

Background of QuantAS-Off

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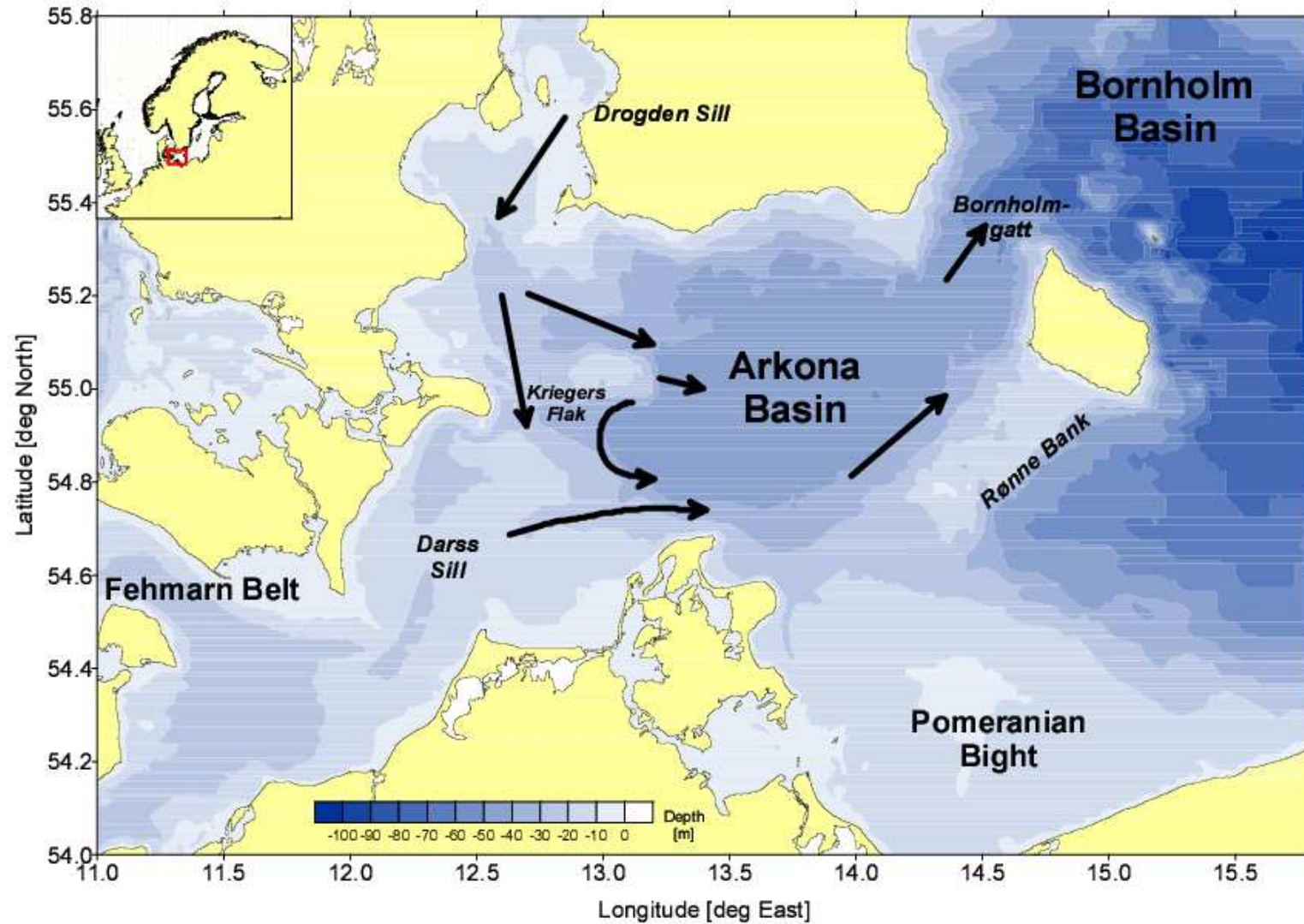
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QuantAS-Off

Quantification of Water Mass
Transformation Processes
in the Arkona Sea
– Impact of Offshore Wind Farms

Arkona Sea



Political promotion

- The German Ministry for Environment, Nature Protection and Nuclear Safety (BMU) is substantially promoting use of renewable energies (→ mostly wind energy).
- Space for wind farms on land is running out and offshore wind turbines are more effective.
- Thus: Promotion of Offshore Wind Farms.
- Perspective:
 - Until 2006: 500 MW
 - Until 2010: 3000 MW
 - Until 2030: 25000 MWinstalled offshore wind farm capacity in German waters
- See presentation by Anna Hein, BMU.

