Tim Norman
Spatial planning and impact assessment

Technical Session 2

20th April 2022

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Potential impacts of offshore wind farms
Spatial planning
Impact assessment processes
Mitigation
Summary

Contents

Potential impacts

Physical environment	Biological environment	Human environment
Offshore – arrays and export cables		
▪ Seabed damage and alteration ▪ Altered dynamic processes - currents, sediment transport ▪ Increased noise: ○ Underwater ○ Airborne	▪ Loss and damage to marine habitats and their species ▪ Increased mortality of mobile species, including: ○ Birds ○ Marine mammals ○ Fish ▪ Damage to protected sites	▪ Obstruction of commercial fisheries ▪ Impairment of navigation and maritime safety ▪ Adverse effect on perception of landscape and seascape value ▪ Interference with civilian and military radar
Coastal and onshore – transmission infrastructure		
▪ Altered coastal processes - erosion, deposition ▪ Impairment of flood defence	▪ Loss and damage to coastal and terrestrial habitats ▪ Damage to protected sites	▪ Obstruction of inshore fisheries ▪ Adverse effects on local communities ▪ Impaired recreational access

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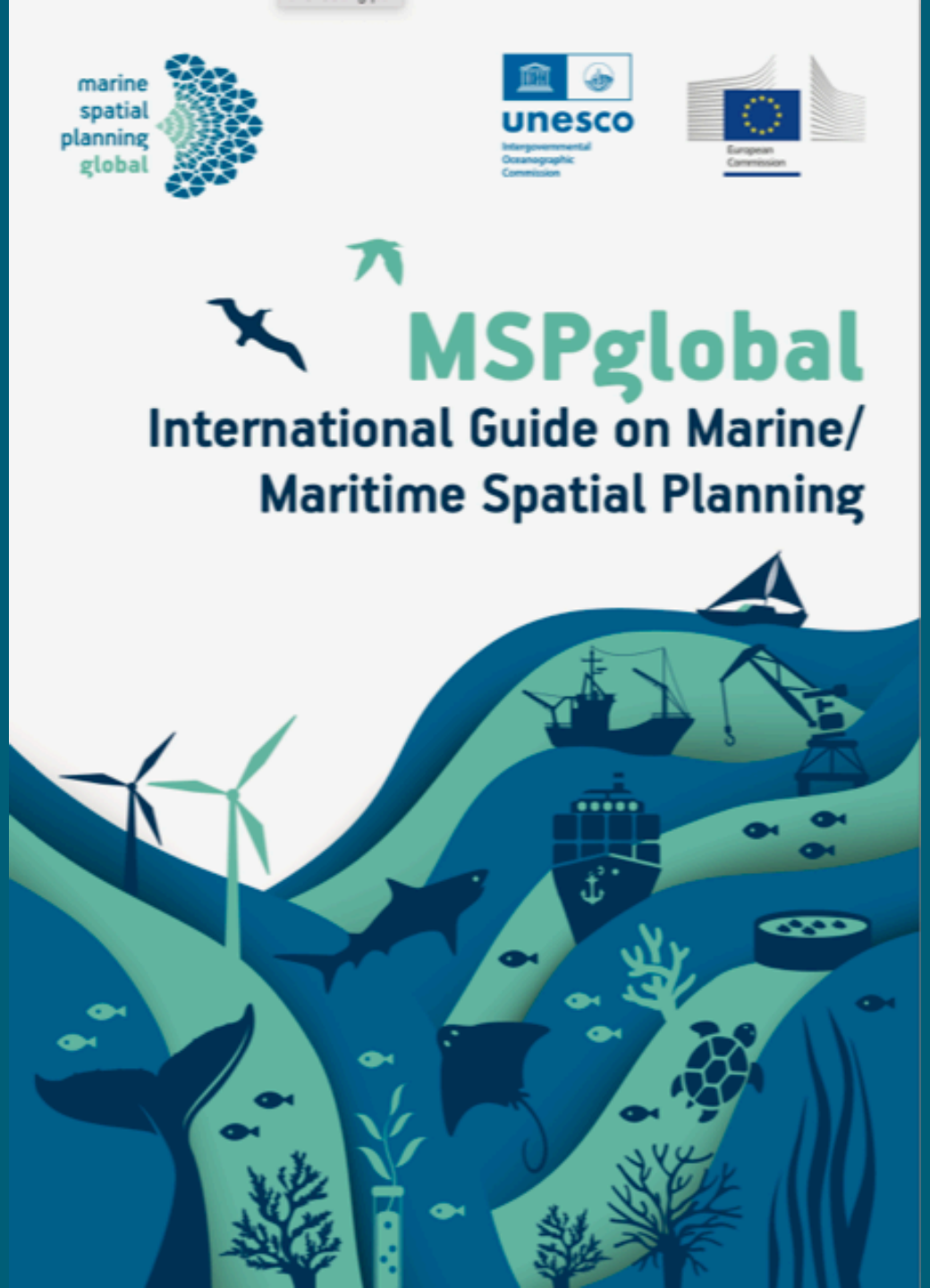

