No reasons for refusal:

- military training areas
- tourism (visibility from the shore?)
- mineral resources
- fishing (because of European competence)
Pollution of landscape?

Distance

9 nautical miles
Approval-Procedure for installations in the EEZ:

• project application
• 1st round of participation: small circle of authorities
• if necessary revision of application-documents
• 2nd round of participation: broader circle including several NGOs and associations
• participation of the public, application conference (scoping)
• risk analysis, Environmental Impact Assessment (1 year)
• 3rd round of participation: as 2nd round with participation of neighbouring states
• participation of the public, hearing according to EIA-act
• if necessary comments on additional documents
• decision duration 2-3 years
State of affairs: EEZ

52 application (45 regarding the north sea, 7 regarding the Baltic sea) not all of them are active in approval-process

14 applications regarding power cables for grid connection (12 in the north sea, 2 in the Baltic sea); process delayed acceleration act: offshore cables must be built and operated by the transmission grid owner
Decisions (as at 31 December 2007):

- **20 approvals** - 17 in the North sea, 3 in the Baltic sea
- all together 1417 wind energy turbines (1177 North sea, 240 Baltic sea)
- **2 refusals** - Baltic sea: „Adlergrund“ and „Pommersche Bucht“ because of effects on sea ducks
Decisions North Sea
• 17 approvals
• all together 1177 wind energy turbines
Decisions Baltic sea
• 3 approvals -
• together 240 wind energy turbines
• 2 refusals: „Adlergrund“ and „Pommersche Bucht“ because of effects on sea ducks
Standard contents of an approval (1):

- time-limit for start of construction to avoid occupation of space
- limitation of the operation to 25 years (duty to deconstruction)
- requirements for safe construction
- equipment (including nautical lights, radar and AIS)
- use of environment-friendly substances, nonreflecting coating
- requirement for collision-friendly fundaments
- requirements for noise reduction and -minimisation

construction and operation
Standard contents of an approval (2):

- bank-guarantee for safeguarding the costs of deconstruction
- submission of certified documents concerning statics and construction
- requirement of a project-certification in time before erection

Right now the number of turbine in one project out of suitable areas is limited to a maximum of 80 turbines.
BSH Standards are guidelines for applicants and participating institutions.

**BSH - Standard for Environmental Impact Assessments** (February 2007)
*Impacts of Offshore Wind Turbines on the Marine Environment*
- Standards for procedure of basis analysis and operation-related monitoring (e.g. duration of radar-measure of the bird migration, sampling of fish)

**BSH - Standard for Geotechnical Site and Route Surveys** (August 2003)
*Minimum Requirements for the Foundation of Offshore Wind Turbines*
- guidelines for the geological and geophysical exploration of the seabed
- aim: Constructional intrinsic safety and stability of the turbine

**BSH - Standard Design of Offshore Wind Turbines** (June 2007)
with certification of the several phases of the construction of offshore windparks including auxiliary installations (from design to decommissioning)
Standards for -Geotechnical site investigations - Design of Offshore Wind Farms

(available on english at www.bsh.de)
Standard for Environmental Impact Assessments; development

2001
Standarduntersuchungskonzept
für Genehmigungsverfahren nach Seeanlagenverordnung

2002
Standarduntersuchungs-konzept
Auswirkungen von Offshore-Windenergieanlagen auf die Meeresumwelt

2007
Standard
Untersuchung der Auswirkungen von Offshore-Windenergieanlagen auf die Meeresumwelt (STUK 3)

MARITIME TALKS; Offshore Wind Energy:
Legal Framework and Current Situation 14
March 2008; Christian Dahlke, BSH
Standards under preparation:

Requirement for the risk analyses (collision risk ship/turbine)
already existing: harmonised parameters (e.g. influence of AIS)

Safety- and Security concept

equipment and operation of the turbines
- equipment, navigation lights
- management including waste-management, emergency-concept
Research Platforms

Amrumbank

FINO II

MARITIME TALKS; Offshore Wind Energy: Legal Framework and Current Situation 14 March 2008; Christian Dahlke BSH
Data Collection of public research projects and private project investigations; distributions of birds

Common guillemot

Trottellumme im Sommer - 16.04. bis 30.06 - in der deutschen Nordsee schiffsgestützte Zählungen 2000 - 2006

Auswertung: Forschungs- und Technologiezentrum Westküste der Christian-Albrechts-Universität zu Kiel und BSH
Data Collection of public research projects and private project investigations
The first hardware in 2008: testfield alphaventus
5 Megawatt Turbines

Multibrid M 5000

Repower 5 M

116 m
310 to

126 m
430 to
Bard project: Beginning of installation 2009
Installation plattform, Tripile

Bard VM
122 m
440 to
Spatial planning

BSH- Draft

Raumordnungsplan für die deutsche ausschließliche Wirtschaftszone (Entwurf) - Festlegungen - Teilblatt Nordsee
Thank you!
Thank you!