The Challenge is to Make Offshore Wind Happen

Policy & Planning – Environment - Developers Perspective

Progression or Reproduction

-Has Environmental Monitoring Come to a Standstill?

Per Hjelmsted Pedersen
ENERGI E2

Copenhagen Offshore Wind
26-28 October 2005

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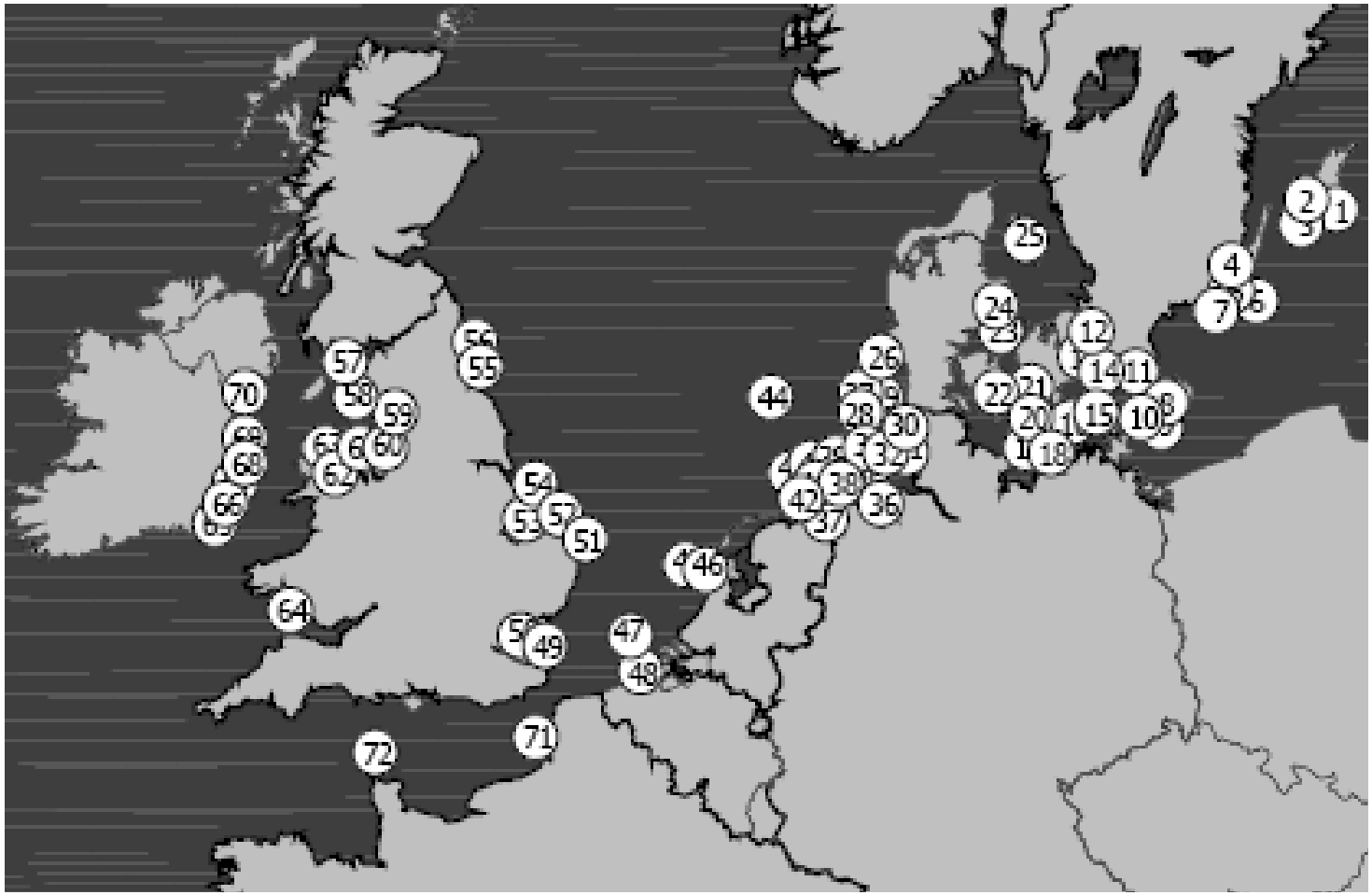

