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MINISTRY OF THE ENVIRONMENT

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Response to the notification in accordance with Article 3 of the Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention) for the Södra Midsjöbanken wind farm in the Baltic Sea within the Swedish Economic Zone (EEZ)

Finland has received notification (your case number NV-06410-11) from Sweden concerning the environmental impact assessment (EIA) of the Södra Midsjöbanken wind farm, within the Swedish Exclusive Economic Zone of the Baltic Sea. The notification was made in accordance with Article 3 of the Espoo Convention. On 9th September, the Ministry of the Environment informed the Swedish Environmental Protection Agency that Finland will participate in the EIA of the project and will deliver detailed comments at the end of September.

The energy company E.ON Wind Sweden AB is planning a wind farm located in the very centre of the South Baltic Sea, on Södra Midsjöbanken in the Swedish Exclusive Economic Zone, close to the Polish Exclusive Economic Zone. The wind farm will include approximately 300 turbines, covering the Swedish part of the bank across an area of around 320 km^2. The height of the towers will not exceed 200 m. The total capacity of the project is up to 1,000 MW. According to the plan, a 370 km stretch of underwater cable will be installed in the wind farm area and the wind farm will be connected to the underwater cable planned between Sweden and Lithuania.

Finland has distributed the notification and its attached material to several authorities and environmental NGOs. The public has also had the opportunity to comment on the material. The period for public participation and submission of comments took place between 22 August and 19 September. The material was made available for reading in the cities of Helsinki and Mariehamn, and was also posted on the Internet.

The Ministry of Agriculture and Forestry states that it has no comments to make on the matter as concerns its remit.

The Ministry of Transport and Communications states that, within its administrative sector, it sees no need to participate in the assessment procedure.

The Centre for Economic Development, Transport and the Environment for Southwest Finland states that the wind farm project will probably have major impacts on bird life in Finland's territory. Migration routes of certain birds cross the wind farm area; migratory birds nesting in Finland spend the winter or rest in the area. The impacts on bird life must be subjected to a multifaceted, comprehensive assessment. According to the Centre for Economic Development, Transport and the Environment, the impacts on water bodies will not affect Finland's territory.

Metsähallitus (a state enterprise for state-owned land and water areas) emphasises the impacts of the project on bird life and presents detailed information on such impacts. Given the extent dimensions of the project, the environmental impact assessment should analyse the impacts of the project on bird life with

particular care. The assessment should also examine aggregate impacts on bird life, since the area is subject to various threats. Furthermore, the assessment should take account of possible impacts across a broad geographic area. Among other things, this requires a thorough examination of avian migration routes. The electromagnetic fields generated by the underwater cables may have an impact on migrating fish. This impact should be charted. So, too, should the impacts of the wind farm on seals, the common porpoise and other sea mammal species.

WWF Finland states that the environmental impacts are significant.

The Finnish Association for Nature Conservation supports wind power, but its detrimental effects must be controlled by means of the location and permit conditions. The Association finds that the impacts on Finland would primarily affect birds and bats. According to the Association, the assessment documents are much more general than environmental impact assessment procedures conducted in Finland; mere desk work will not be enough. Moreover, no alternatives have been given.

The Finnish Association for Commercial Fishermen (Suomen ammattikalastajaliitto SAKL ry) states that Södra Midsjöbanken is a spawning and migration area for economically important fish species (Baltic herring, flounder). Moreover, the Association finds it likely that, during the construction of the project, sediments will be dispersed to key spawning areas of Baltic cod. Finland's fishing vessels fish for Baltic herring, cod, flounder and salmon in the southern Baltic Sea. The project may therefore affect the operations of the Finnish fishing boats.

Based on the statements received, the comments from the Finnish Environment Institute (SYKE), and the consideration of its own views, the Ministry of the Environment confirms that Finland will participate in the EIA of the Södra Midsjöbanken wind farm project.

In terms of environmental protection, it is vital that the project does not alter the water conditions in the Baltic Sea and does not result in significant, long-term adverse impacts on bird life or other marine organisms. The starting point must be a solution that does not alter the natural water flow conditions or have any significant impacts on the structure and functioning of the marine ecosystem.

According to preliminary estimates in the consultation document, the wind farm would be constructed in two stages. Södra Midsjöbanken could accommodate approximately 300 wind turbines. The shoal area totals 370 km^2. Planned to last 4.5 years, the first stage would involve building approximately one half of the total number of wind turbines. Some of the transformer stations and a wind-speed metering mast would also be built, and an underwater cable would be laid. In practical terms, this means that around thirty wind turbines would be built in the area within a year, with approximately 30 km^2 of the shoal area under construction. An estimated 250 m^3 of bottom material will be excavated for the foundations of each wind turbine. The evaluation of sediment dispersal is based on this estimate. In addition, the foundations will be protected with coarser material, 450 m^3 of which will be required per foundation. According to the consultation document, the impact of this on the dispersal of sediment will not be assessed, because of the coarseness of the material.

