.

Kind regards
for ClubFloat

Bin Wang

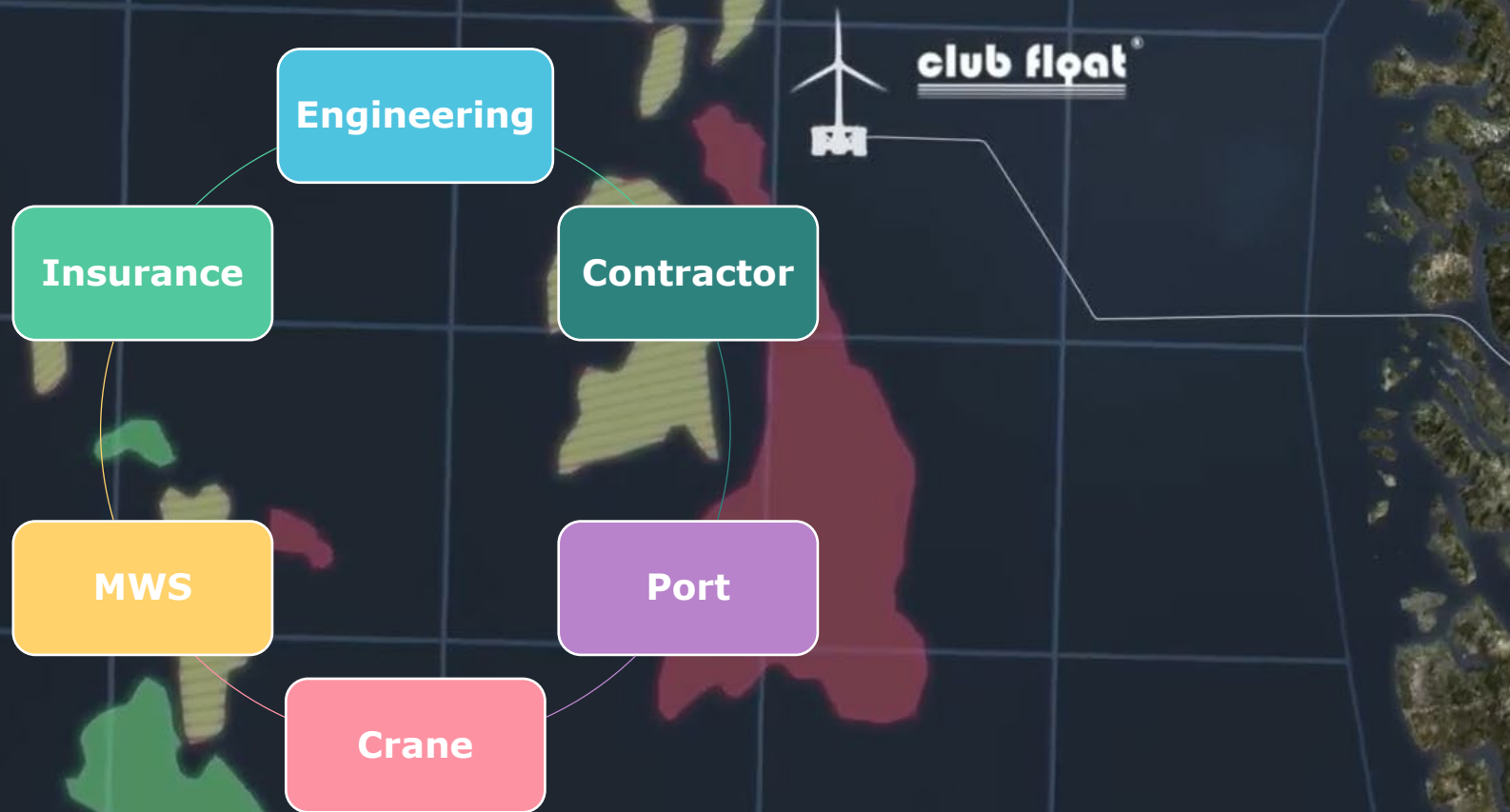
Insurance Manager



Mentimeter

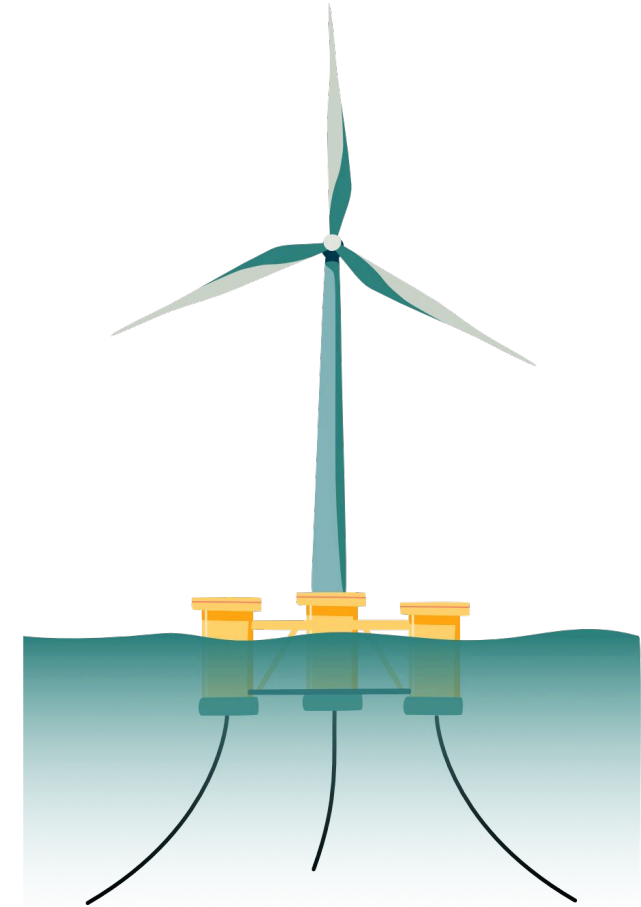
1. What repair alternatives does ClubFloat have?
2. Estimate the cost of repairs in million \$
3. Estimate the length of outage in months
4. Compare bottom-fixed and floating, costs and outage wise

Tow-to-Port considerations

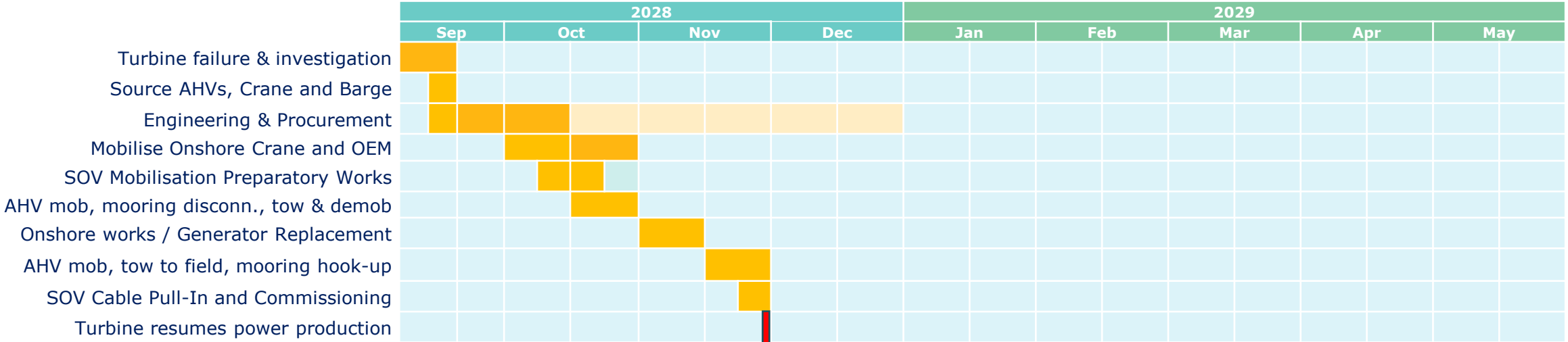


ClubFloat is prepared for Tow-to-Port

- Mooring system and IAC designed for dis/re-connection.
- Service Operation Vessel (SOV) maintaining the FOWT.
- Frame agreement in place with installation engineering contractor.
- Tow-to-Port documentation completed during installation phase.
- Quayside / base / crane operations procedures completed.
- Main component replacement procedures ready from supplier.
- Lessons learned from installation campaign incorporated.
- Suitable vessels and onshore cranes are identified and shortlisted.
- Equipment required for disconnection and towing of 1 x FOWT procured & maintained at the base.