Source: 3E/EWEA

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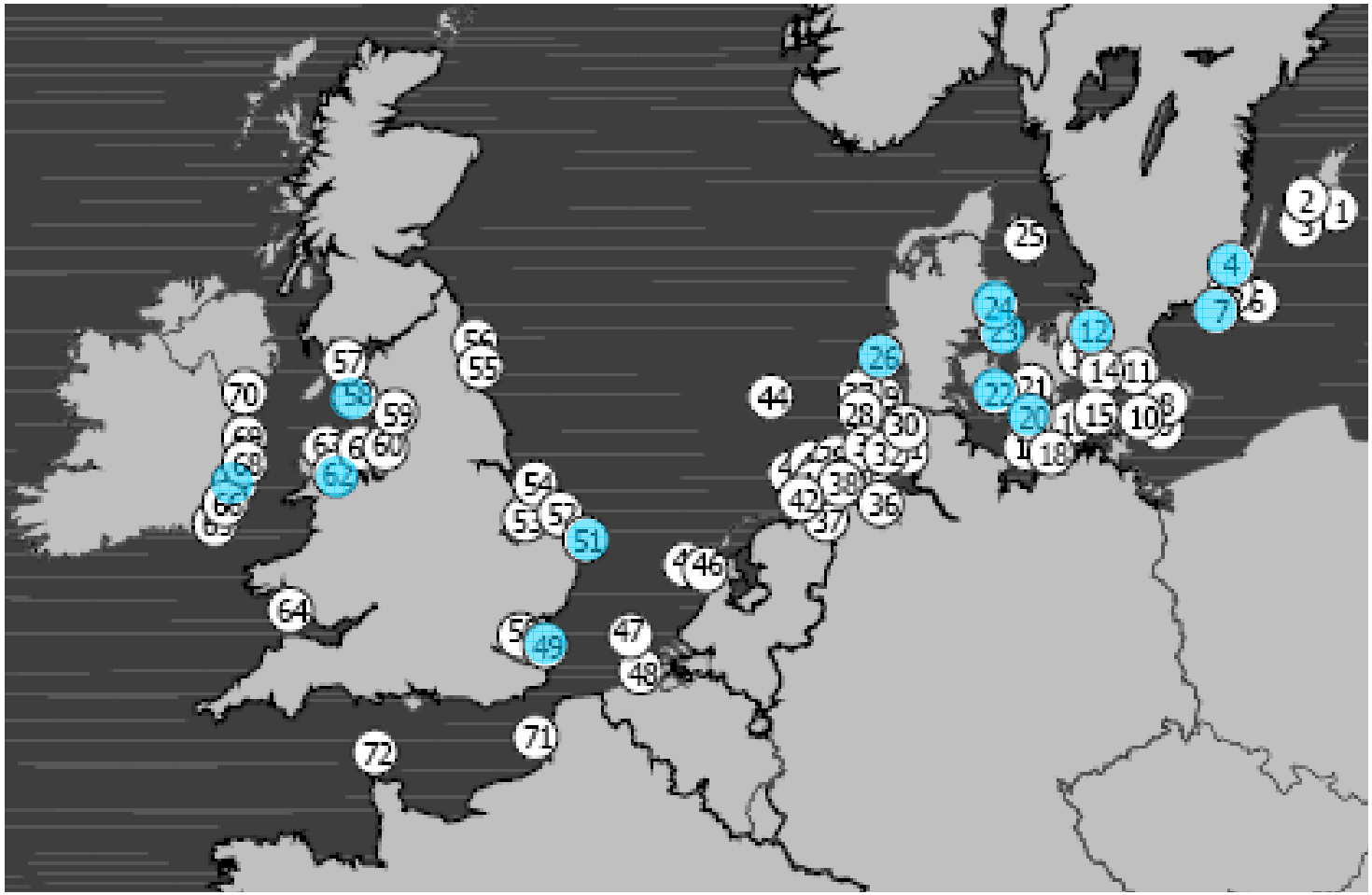

Source: 3E/EWEA

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Why haven't we seen the development of offshore wind as predicted for many years?