In any case, about 700 m^3 of sediment and rock material will be moved when constructing the foundation of each wind turbine. According to the above assumptions, the annual amount of material moved would be around 21,000 m^3. Hence, turbidity due to construction would continuously affect part of the shoals during the construction stage. Sea birds diving for mussels on the seabed and benefitting from other nutrition in the area will shun turbid water areas, while the dispersal of sediment will temporarily reduce the dwelling areas available to benthic organisms.

Approximately 1,500–2,000 pairs of long-tailed duck nest in Finland. The migration route and overwintering areas of this population are unknown, but it is assumed that the birds migrate to the southern Baltic Sea via the Gulf of Bothnia. If Finland's birds migrate along that route, the Södra Midsjöbanken wind farm may have significant impacts on Finland's small population of long-tailed duck.

The threatened species evaluation of 2010 placed Finland's nesting population of long-tailed duck in the 'Least Concern' (LC) category but, due to its dramatic reduction, the population migrating through Finland was classified as 'Vulnerable' (VU).

Between 1992–1993 and 2007–2009, the wintering long-tailed duck population of the Baltic Sea has fallen from 4.3 million individuals to 1.9 million, that is, by more than 50 per cent. The same period has seen a 46 per cent population decrease in the long-tailed duck in the key overwintering areas of the central Baltic Sea, Hoburgs Bank (south side of Gotland) and Midsjöbanken. This is partly a consequence of poor nestling survival in the Siberian nesting areas. Because of the lower nestling survival rate, the death rate from oil spills and hunting is focused on the adult population, resulting in a continuous fall in long-tailed duck populations.

Unauthorised oil spills are one reason for the decreasing numbers of long-tailed duck. According to Swedish studies, such spills kill tens of thousands of long-tailed duck every year in the Baltic Sea. In the Hoburgs Bank area, 12 per cent of long-tailed ducks caught in fishing equipment (998 individuals) had traces of oil on their plumage. Numerous oil spills have been observed near Södra Midsjöbanken, originating from the shipping route that cuts through the area. Hence, the long-tailed duck is already under threat in the Södra Midsjöbanken area. Wind power may add to these threats.

Research indicates that the disturbing impacts of open-sea wind farms on waterfowl extend to a distance of hundreds of metres, even kilometres, from the wind farm. Regarding the long-tailed duck, the impact range may extend to two kilometres. The plan is to locate the Södra Midsjöbanken wind turbines at 800–950 metre intervals. This would see the disruptive impacts on the long-tailed duck extend over the entire shoal area.

The area is also frequented by the black-throated diver and the common eider (NT, near threatened). Of the auk family, the black guillemot, razorbill and common guillemot (CR, critically endangered) can be found there, as well. Regarding these bird species, it is unknown whether some birds using the area belong to the population nesting in Finland. Among these species, wind turbines pose a direct threat of collision for divers, because they generally fly at the height of the blades of the wind turbines. In turn, auks usually fly low, close to the surface of the water and therefore are at no risk of colliding with the wind turbine blades. However, the direct disruptive impact of the wind farm and the poor nutritional quality of the seabed due to construction would pose a threat to all waterfowl.

The significance of Södra Midsjöbanken to the long-tailed duck and common eider is based on the abundant mussel population of the area. Long-tailed ducks frequent the area from October to April and common eiders during the moult period for males, in June–July. Birds of the auk family move widely on the shoals of the Baltic Sea during their overwintering period, as their primary nutrition consists of fish and other benthic animals. The foundations of the wind turbines and the dispersal of sediment would spread across the seabed and decrease the number of benthic animals suitable as nutrition. A critically endangered species, the common guillemot has a colony of 35–70 pairs nesting in the Gulf of Finland, and another, slightly smaller colony nesting in Åland. Small colonies face a major risk of extinction. Loss during overwintering in shoals, together with the mortality rate of adult birds in the Gulf of Finland, may destroy the resident colony.

Many factors influence the preservation of sea birds and habitats in the Baltic Sea; the aggregate impacts of these factors may prove fatal. All contributing factors must be known and their impacts, including far-reaching ones, assessed, in order to ensure that the decision on the implementation of the project is based on firm knowledge of its impacts and on the best possible solution. For Finland, the preservation of sea birds and their habitats, not only in Finland but in the entire Baltic Sea area, is at stake due to Södra Midsjöbanken.

The project must pay special attention to measures alleviating its impacts, both when planning the location of wind turbines and construction of the project, and when determining solutions during the operation of the wind farm, as regards individual turbines, underwater cables and other constructions.

Finland has extensive knowledge of and expertise in these matters, and the Finnish Environment Institute (SYKE) can be contacted for assistance as the national expert body.

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For information

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Ministry of Transport and Communications
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Metsähallitus
The Finnish Association for Commercial Fishermen (Suomen Ammattikalastajaliitto SAKL ry)
Finnish Association for Nature Conservation
WWF Finland