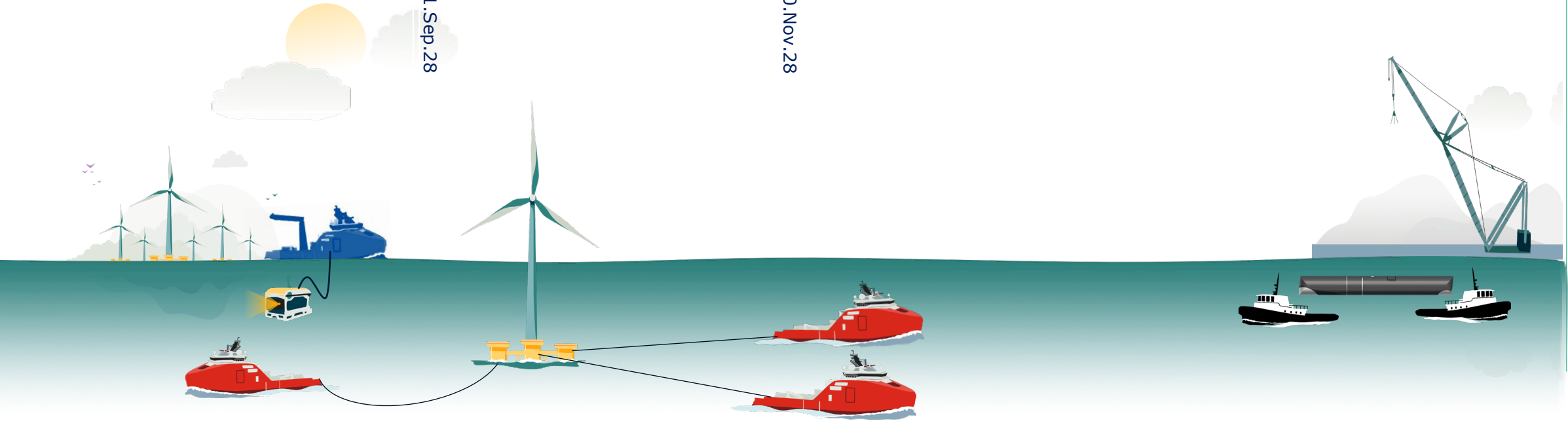


Tow-to-Port – ideal scenario

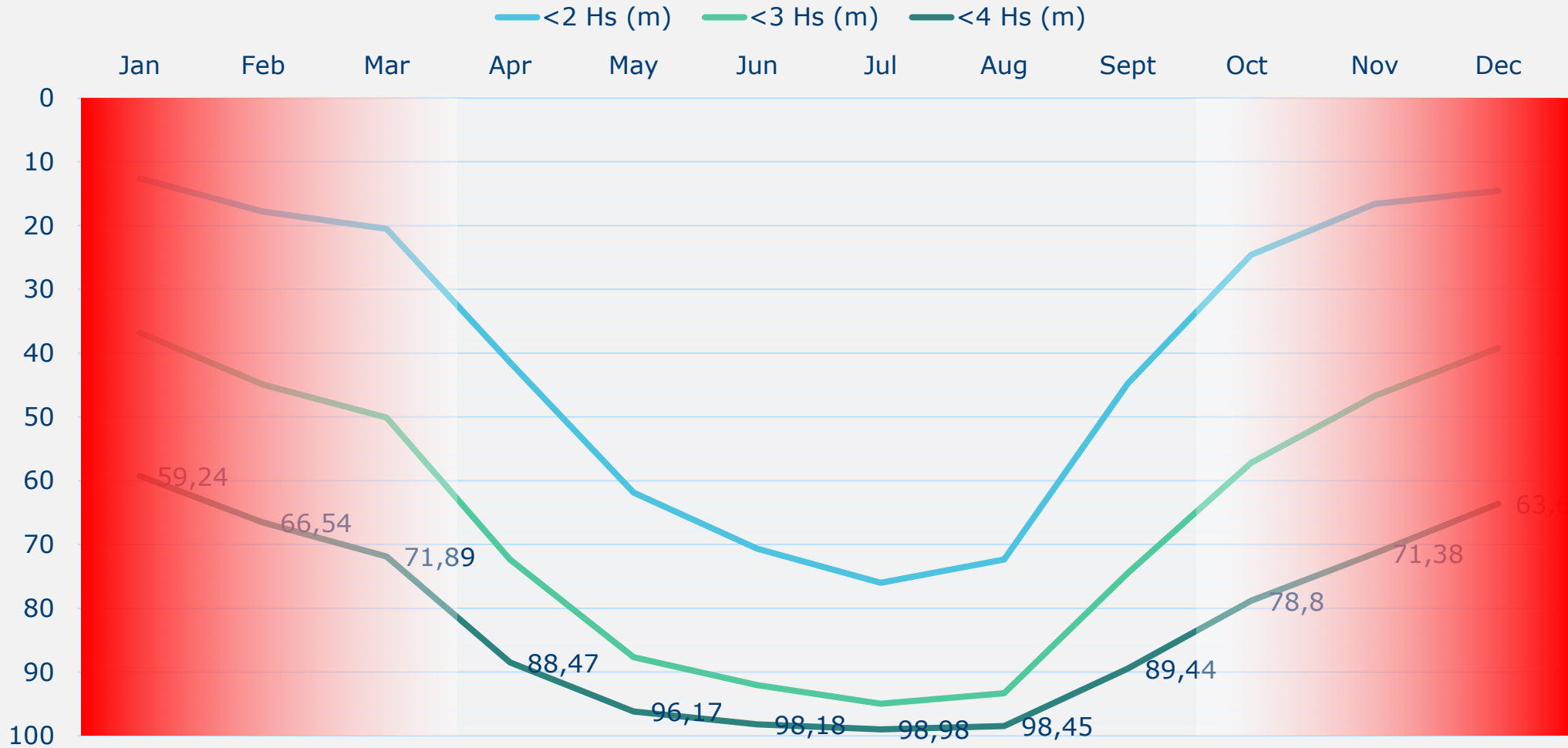


01.Sep.28

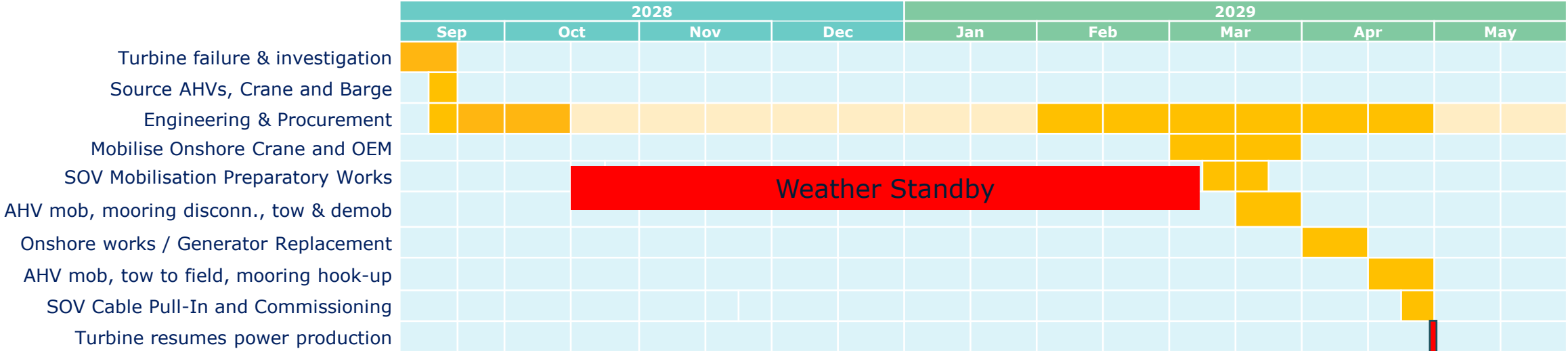
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Monthly and annual sample distributions of non-exceedence (%) of significant wave height (Hs) at Club Float location