Accompanying Research

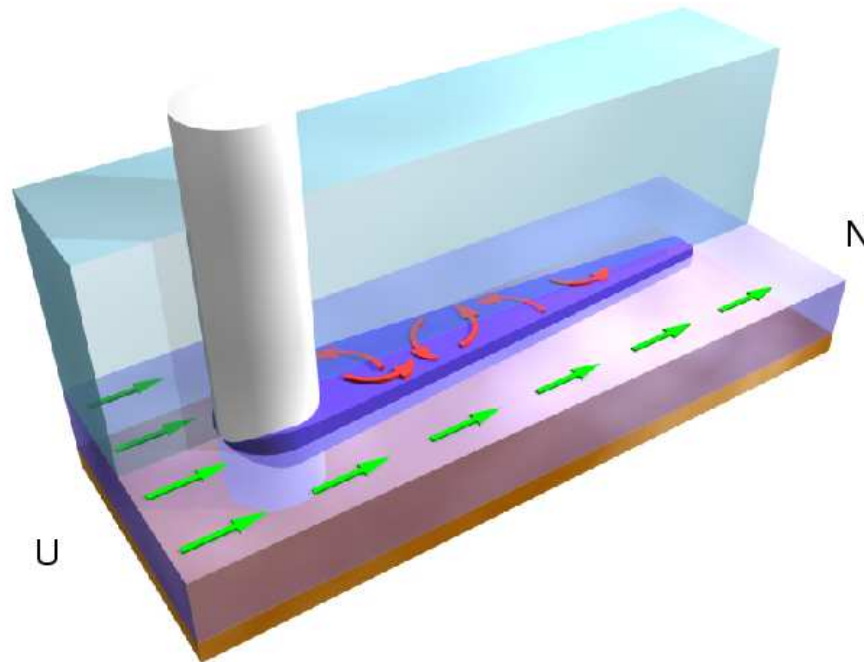
- BMU supports accompanying research around offshore wind energy.
- Projektträger Jülich (PTJ) organises research for BMU.
- PTJ keeps contact between BMU and research institutes.
- See presentation by Joachim Kutscher, PTJ.

Approval Procedures

- For the German EEZ, the Federal Maritime and Hydrographic Agency of Germany (BSH) grants approvals for the erection, operation and use of offshore wind farms.
- See presentation by Janine Sanger-Graef, BSH.
- Inside the 12-mile zone, the Federal States are responsible for the approval procedure.
- Wind farm applicants have to prove that their offshore projects are environmentally sufficiently harmless.
- See presentation by Andre Ifflander; Wind-Projekt.

Dilution of dense bottom water ?

- In addition to several exclusion criteria for the erection of offshore wind farms, underwater constructions might dilute inflowing dense bottom water.
- See presentation by Hans Ulrich Lass (IOW) who suggested this problem in 2002.



QuantAS Consortium

- 2003: QuantAS Consortium formed, with members from Poland, Denmark, Sweden and Germany.
- The Consortium consists of Research Institutes, SMEs and Governmental Agencies.
- The purpose of this Consortium is the
 - Exchange of knowledge and data
 - Joint research



QuantAS-Off History

- **May 2003**: First project sketch for **QuantAS-Off** sent to PTJ.
- **December 2004**: Proposal **QuantAS-Nat** sent to German Research Foundation (DFG).
- **May 2004**: Proposal **QuantAS-Off** sent to PTJ.
- **September 2004**: DFG wants revised **QuantAS-Nat** proposal.
- **September 2004**: **QuantAS-Off** approved and started.
- **January 2005**: **QuantAS-Off** Kick-Off Meeting.

Zero blocking solution

- For Danish & Swedish Bridge projects in the 1990's the zero blocking solution has been claimed.
- → See presentation by Ole Petersen, DHI (Denmark).
- Concerning offshore wind farms such internationally coordinated environmental impact strategy has not yet been developed.

