



Baltic  
InteGrid

Integrated Baltic Offshore  
Wind Electricity Grid Development

## Case Study 2: Sweden – Germany (–Denmark)

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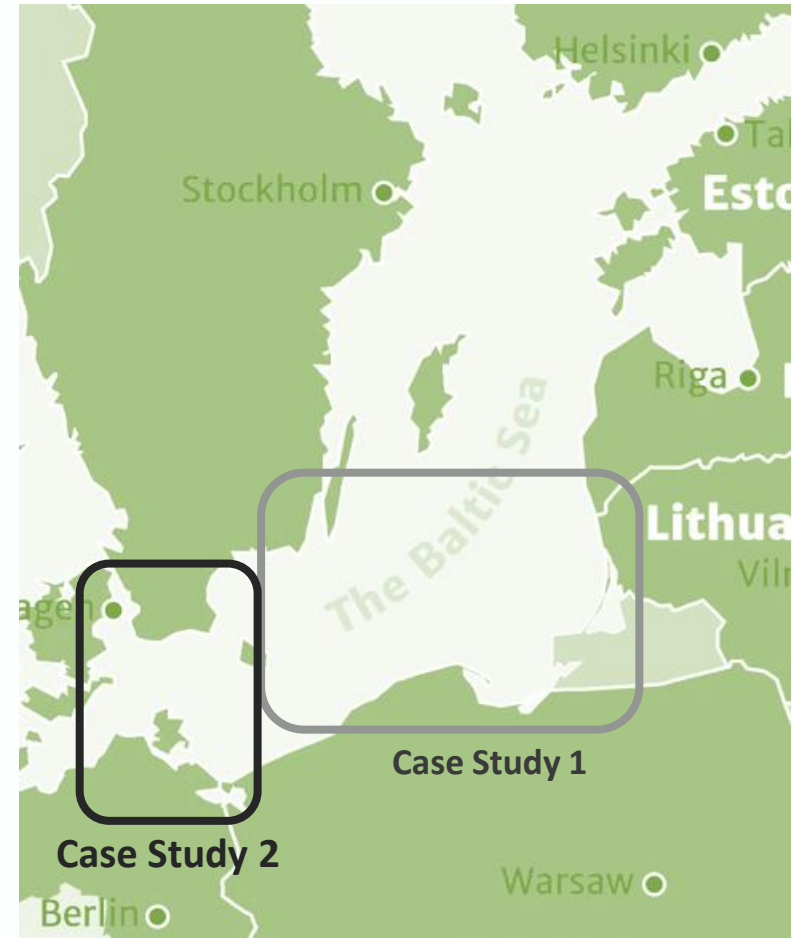
Klaipeda, 22. November 2017

- 1. Case Study Area**
- 2. Scenario Description**
- 3. Marine Uses**
- 4. Final Remarks**

