Licensing requirements and conditions for Offshore Wind Energy in the German EEZ
RAVE 2012
Dr. Nico Nolte
Offshore windfarm projects

29 licences (2081 WEA);

- 26 in EEZ of the North sea (1841 WEA); 77 applications
- 3 in EEZ of the Baltic sea (240 WEA); 17 applications
- alpha ventus (12 WEA)
- BorWin I and Borwin alpha
- Under construction: BARD; Borkum West II
- “Offshore-Supergrid”
Licences in the Baltic sea

External Data Sources:
Ministerium für ländliche Räume (S-H)
Ministerium für Bau und Arbeit (M-V)
Kalmar County (Sweden)

Offshore Wind Farms
- approved
- in use
- Baltic I

High Voltage Cables
- Approved

Boundaries:
- Territorial Sea/12 nm Zone
- Continental Zone/EEZ
- International Boundary

Map Projection:
Mercator (54°N), WGS84

BSH / M5 - 04.03.2010
Spatial Planning for the German EEZ of North and Baltic Sea since 2009
Marine Facilities Ordinance (Seeanlagenverordnung)

**Art. 5:** Licence may just be granted if:

- **no** threat to the marine environment
- **no** threat to safety of shipping
- **no** threat to safety of national defence
- compliance with other public law regulations (e.g. spatial planning)
Approval Process

Approval-Procedure for installations in the EEZ:

• project application

• 1st round of participation: small group of authorities (e.g. shipping, nature conservation, mining)

• 2nd round of participation: broader circle including several NGOs and associations → application conference (scoping)

• 3rd round of participation: as 2nd round with participation of neighbouring states → hearing according to EIA-act

• decision
BSH-Standards

Standard Ground Investigations for Offshore Wind Farms
- since 1 August 2003
- geological and geophysical exploration of the seabed
- Requirements for the foundation of offshore wind turbines

Standard Design of Offshore Wind Turbines
- since June 2007
- Requirements for the construction and certification of constructional components of an offshore windfarm
**BSH-Standards**

Standard Investigation of the Impacts of Offshore Wind Turbines on the Marine Environment (StUK)

- 3rd edition of February 2007
- sets out requirements for the Environmental Impact Study
- contains Standards for procedure of baseline survey as well as monitoring during construction and operation
Environmental Impact Assessment

Assessment of marine environment

**intensive investigations** of the features of the project area in the sea before approval

**Monitor program (several years)** during construction and operation

**investigated subjects:**
- Benthos
- Fish
- Birds (resting birds, migratory birds)
- Marine mammals (harbour porpoise, seals)
- natural scenery
- cultural assets
Standard Contents of an Approval with regard to Nature Conservation

• Use of environmentally friendly substances
• Requirement for “collision-friendly” fundaments
• Requirements for noise reduction and -minimisation during construction and operation
• Development and enforcement of a noise mitigation concept in the construction phase
• Monitoring according to Standard „Investigation of the Impacts of Offshore Wind Turbines on the Marine Environment (StUK)“
Pile driving
Condition on Mitigation Measures for Marine Mammals

Noise Mitigation Concept:

• Report on background noise in the construction area
• Emission forecast for construction period
• Use of acoustic deterrents (AHD, ADD)
• Use of soft start method
• Use of noise mitigating work methods:

→ Sound Exposure Level (SEL) must not exceed 160 dB (re 1 μPa) outside of a circle of 750m radius and the Peak Level ($L_{peak}$) must not exceed 190 dB (threshold formulated by Federal Environmental Agency (UBA))

• Monitoring of deterrence and mitigation measures
• Reporting at short notice (during construction period)
Thank you!