The Danish Energy Agency

ESPOO hearing

TECHNICAL NOTE – 2 NEARSHORE WIND FARMS: OMOE SOUTH AND JAM-MERLAND BAY

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INDHOLDSFORTEGNELSE

1. INTRODUCTION

The developer “Omoe South Nearshore A/S” is planning a wind farm with a capacity of 320 MW consisting of 80 turbines immediately south of the island Omoe in the Great Belt. At the same time the developer “Jammerland Bay Nearshore A/S” is planning a wind farm with the capacity of 240 MW (80 turbines) in the bay of Jammerland also located in the Great Belt. None of the turbines will exceed a high of 200 m. The total areas occupied are 44 km^2 and 67 km^2 respectively. No transformation platforms are required.

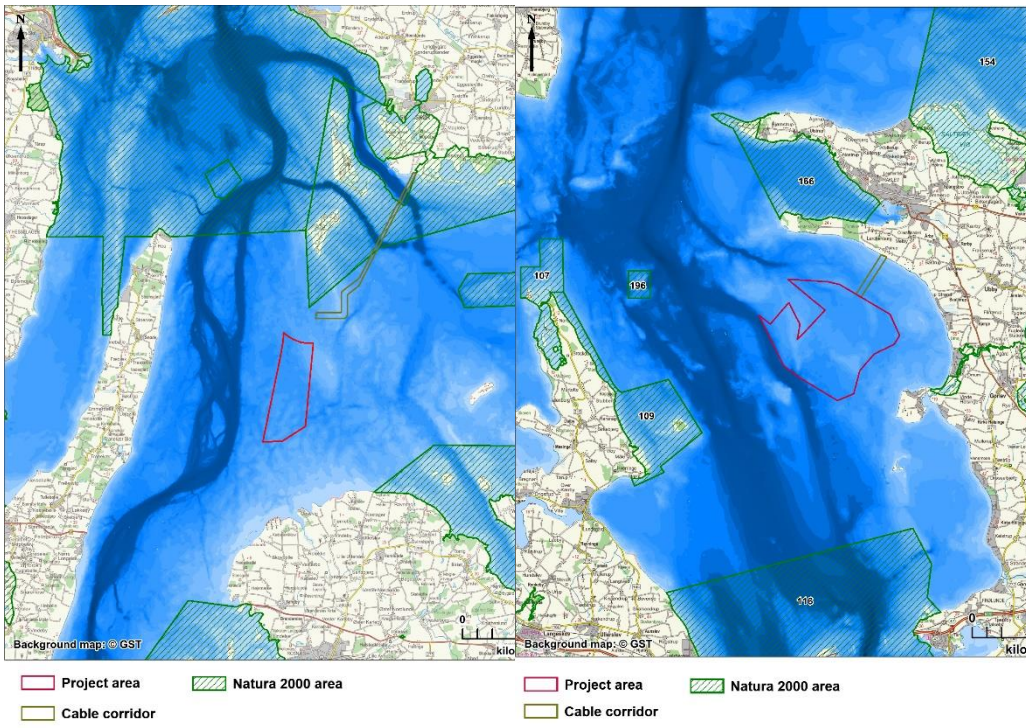

Figure 1 The two project areas: Omoe South (left) and Jammerland Bay (right).

On the 3rd March 2014 an investigation permit has been granted under the act 1330 from 25th November 2013 § 22 and 23 section 4. It is the responsibility of the developer to carry out the EIA process within a time limit of 12 month after investigation permit has been granted.

The developers have already prepared the two EIA’s for the two sites in question.

2. POTENTIAL TRANSBOUNDARY EFFECTS

Several environmental factors have been assessed in relation to the two nearshore windfarms according to the Danish legislation for environmental impact assessment (consolidation act no. 1529 of the 23rd of November 2015 and consolidation act no. 68 of the 26th of January 2012). The projects could potentially cause a transboundary impact on some of these factors: resting and migrating birds, Natura 2000 and Annex 4

species (harbour porpoise and bats) and ship navigation. The assessment of these factors are summarized in the following.

2.1. Resting and migrating birds

None of the project areas is situated in Natura 2000 areas. The distance between the project area for Omoe South and the nearest bird protection area is 3 km.

Table 1 Designation of the nearest bird protection area of Omoe south project area. B = breeding bird, M = migrating bird, F= favorable conservation status and U = unfavorable conservation status.