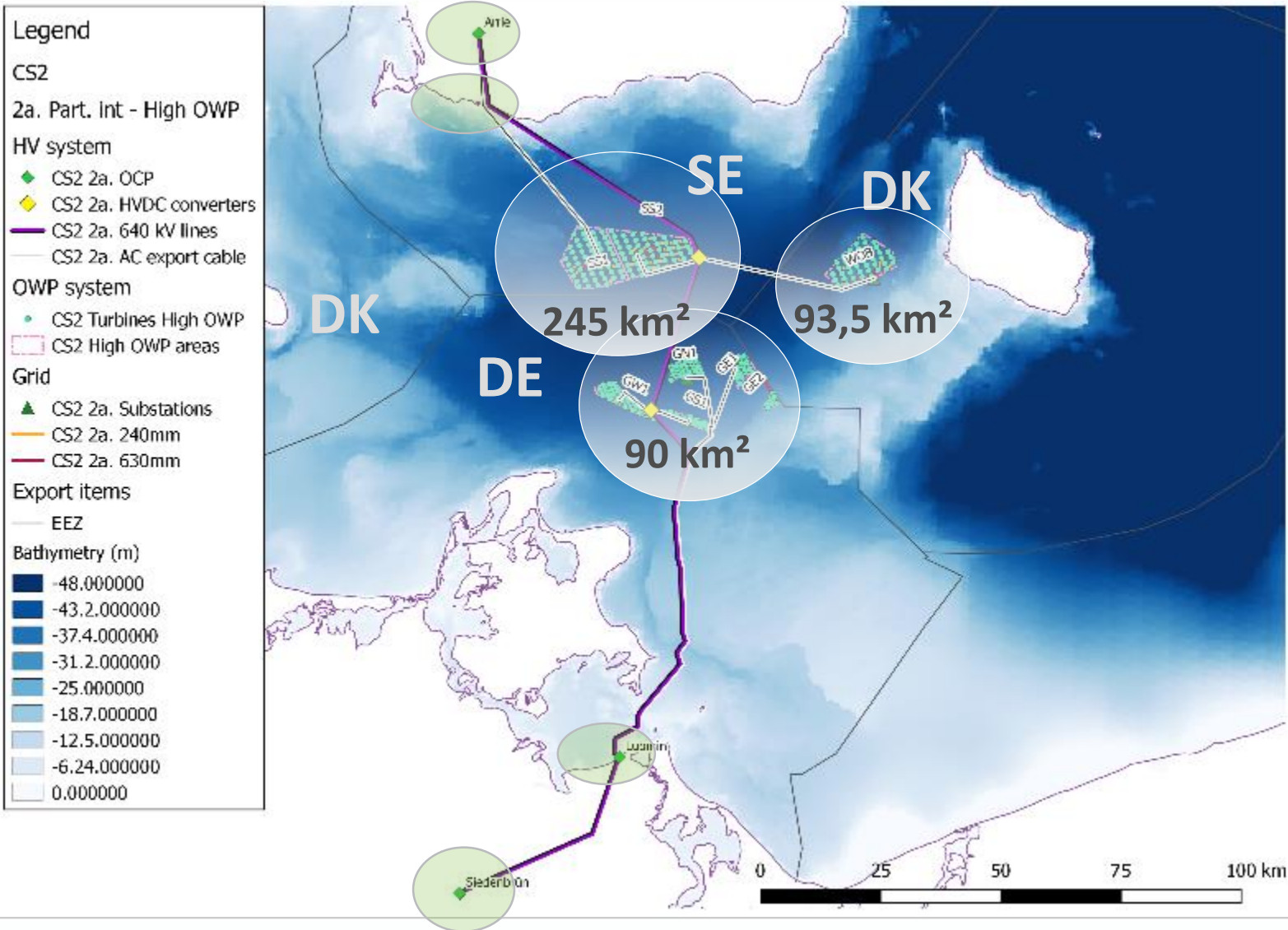
## Case Studies

**Case Study 1: Poland – Sweden  
with extension to Lithuania**

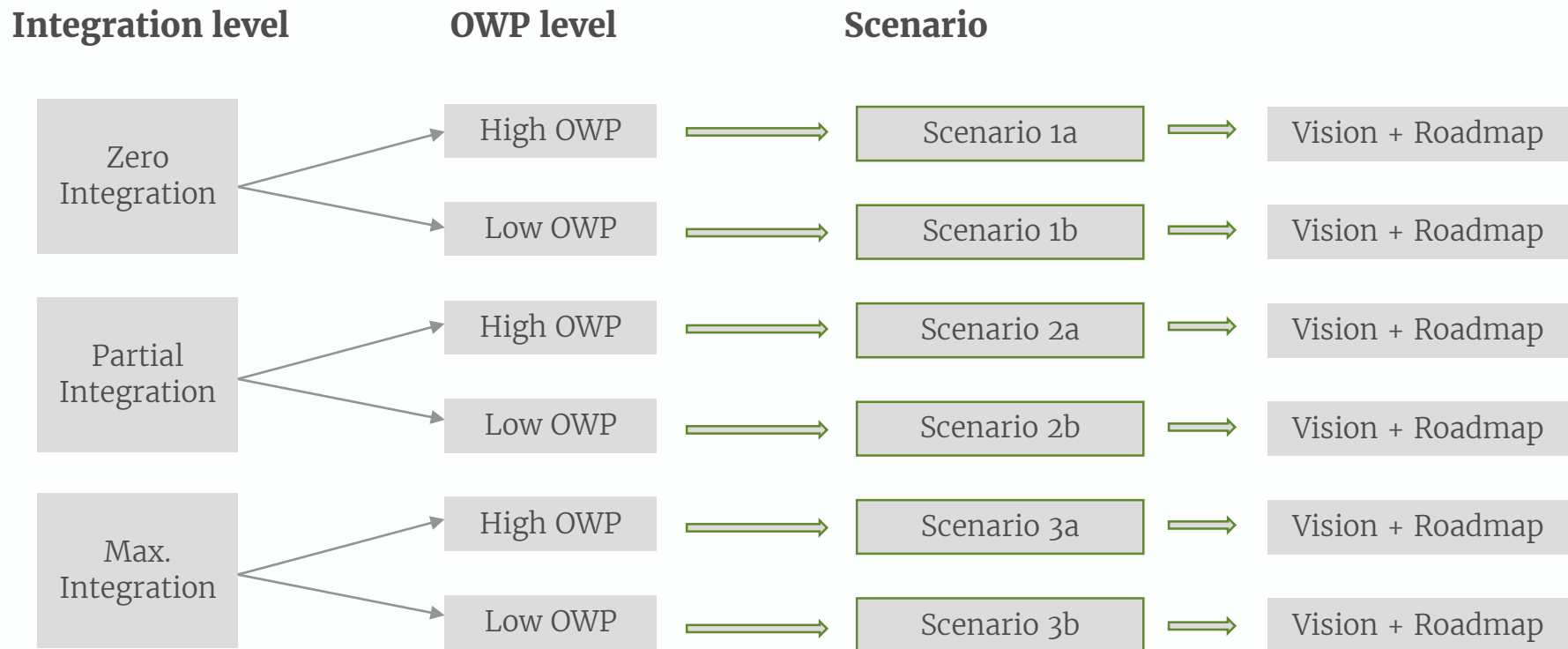
**Case Study 2: Germany – Sweden  
with possible extension to Denmark  