Offshore capacity (MW)

	2002	2003	2004	2005	2006
Forecast 2002	-	285	700	320	1710
Forecast 2003	-	-	252	1064	988
Forecast 2004	-	-	-	258	1041
Realised	183	250	60	90	0?

Source: BTM Consult ApS

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Three showstoppers

- **Money**
  - Developer – Project financed
  - Turbine manufacturer
  - Major corporation – Balance sheet
- **Grid connection**
  - Capacity
  - Liability
- **Consent**
  - Time
  - Several authorities

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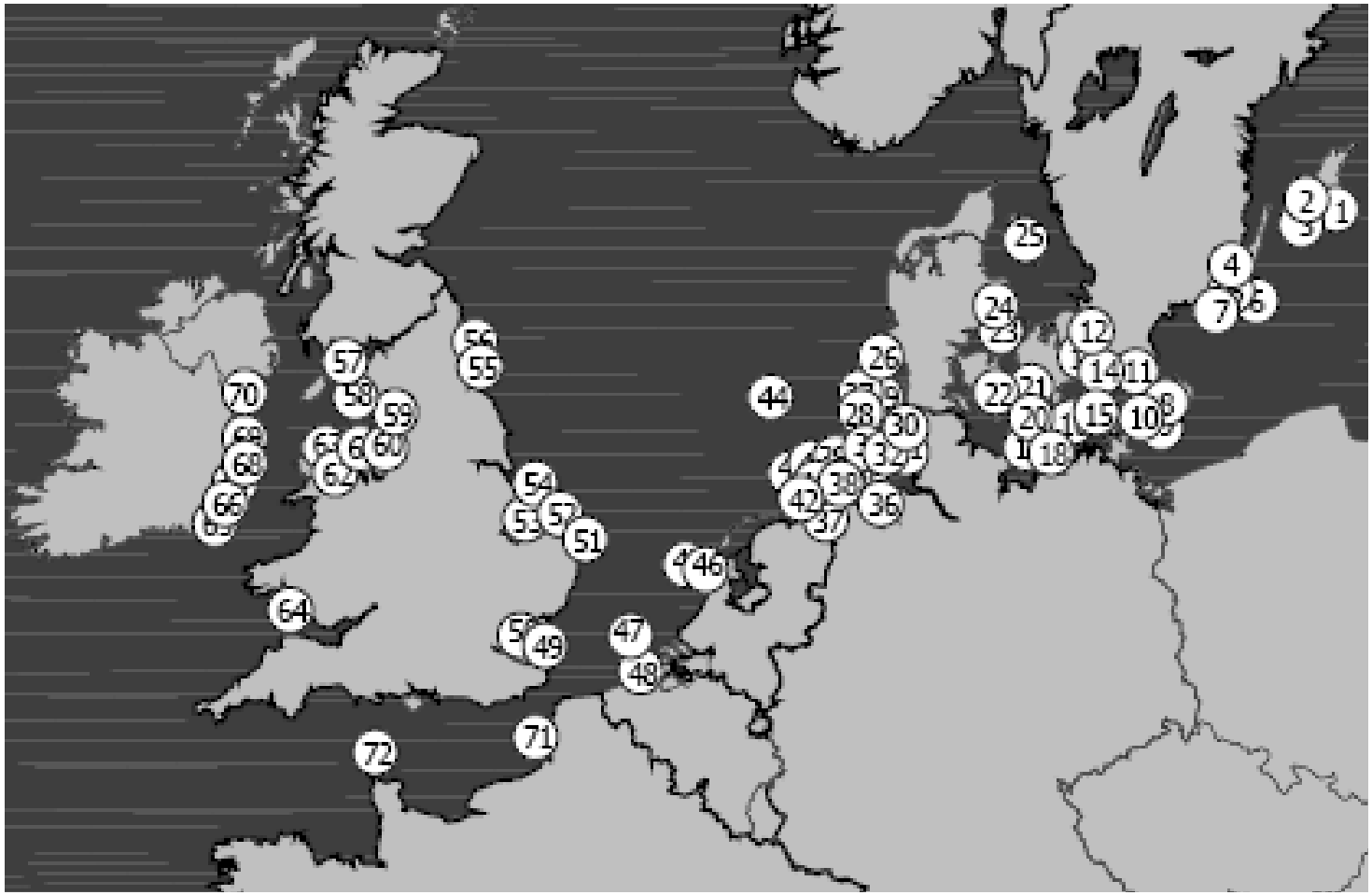
Are none of these marine environments comparable?