Marine Spatial Planning

Undertaken at Governmental level

National, regional and even international scale

Process involves information gathering, mapping, extensive stakeholder consultation

Multi-sectoral

Iterative

May be linked to formal planning processes

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Spatial planning – a sectoral approach

1. Focuses on a specific activity
2. Relevant geographic scope
3. Work with the information available – acknowledging that there are uncertainties and unknowns
4. Engage with relevant specialists and industry experts

Technical constraints

- Define seabed area suitable for development (e.g. water depth, wave height)

Exclusions

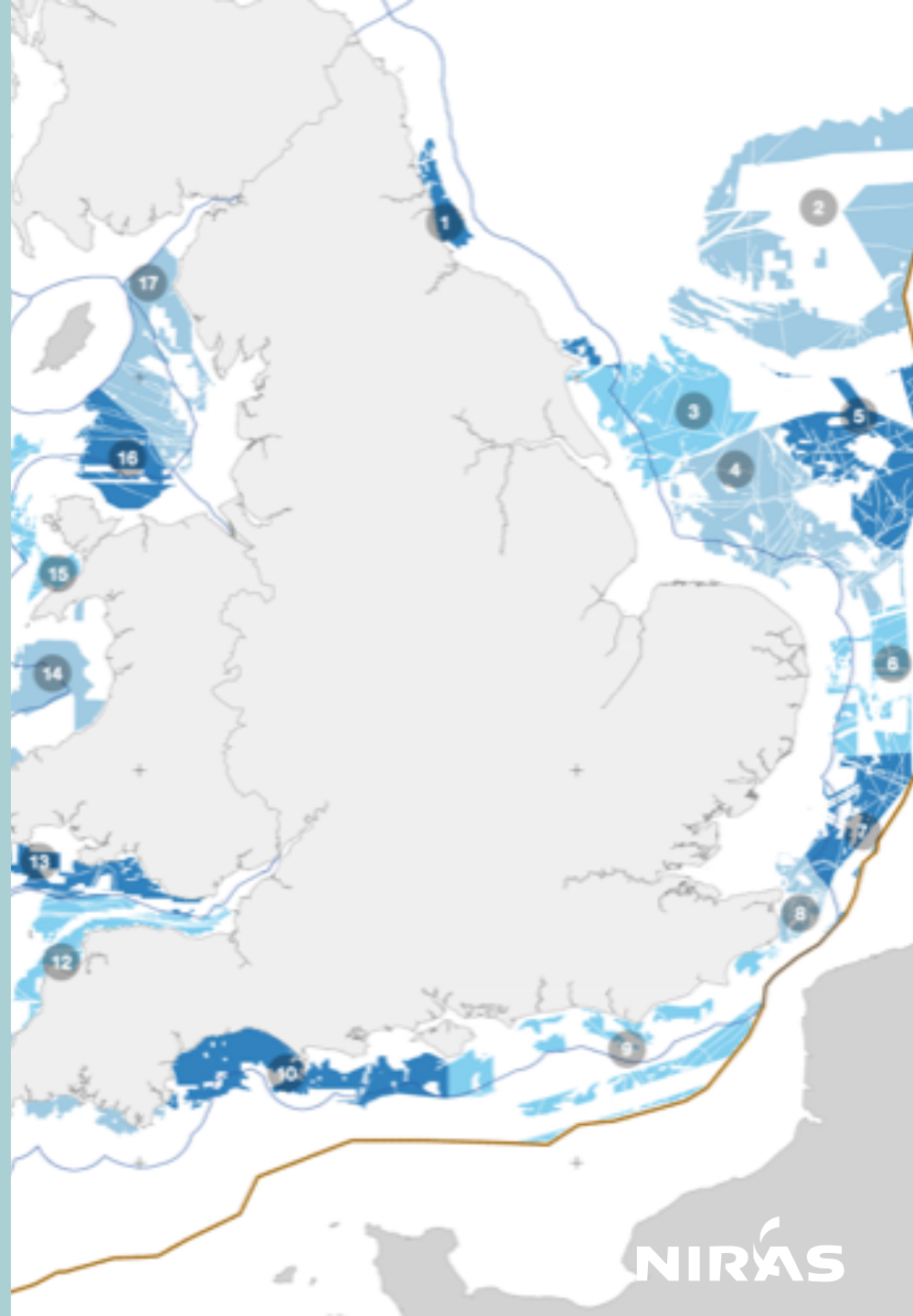
- Exclude sea areas that unavailable – e.g. presence of other infrastructure