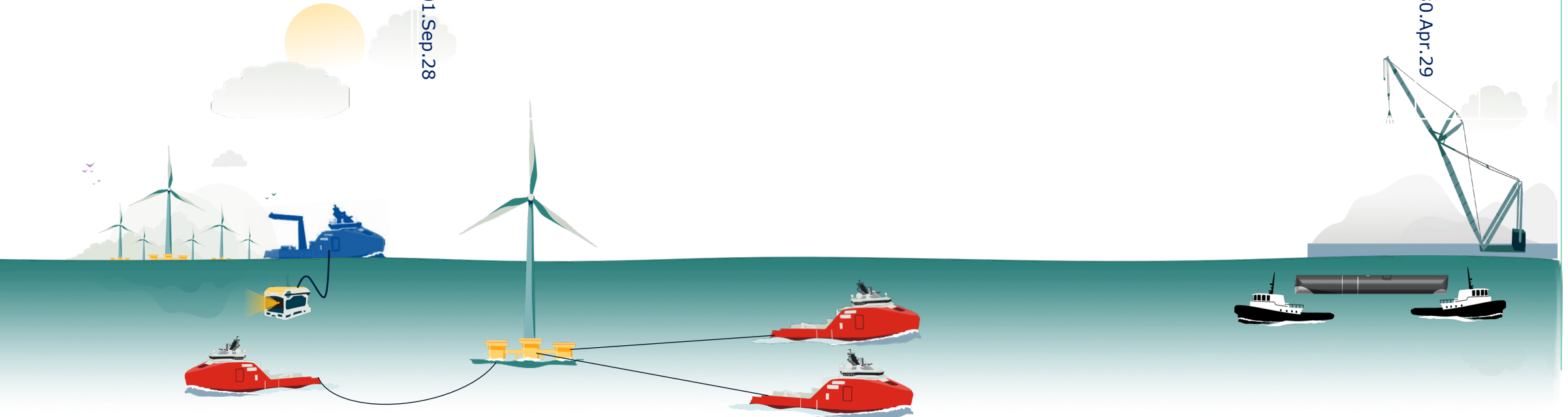


Tow-to-Port – realistic scenario



01.Sep.28

30.Apr.29



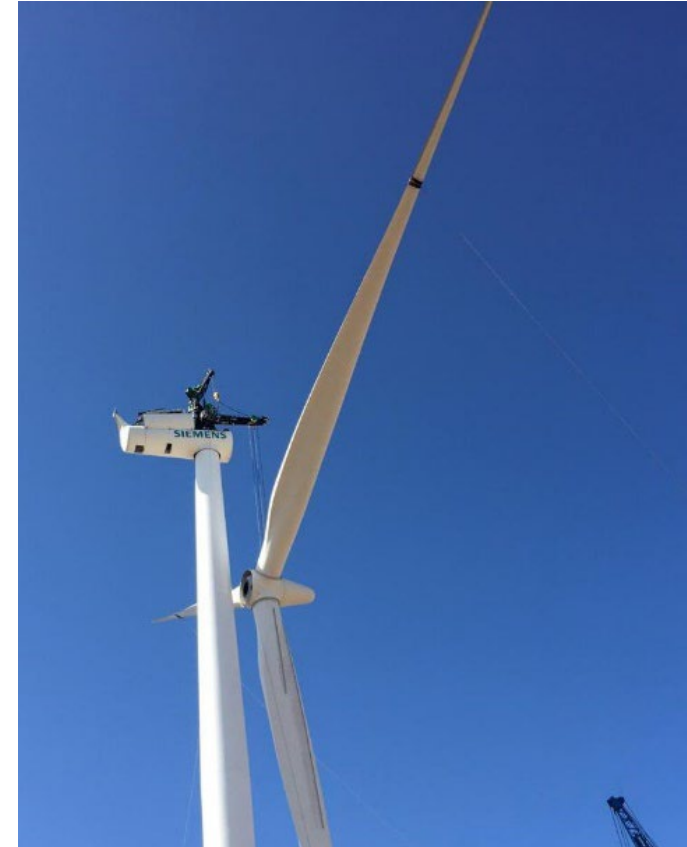
In-Situ Repair - LiftOff's solutions



Generators



Gearboxes



Rotors / main bearings

LiftOff's solutions