(area west of Bornholm)**



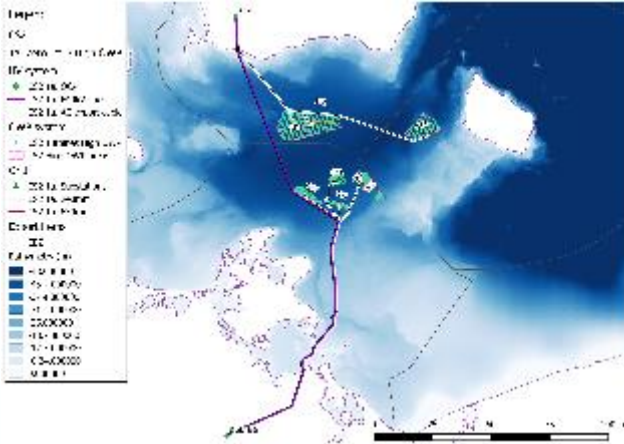
# 1. Case Study Area



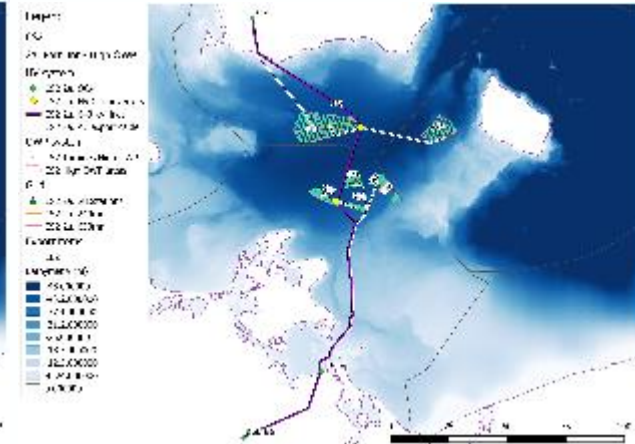
There are six scenarios for each case study:



