



Webinar – Transmission capacity in cables

17. November 2023

FME NORTHWIND

Norwegian Research Centre on Wind Energy

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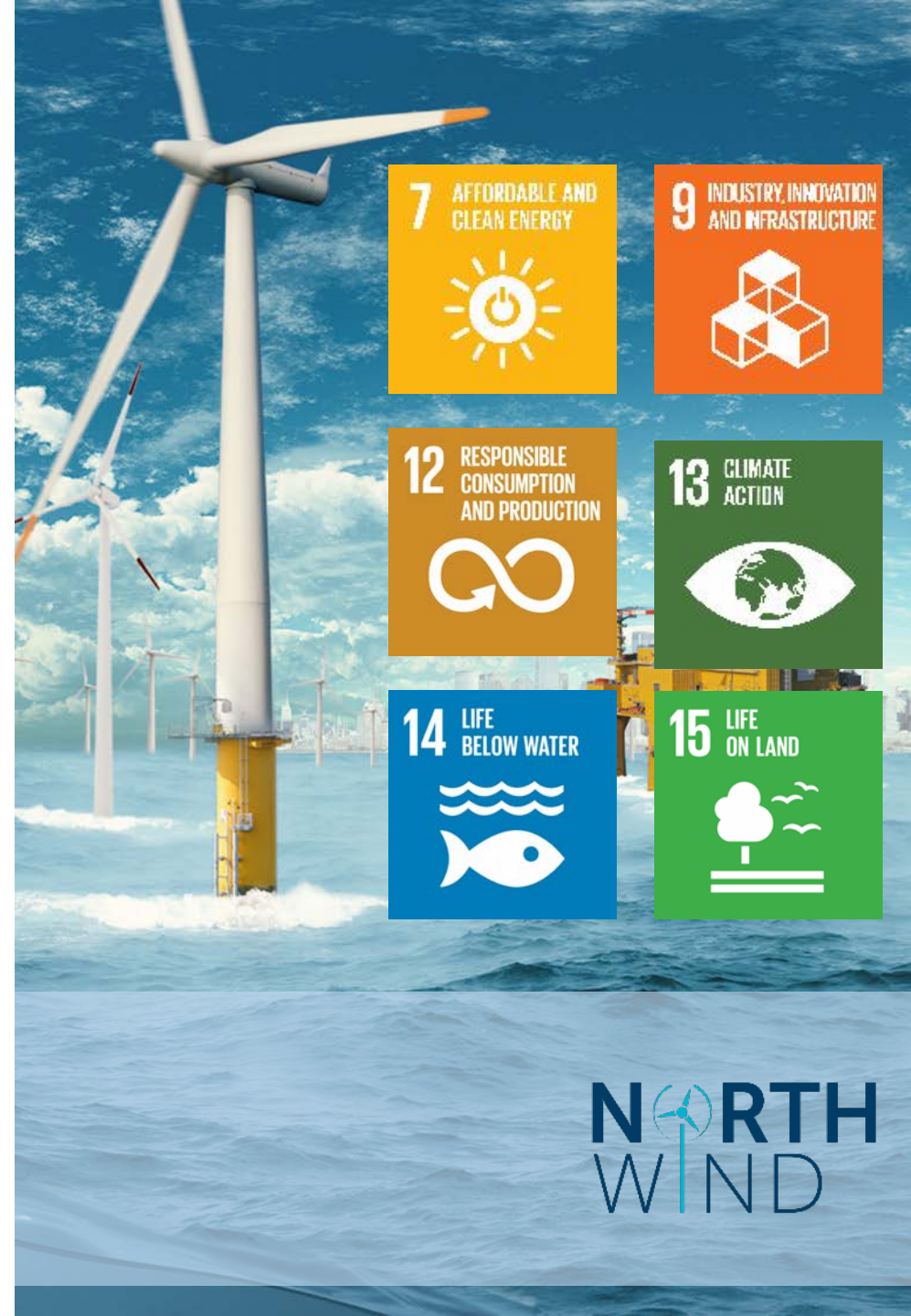
Agenda

- **Introduction**
 - Espen Eberg, SINTEF
- **Cable ampacity calculations – challenges and recent standardization work**
 - George Anders, ACO / University of Lodz
- **The DynKap project**
 - Espen Eberg, SINTEF
- **Cable thermal performance under variable loading**
 - James Pilgrim, Ørsted
- **Optimization of power cable ampacity in offshore wind**
 - Martin Høyer-Hansen, SINTEF
- **Reliable extension of transmission distance of HVAC submarine cable connections**
 - Andrzej Holdyk, SINTEF
- **Closing remarks**



Introduction

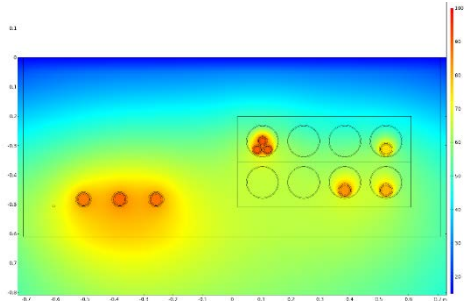
- Cables account for 25% of LCoE in offshore wind farms
- *Expected increase to 45% in 2030 [1]*
- *Focus on reducing transmission costs!*
 - *Environmental*
 - *Economic*



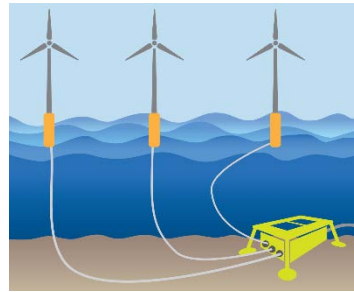
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Challenges addressed in Work Package 3