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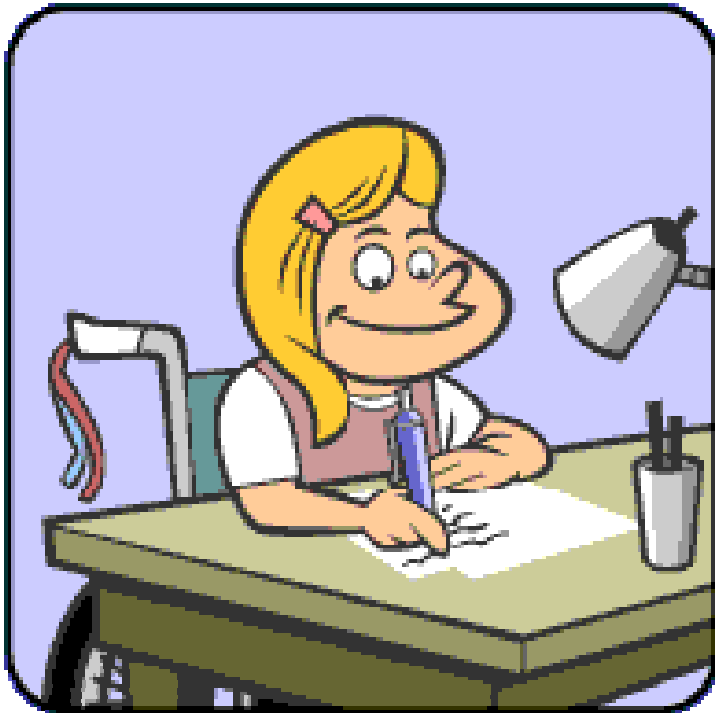
Authorities



1990s
Innovate

GAMING, BETTING AND LOTTERIES ACT 1988

(Section 16, First Schedule Paragraph 19)

BOOKMAKER'S PERMIT

The Commissioners hereby grant to **Regent Markets (I.O.M.) Limited** of **Dandy Rigg, Ballakilpherie, Colby**, this Bookmaker's Permit authorising the said company to act as a bookmaker on its own account.

This Permit shall be in force from the 9th day of **February 2004** and subject to paragraph 19 of the First Schedule to the Gaming, Betting and Lotteries Act 1988, shall cease to be in force at the end of the thirty-first day of **May 2004**.

Dated this 9th day of **February 2004**

Member Secretary of the
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DUPLICATE

2005
Duplicate

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Identifying problems

<u>The Ideal model</u>

- The EIA/screening process for the individual proposed project areas will reveal what kind of biological species that inhabits the proposed project area
- Once the potential concerns are identified the action to be taken should be reviewed in relation what is already known about the species reaction
- If the reaction is unknown there is a reason to launch a monitoring programme

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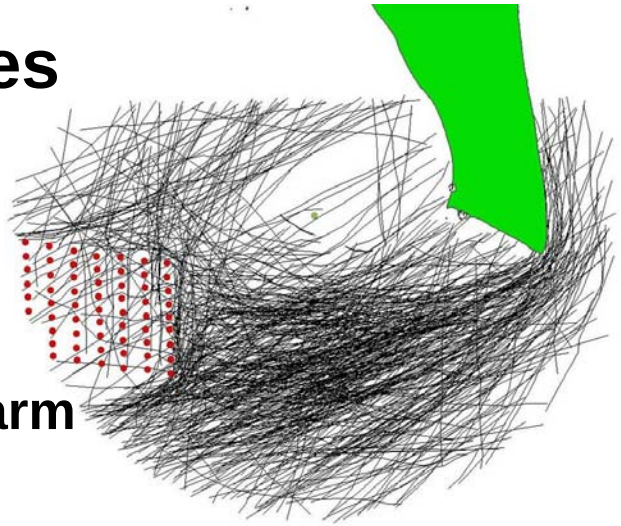
Example – Bird studies



- Thorough studies have been performed on common Eiders at Nysted Offshore Wind farm

- Nevertheless Common Eiders are studied at Uttgrunden also situated in the Baltic Sea.