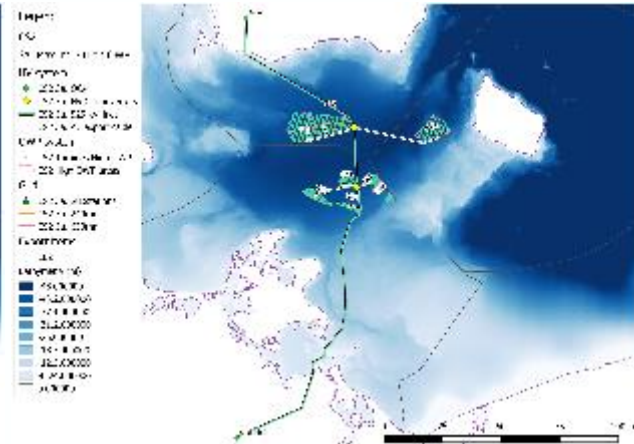
**(1a) Zero Integration: High OWP (Vision 2045)**



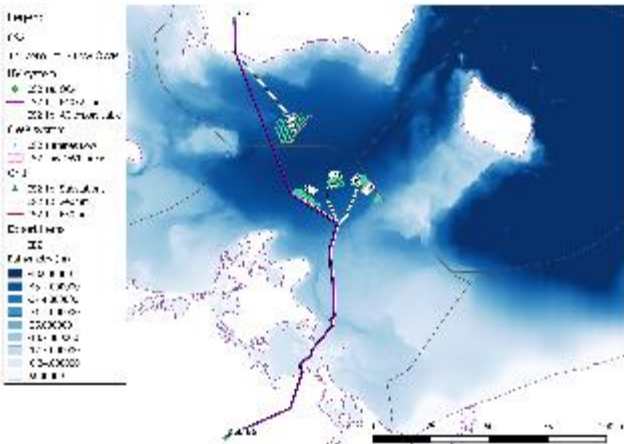
**(2a) Partial Integration – High OWP (Vision 2045)**



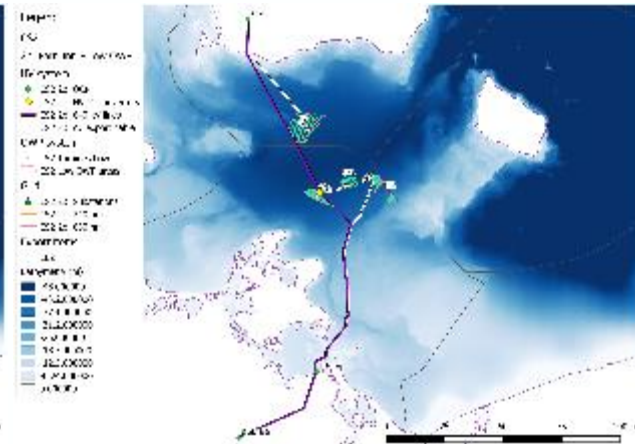
**(3a) Max Integration – High OWP (Vision 2045)**