Electrical infrastructure and system integration



Electro-thermal cable models

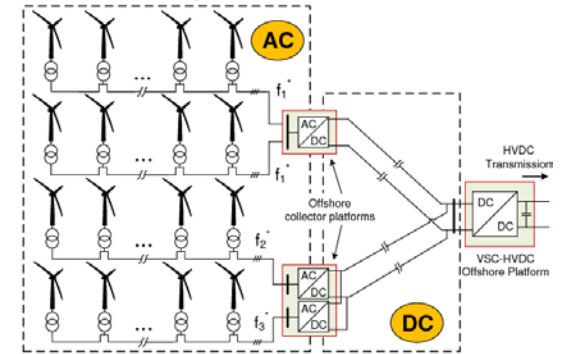


Subsea substations



Ancillary services

Transient analysis and stability assessment



New component design

Infrastructure

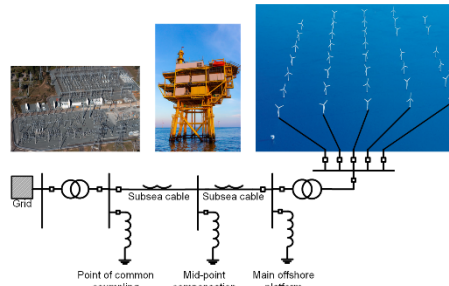
WP 3.1

WP 3.2

System integration



Models for degradation and lifetime assessment



AC-based export systems



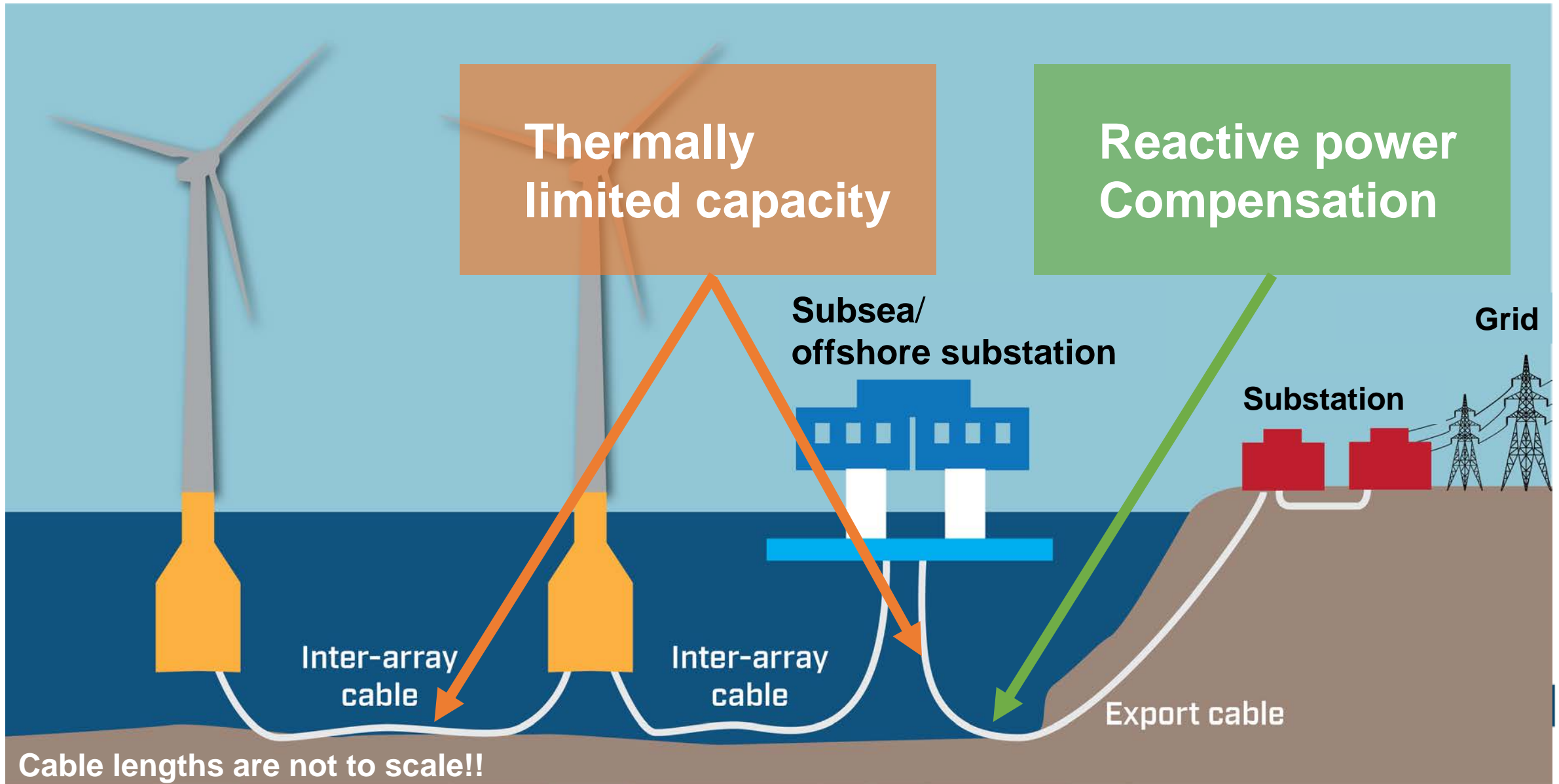
Legal and regulatory framework

Offshore grid configurations



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Challenges addressed today



Closing remarks

Questions or comments?

Presentations will be available

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The logo for North Wind features the word "NORTH" in white, uppercase letters. The letter "O" is replaced by a stylized wind turbine icon in light blue. Below "NORTH" is the word "WIND" in white, uppercase letters. The letter "I" is replaced by a vertical light blue line that extends upwards to form the tower of the wind turbine icon.