- Would studies on the focal specie Long-tailed Duck have been more comprehensive?

- We acknowledge that different species have different reactions in different situations and environments but so far no studies indicates any environmental disasters

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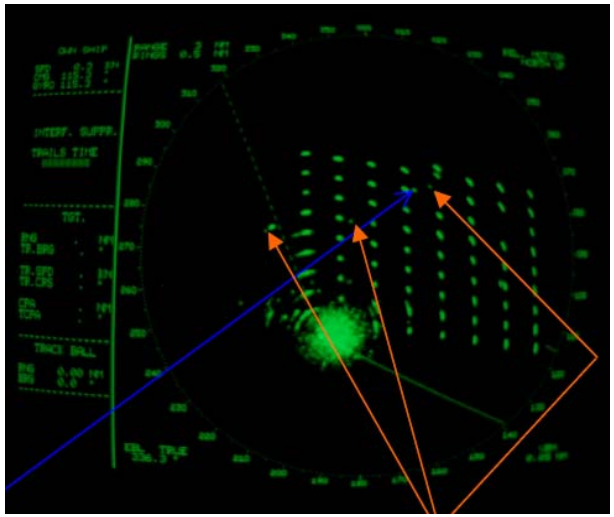
Example – Radar & Navigation

- Marine radar studies have been performed at Nysted Offshore Wind Farm and at North Hoyle
- Physical structures like tower, foundations and turbines can be presumed to interfere similarly around Europe



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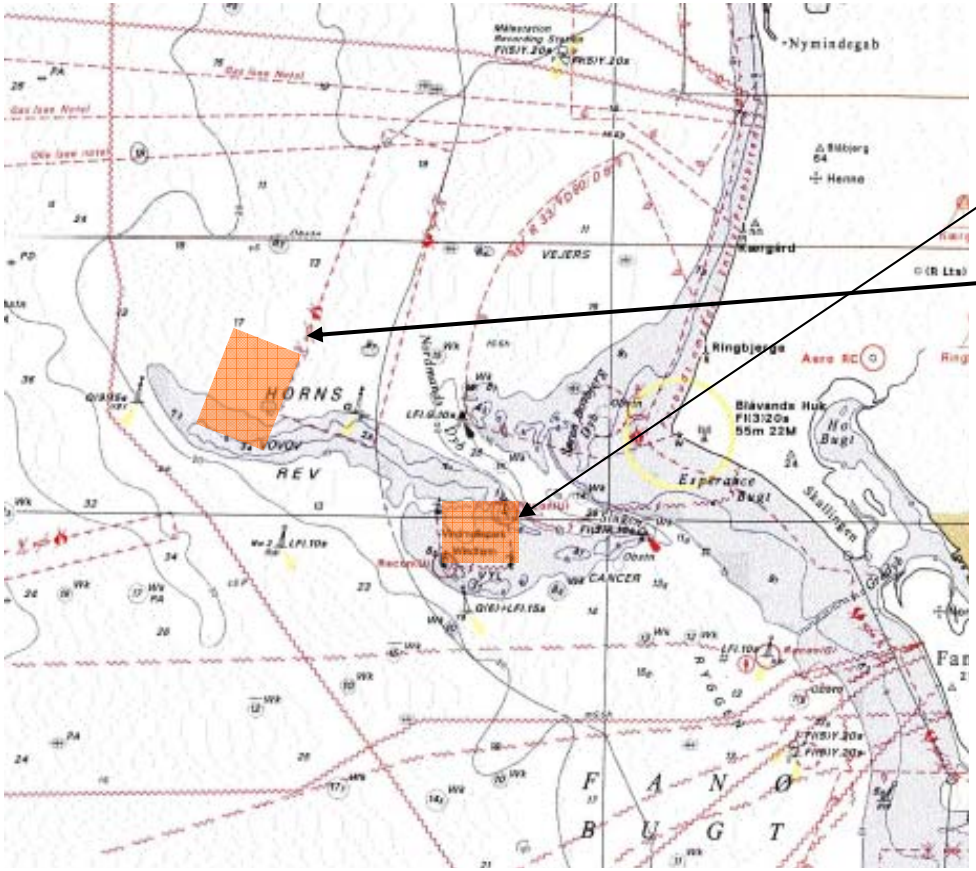
Example – Coastal morphology