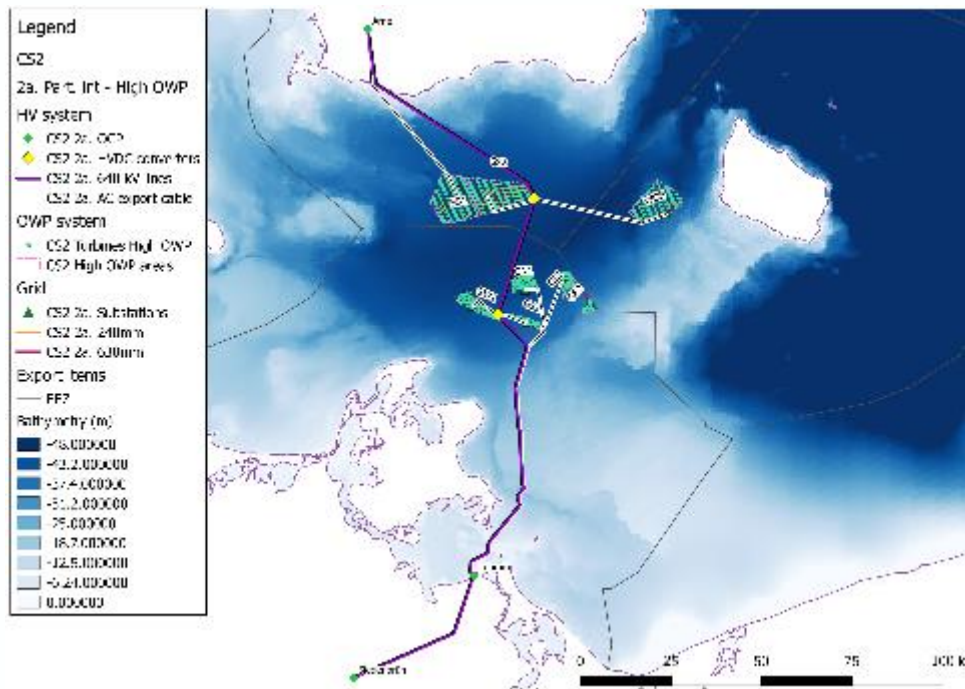
**1b) Zero Integration: Low OWP (Vision 2045)**



**(2b) Partial Integration – Low OWP (Vision 2045)**



### Example: (2a) Partial Integration – High OWP (Vision 2045)



Offshore wind capacity

1 132 MW (DE),  
1236 MW (SE),  
516 MW (DK)

Offshore wind area:

~90 km<sup>2</sup> (DE),  
~245 km<sup>2</sup> (SE),  
~93,5 km<sup>2</sup> (DK)

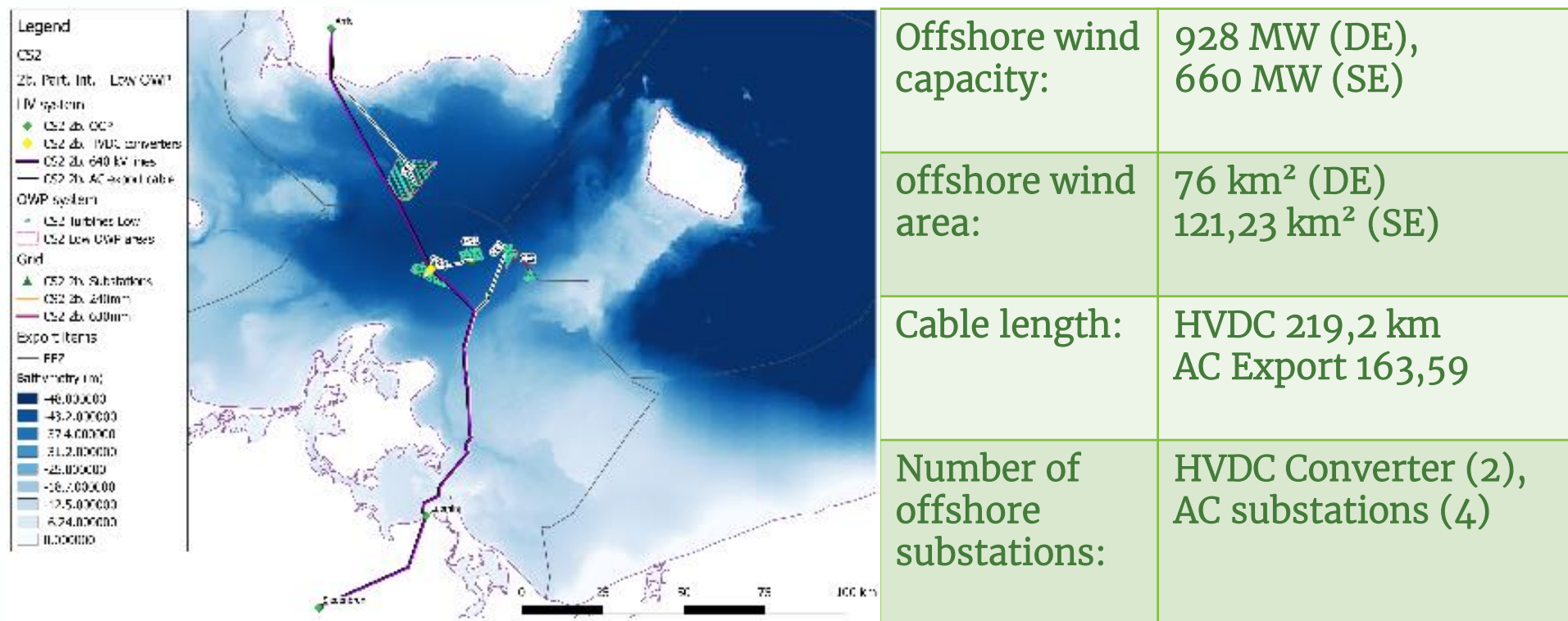
Cable length:

HVDC: 233,74 km  
AC Export: 311,74 km

Number of offshore substations:

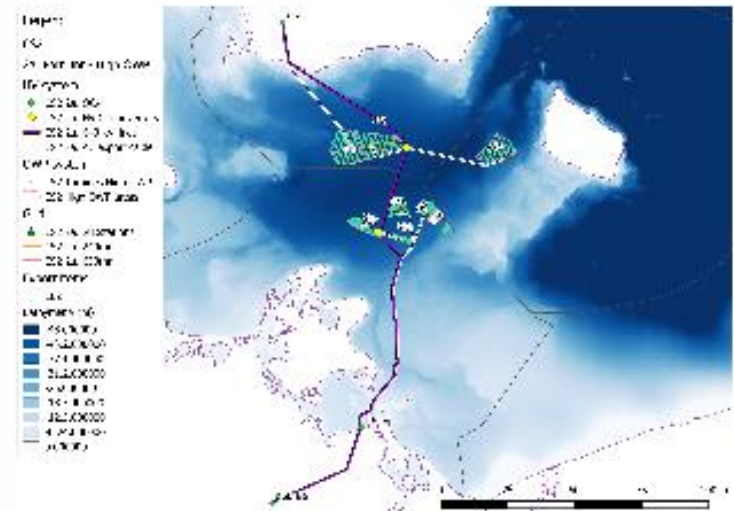
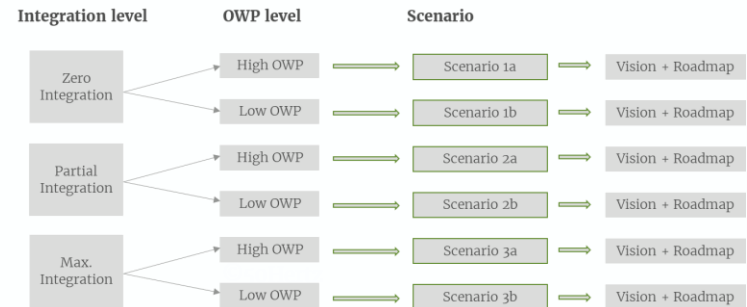
HVDC Converter (2),  
AC substations (7)