Fixed to Fixed

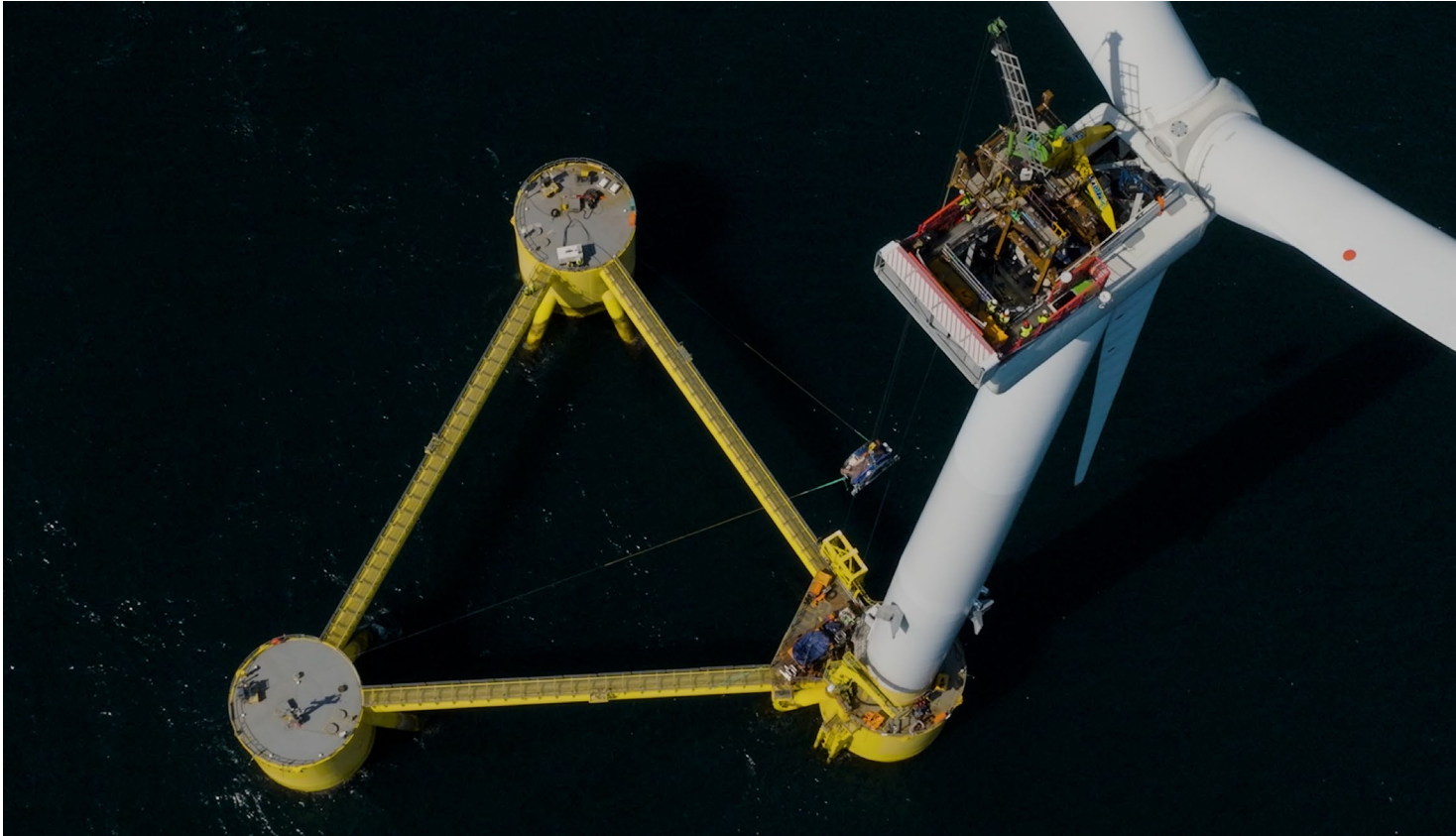


Floating to Fixed



Floating to Floating

LiftOff's solutions



9.5MW turbine generator



Floating to Floating

DRAGADOS

KOWL

 **cobra**

LIFTOFF
MAJOR COMPONENT EXCHANGES

Vestas[®]