Horns Rev 1

Horns Rev 2

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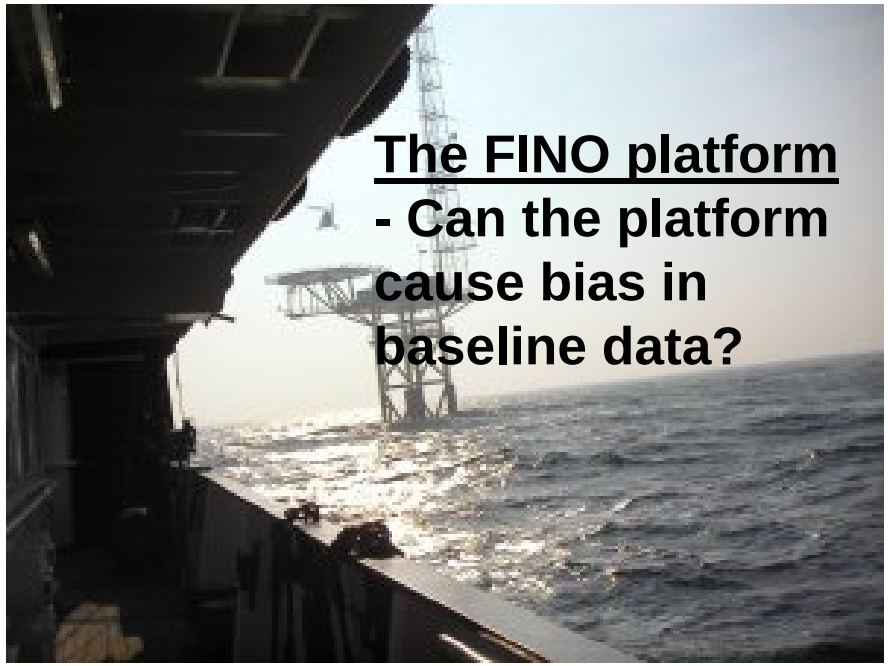
Example – Germany

- Performing a very ambitious baseline monitoring programme
- BSH have issued the necessary permits
- Grid connection and environmental concerns about crossing the Wadden Sea and a barrier island have stopped the progress



Germany	2003	2004	2005	2006
Forecast 2002	5	100	0	700
Forecast 2003	-	7	280	440
Forecast 2004	-	-	0	300
Realised	0	0	0	0?

Source: BTM Consult

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Consenting and EIA work

- Consenting and EIA work takes 3-5 years! (e.g. bird survey work started on London Array in autumn 2002, expect consent by medio 2006)
- Costs up to 7 million Euro
- No guarantee for consent – even if a consent is granted there is still a public inquiry
- Thorough screening/strategic assessment is crucial- can thereby avoid areas that are important for birds, fish, marine mammals etc.
- Due to lack of strategic mapping of the offshore environment it is often a question about luck whether the site may have issues that could prevent consent to be granted

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Limitations and conditions on projects can make them economically non viable

- Restrictions on construction window
  - Concern about impacts on birds, fish & marine mammals from noise (in-air and underwater) during piledriving
  - Construction window already limited by weather constraints
  - Narrow construction window will prolong the construction phase from one season to several seasons
  - This increases not only costs but could even increase the environmental impacts
  - The effects of the constructional phase should be seen in a long term perspective on a population level (e.g. fish can benefit from fisheries restrictions and introduction of new habitats in the long run)