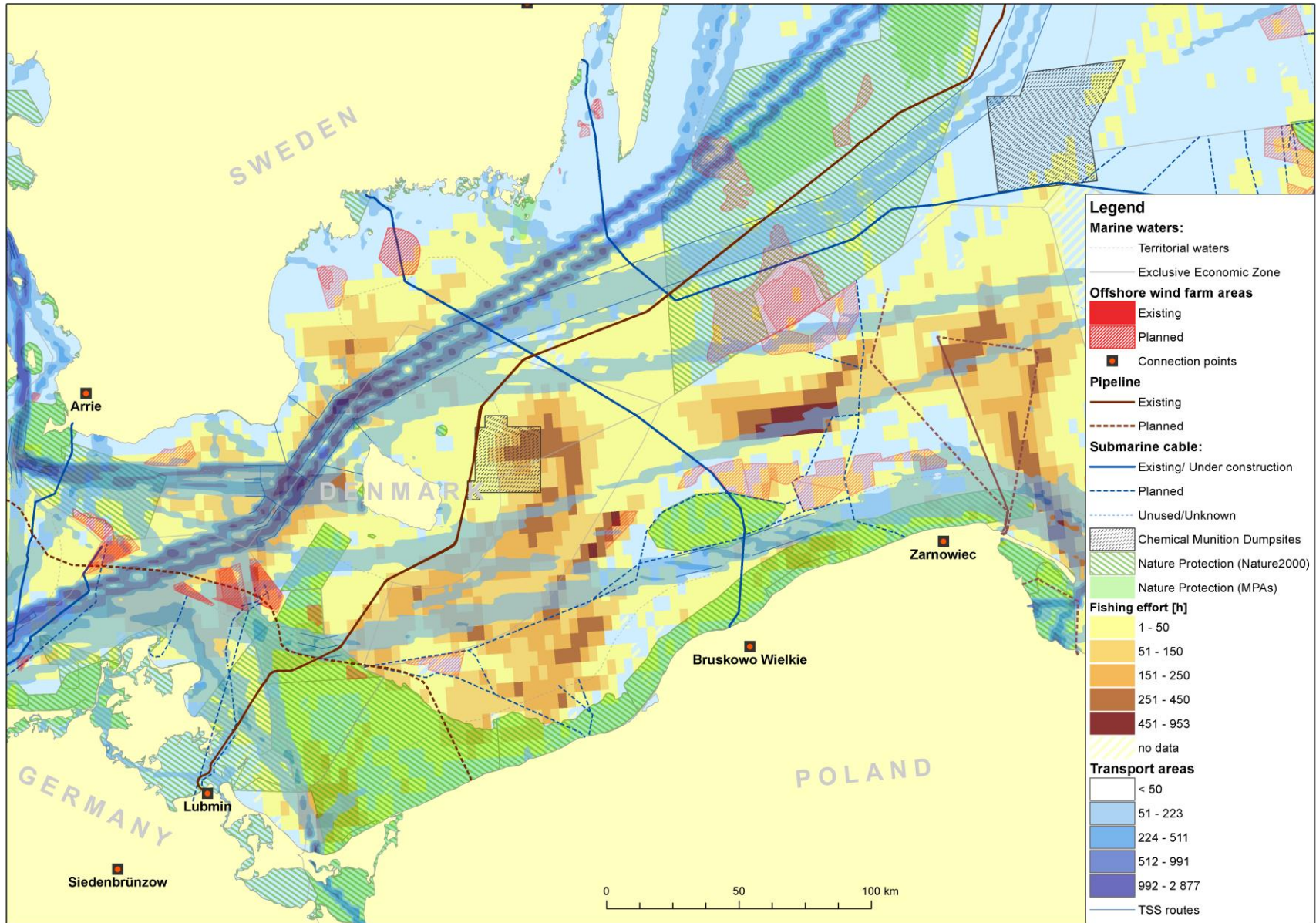
### Example: (2b) Partial Integration – Low OWP (Vision 2045)



## Main difference between 6 scenarios:

- Offshore wind capacities (high / low scenarios)
- Variations in proposed routes and cable length
- Grid connection points
- Number of HVDC converters and AC substations





- The Baltic Sea is a heavily utilized marine area.
- Great diversity of interests  
(Offshore wind energy as a new marine use)
- Interest must be balanced and space must be used efficiently.
  - Efficient use of space is central when planning offshore wind energy systems in highly utilized areas.
  - Joint efforts are necessary to overcome obstacles in spatial planning for energy production and transmission

**What are the biggest challenges when planning cross-border linear infrastructure?**

(How can we overcome the challenges?)