Restrictions

- Apply 'soft constraints' – weighted and ranked in terms of perceived importance, consenting risk etc

Development areas

- Use of judgement to define areas likely to be suitable for development – further consultation



Impact assessment

Local requirements

Environmental protection requirements

The Environmental Impact Assessment (EIA) System in the Philippines, officially referred to as the Philippine EIS System (PEISS)

Environmental Compliance Certificate (ECC) is required to operate an Environmentally Critical Project (ECP) or Area (ECA).

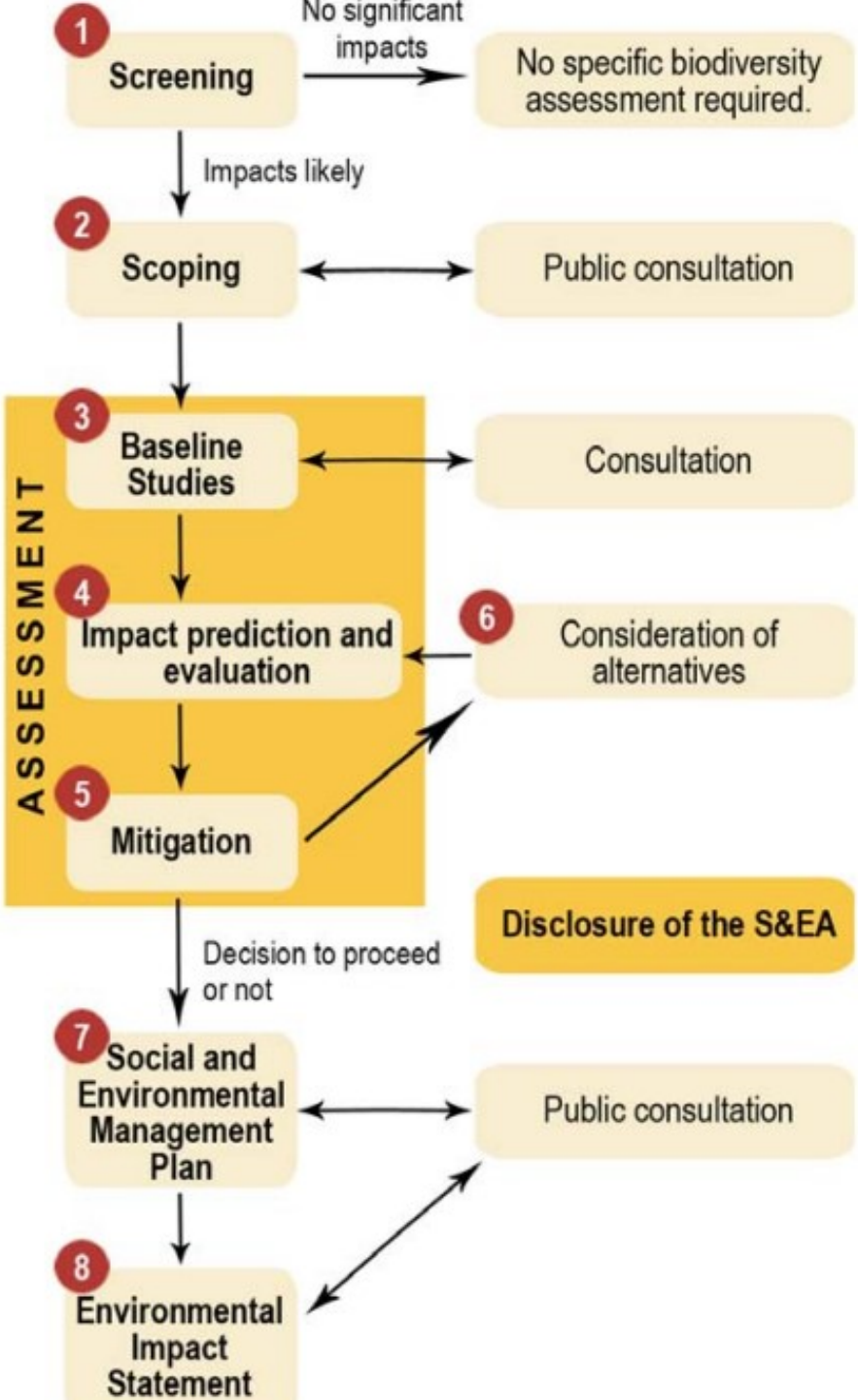
International standards

Equator principles (EP4)

IFC performance standards

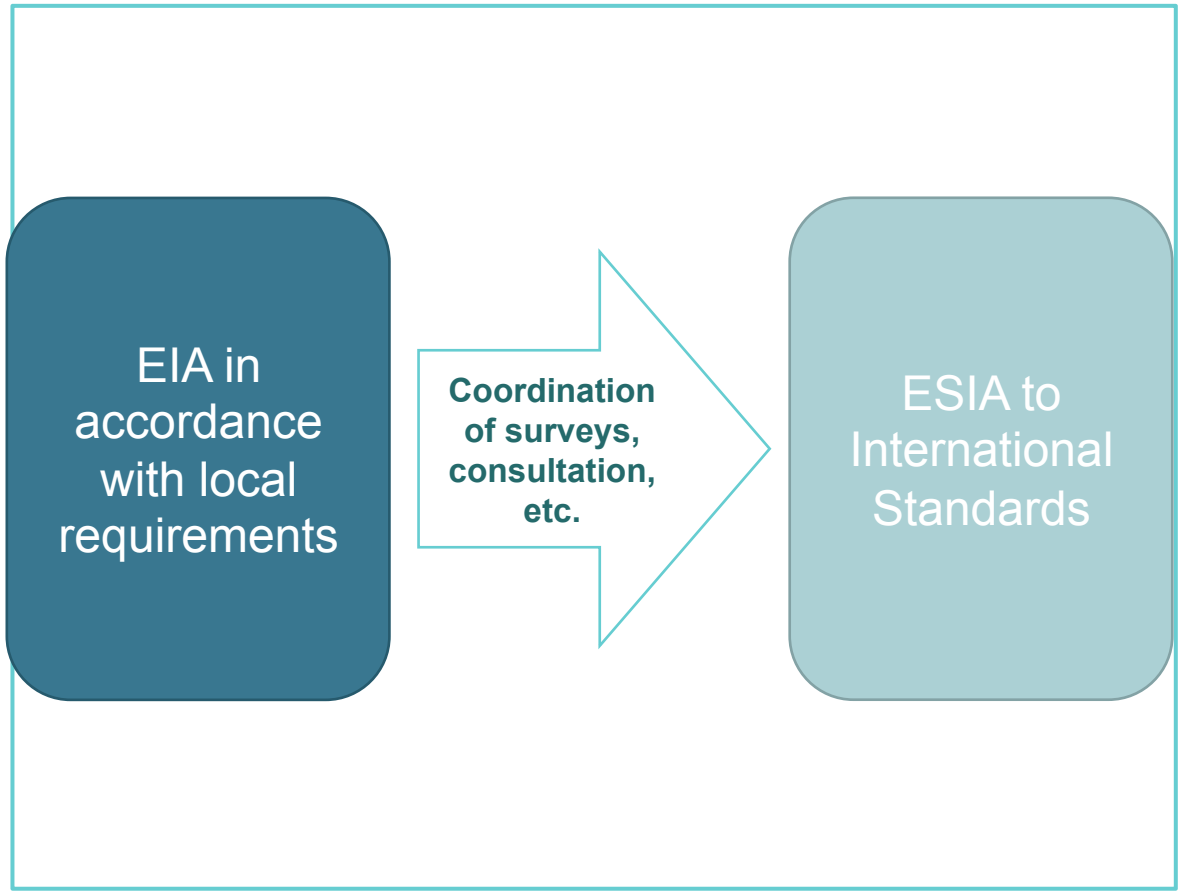
Environmental & Social Impact Assessment (ESIA)