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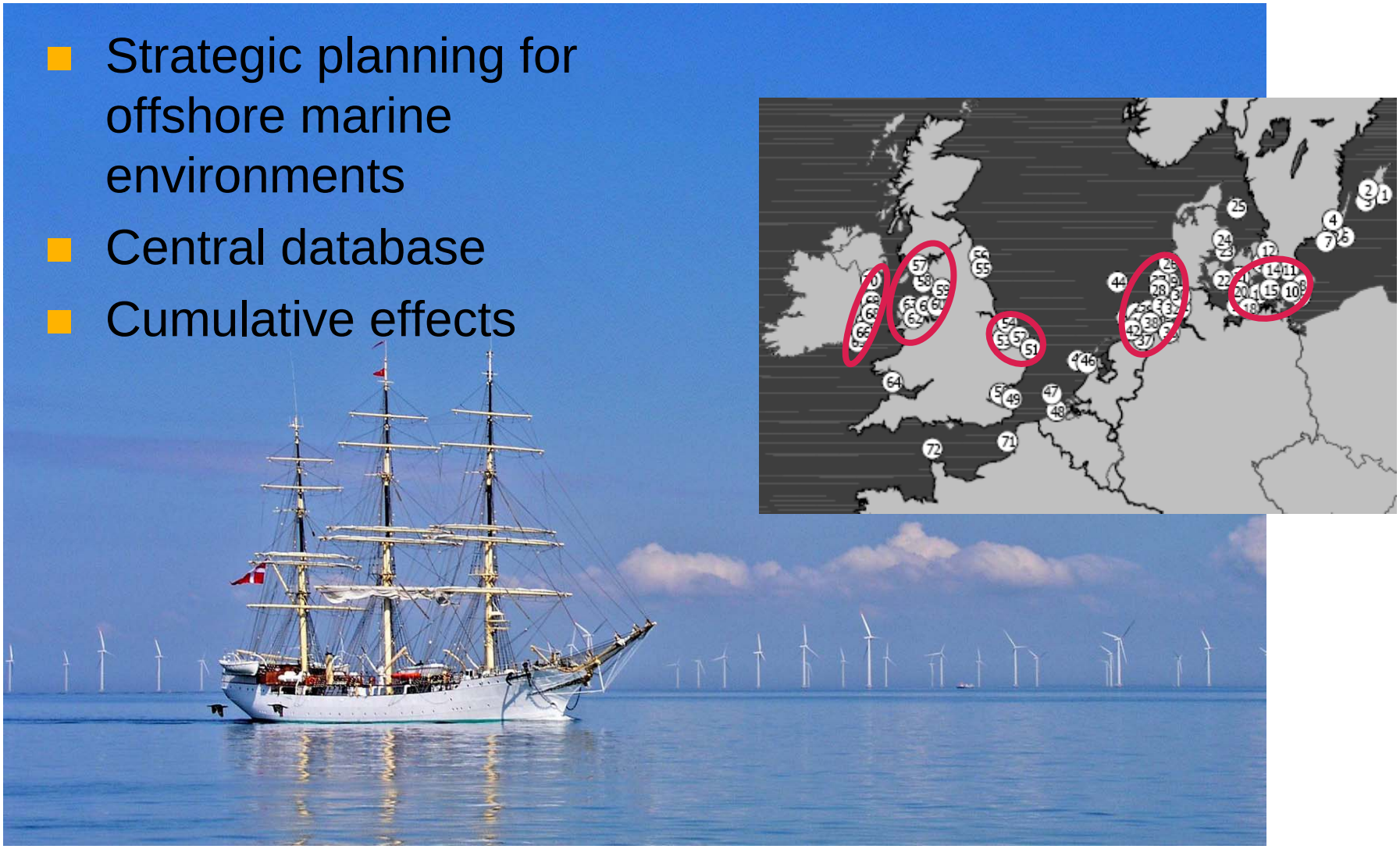
Future challenges

- Strategic planning for offshore marine environments
- Central database
- Cumulative effects



The million €uro question

Do you believe that you can erect turbines at sea without any impacts at all?

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