LiftOff's solution for ClubFloat

15+MW turbine

Different models of floaters

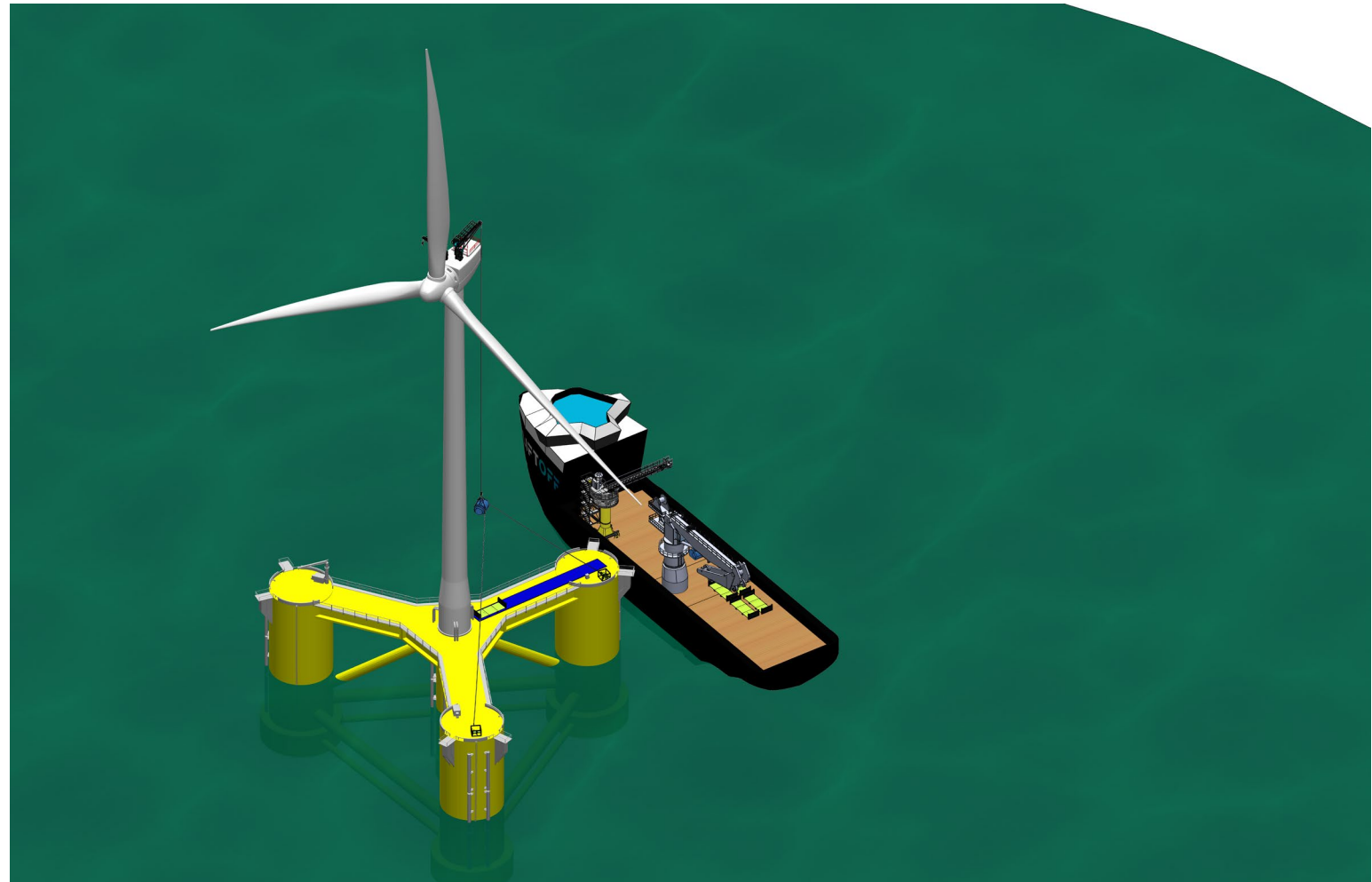


Up to 150mT cranes for e.g. gearboxes

LiftOff's solution for ClubFloat

15+MW turbine

Different models of floaters



LiftOff's solution for ClubFloat

15+MW turbine

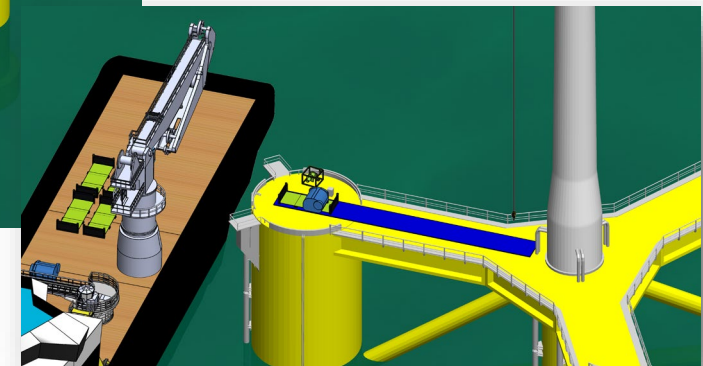
Different models of floaters



LiftOff's solution for ClubFloat

15+MW turbine

Different models of floaters

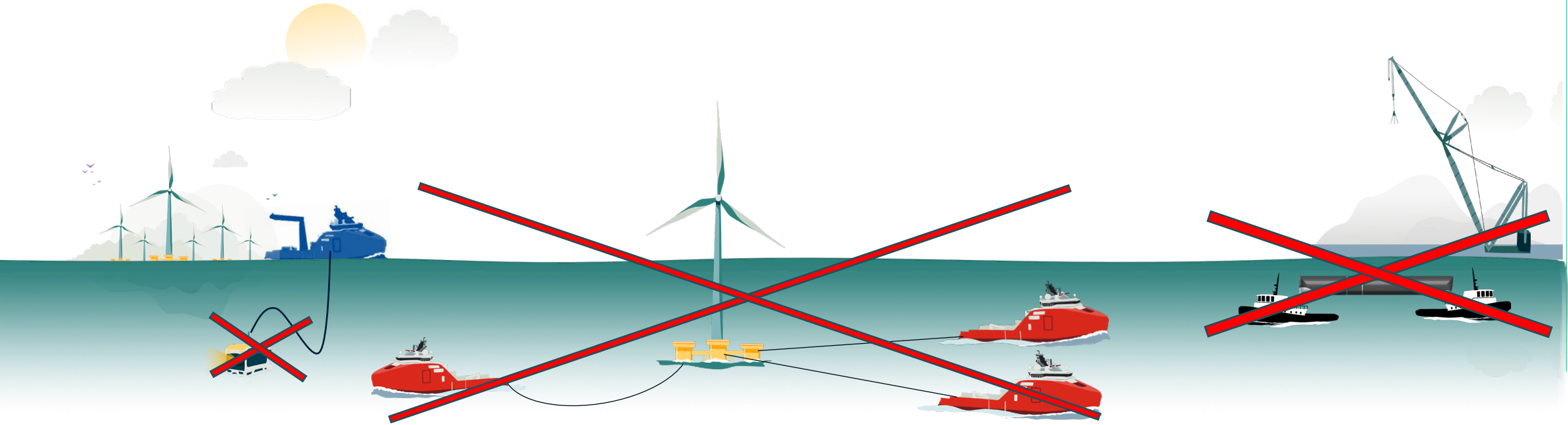
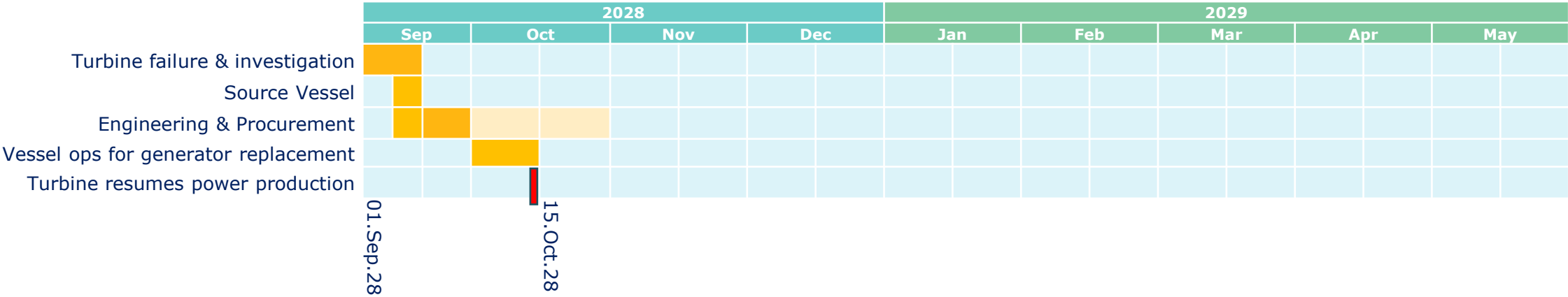


ClubFloat is prepared for In-Situ Repair

- Frame agreements in place with key contractors including response times
 - Key people and equipment
 - Vessels
- Procedures completed and MWS approved
- Main component replacement procedures ready from OEM
- Equipment designed and fabricated
 - Crane foundation
 - Guide wire winches
 - Deck logistic systems



In-Situ scenario



Tow-to-Port vs In-Situ solution

- What about blades?
- What are the typical weather limitations?
- Other considerations? Deepwater quayside availability for repairs? Export licenses, ballast water, marine growth cleaning etc.