Bird protection area 95	
Whooper swan (M)	Greylag goose (M) - F
Tufted duck (M)	Western marsh harrier (B)
Eurasian coot (M)	
Bird protection area 96	
Eurasian bittern (B)	Mute swan (M)
Whooper swan (M)	Bean goose (M)
Greylag goose (M) - F	Barnacle goose (M) - F
Northern shoveler (M)	Common eiderl (M)
Velvet scoter (M)	White-tailed eagle (M)
Western marsh harrier (B)	Pied avocet (B)
Dunlin (B) - U	Sandwich tern (B) - U
Arctic tern (B)	Little tern (B) - U
Short-eared owl (MB) - U	

The project area for Jammerland Bay is located more than 5 km from the nearest bird protection area.

2.1.1 Omoe South

The project area is part of an important resting area for water birds in the western part of Smaalandsfarvandet. The area is of international importance for several species, especially eiders. Large numbers of migratory land birds, including many raptors, passes the project area during autumn.

Many eiders and other water birds are resting in the area especially in the northern part of the project area. Furthermore, terrestrial birds migrate mainly through this part of the area. Thus, the project area is reduced in the northernmost part to ensure a distance of minimum 3 km to the nearest bird protection area and to minimize the impact on birds. On basis of the reduced area it is assessed that the impacts associated with construction activities will be reduced. However, the impact will still be high for resting eiders and medium for velvet scoter due to displacement.

Large numbers of eiders, common scoters and velvet ducks rest in the project area at certain times of the year. The displacement are considered to have an impact of these ducks as well as red-necked grebe and red-throated diver.

The collision risk is assessed to be minor for resting birds, with the exception of eiders and gulls where the impact is assessed as medium. The collision risk for migrating birds is assessed to be medium for marsh harrier, common buzzard, european honey buzzard, common crane, western jackdaw, common starling and common linnet. For all other species of migratory birds, the impact is assessed as low. Based on energetic considerations any barrier effects are assessed as negligible.

2.1.2 Jammerland Bay

The project area in Jammerland Bay is part of an important resting area for water birds in the northern part of the Great Belt. It is of international importance for eider, but bird studies in this project have shown that the area also contains internationally important numbers of red-necked grebe and common scoter. A large number of migratory water birds passes the project area in spring and autumn.

The impact on resting eiders are assessed as moderate negative due to displacement during construction and operation. Furthermore, it is assessed that velvet scoter and red-necked grebe will be exposed to a moderate negative impact due to displacement during operation. However, none of the assessed bird species will be affected in a degree that in the long term will impact the populations negatively.

The collision risk is assessed as a potential moderate negative impact on the population of great black-backed gull and less negative for herring gull, common gull and eider. For all other species of resting and migrating birds estimated effect as negligible. Any impact due to barrier effects are also assessed as negligible.

2.2. Natura 2000 and Annex 4

2.2.1 Habitat types

The two projects will not have a significant impact on the habitat types in the nearest Natura 2000 areas.

2.2.2 Birds

See the description in chapter 2.1.

2.2.3 Harbour porpoise

Great belt is an important area for harbour porpoise, a species protect under Annex 4. Noise from installation of monopiles during the construction phase will affect the harbour porpoise. However, two types of foundations are considered in these projects – monopiles and gravitation. Different mitigation measures are suggested to minimize the impact from piling. With the implementation of mitigation measures, the impact will be insignificant for the populations. The impact is associated to the construction phase and thus temporary.

2.2.4 Bats

Bat species as soprano pipistrelle, especially nathusius' pipistrelle and common noctule might migrate towards south through the project area during autumn. A coastal wind farm on the migration route can potentially result rotor killings of bats. However, bats generally only migrate at wind speeds below 5 m/s and fly at altitudes below 10 m. As the turbines are turn off at wind speeds less than 3-4 m/s, and the wing tips are at least 20 m above sea level, the impact of migrating bats is assessed to be negligible.

The project area Jammerland Bay is situated outside the known migratory routes for bats. Thus, there are no expected impacts of migrating bats.

2.3. Ship navigation

The project area of Omoe South is reduced to the east and south during the EIA process due to requirements from the Danish Maritime Authority. The risk analysis in relation to the safety of navigation is based on the adjusted area. Thus, the nearshore wind farm will represent a low risk of ship navigation.

The ship traffic is limited in Jammerland Bay and the risk of ship collision and grounding are assessed to be negligible.