**How can corridors for offshore grids make it into the maritime spatial plans?**

# Thank you for your attention!

For further information:

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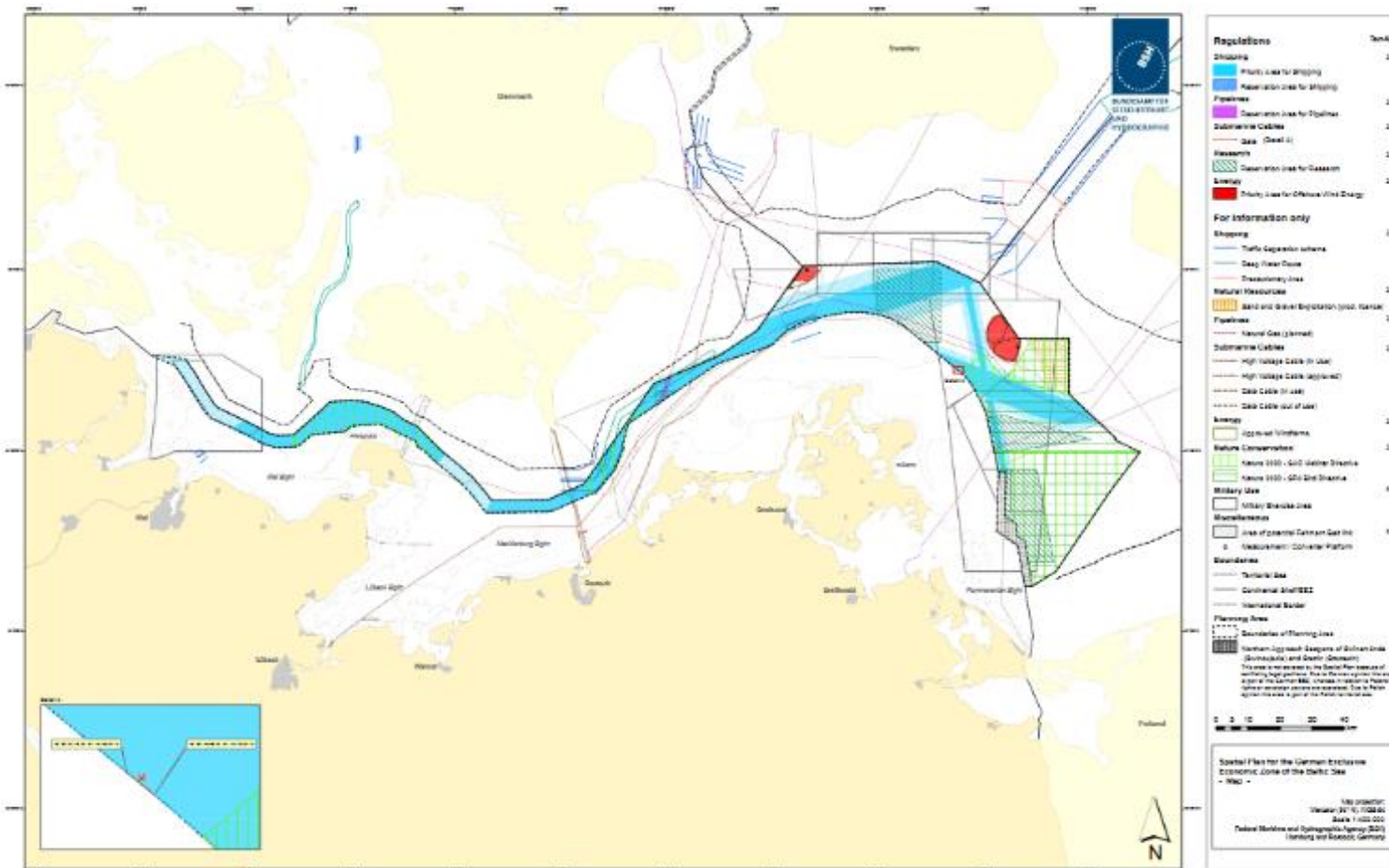
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## MSP in the German EEZ

Responsible Authority: Bundesamt für Seeschifffahrt und Hydrographie (BSH)

Spatial Plan for the German Exclusive Economic Zone of the Baltic Sea - Map -



## MSP in the Swedish EEZ

Responsible Authority: Agency for Marine and Water Management (SwAM)