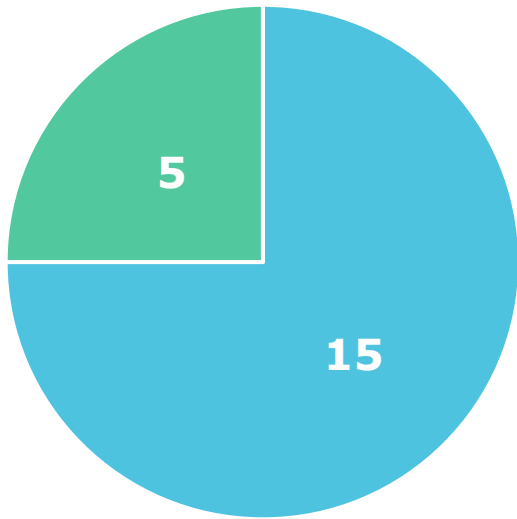
Mentimeter

5. Estimate the cost of repairs in million \$
6. Estimate the length of outage in months
7. Compare bottom-fixed and floating, costs and outage wise
8. Which method results in greater CO2 emissions?
9. Which method do you find to be preferable for ClubFloat?

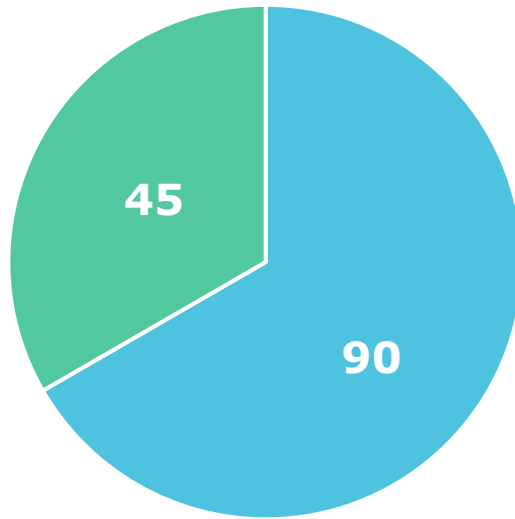
Tow-to-Port vs In-Situ

Rough relative comparison for generator exchange

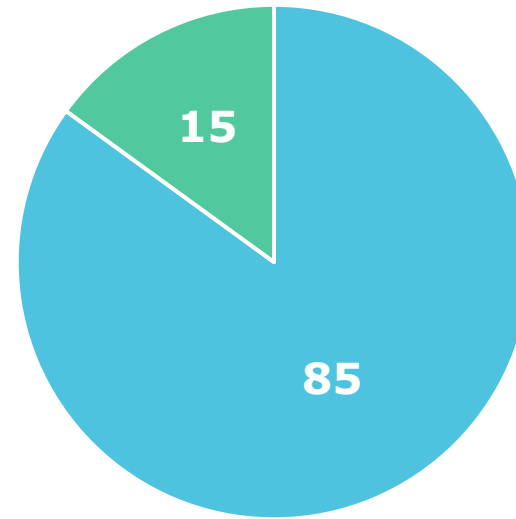
Costs in mil USD



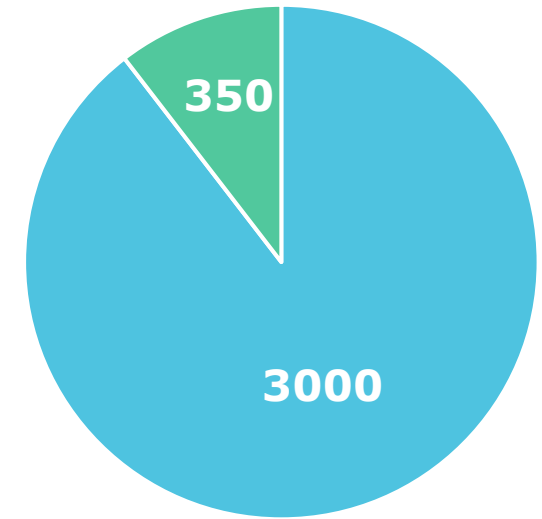
Outage days



Vessel days



CO2 in Te



Mentimeter

10. What will be the proportion between T2P and In-Situ for MCE post 2030 within floating segment?

Contact us

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www.niord.com

Thank you