Management Plans

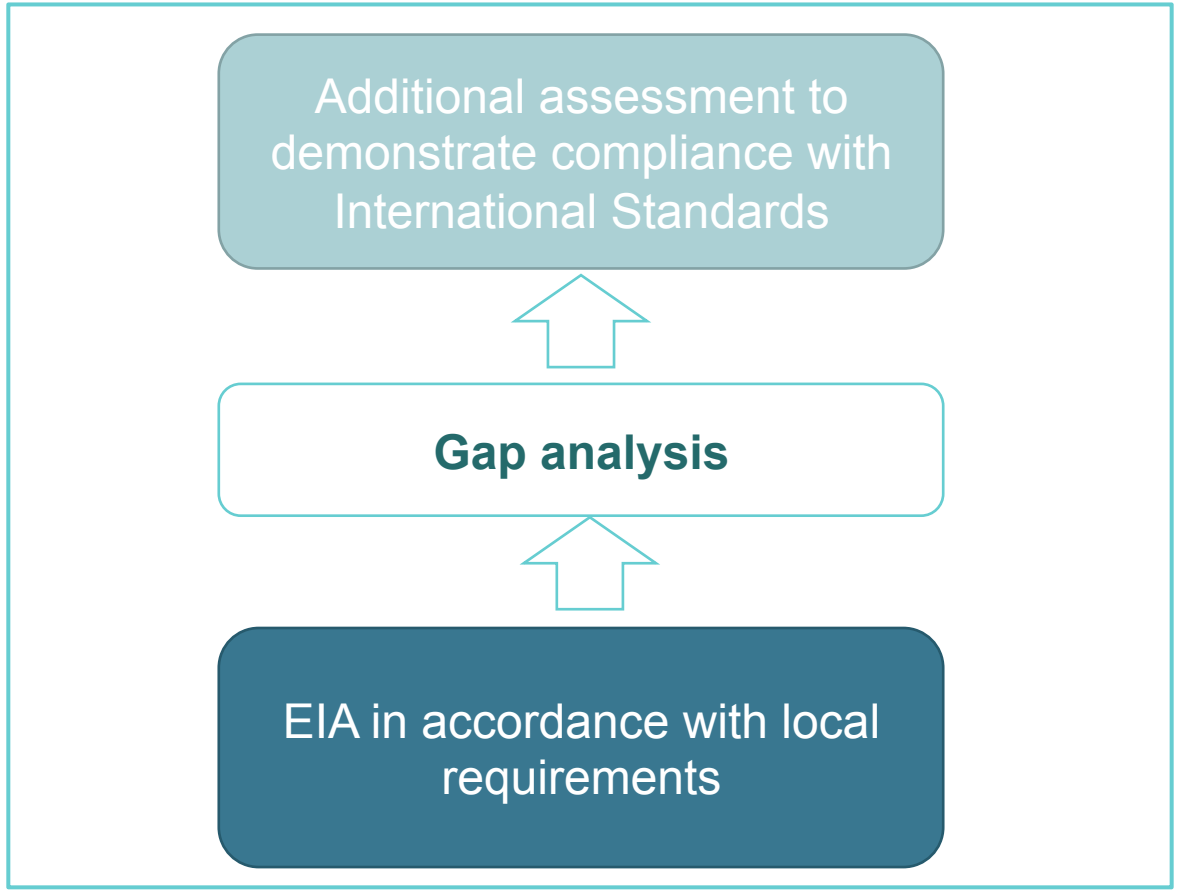


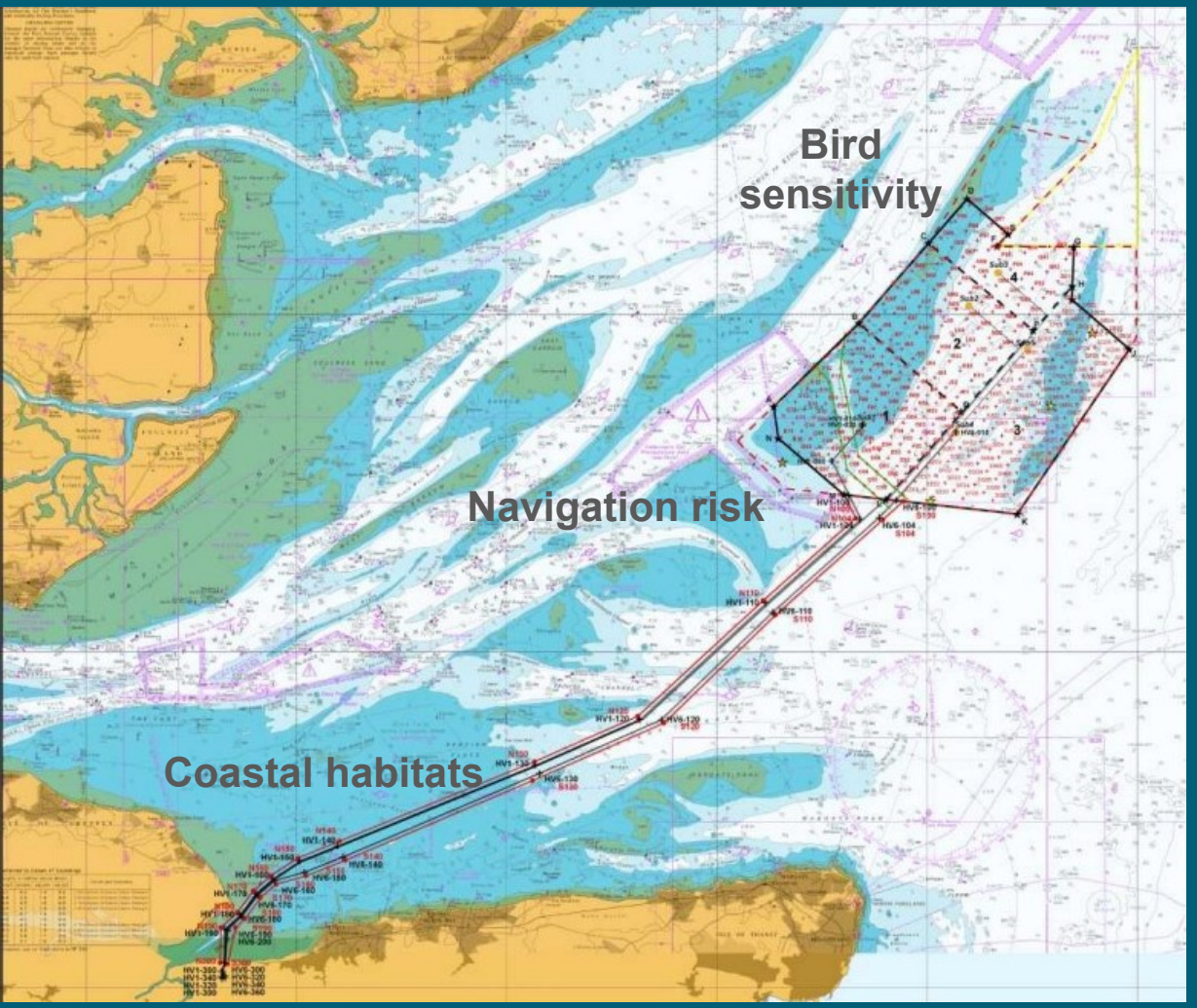
Approach to EIA and ESIA

PARALLEL ASSESSMENT



SEQUENTIAL ASSESSMENT





Mitigation - layout

Identify areas of sensitivity

- Surveys
- Modelling
- Stakeholder input

Avoidance:

- Boundary changes
- Turbine siting
- Cable routing

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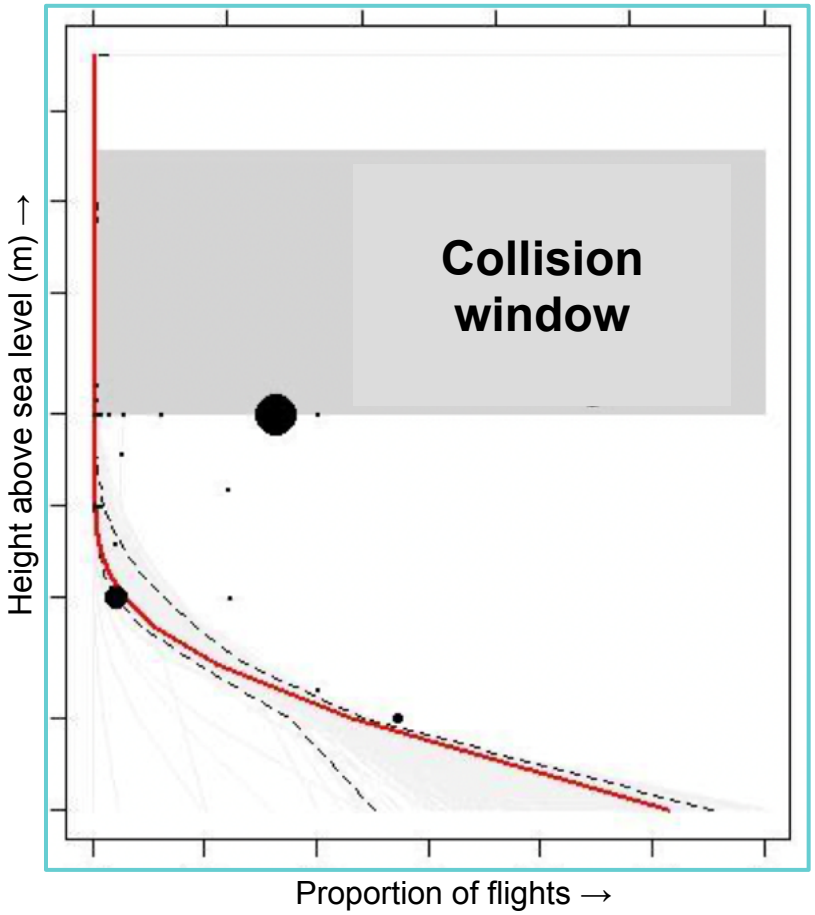
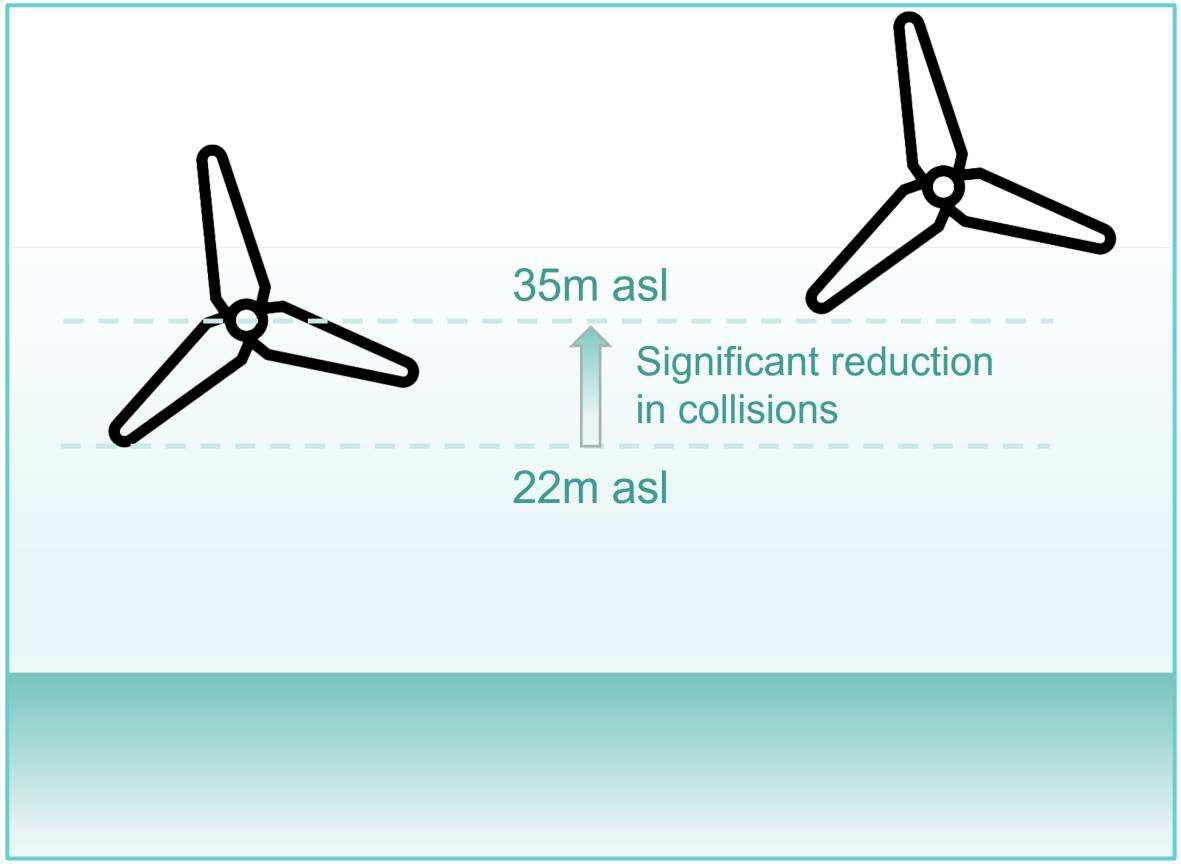
Mitigation – by design

Seabirds typically fly close to the sea surface



Raising turbine height significantly reduces collision mortality



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Summary

Spatial Planning

- As part of wider MSP process, sectoral plan or site section exercise
- Identify known or suspected constraints, exclusions and restrictions

Impact Assessment

- To meet local (EIA) and international standards (ESIA)
- Can be undertaken in parallel or sequentially

Mitigation

- Avoid impacts through site selection and layout
- Reduce impacts through design

Management & Monitoring

- Social and environmental management plan demonstrates commitment and coordinated approach
- Monitoring to demonstrate compliance and improve understanding

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Contact me to learn more

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