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To the Point of Contact of the Espoo Convention
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Consultation in accordance with Articles 4 and 5 of the Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention) for the offshore wind farms project in the coastal waters of North-West Estonia

In a letter dated 15 February 2007 Estonia notified Finland, in accordance with Article 3 of the Espoo Convention, of the initiation of the environmental impact assessment (EIA) of the construction of offshore wind farms near the north-west coast of Estonia. Finland indicated the wish to participate in the EIA procedure; comments on the EIA programme were also included.

The Ministry of the Environment of Estonia interrupted the proceedings of the EIA programme in October 2007, since there was no legal basis enacting the construction of structures on the sea floor. The necessary amendments for the issuing of permits for the construction of structures in marine areas entered into force in February 2010. The EIA programme was approved in June 2010. The developer, OÜ Nelja Energia, has now prepared the EIA report.

As a Party of Origin and in accordance with Articles 4 and 5, Estonia sent the EIA documentation to Finland in July 2011 for consultation and public participation. The original deadline for Finland's comments was 5 September 2011, but the date was changed to 25 January 2012 by mutual agreement between the competent authorities — the Ministries of the Environment in Finland and Estonia. The extended deadline allowed for the material provided to be translated to a sufficient extent into Finnish, Swedish and English.

Finland has distributed the consultation material to several authorities and environmental NGOs. The public also has had the opportunity to comment on the material. The period for public participation and for collecting comments was arranged from 10 October to 4 November 2011. The material was also made available for reading in the cities of Helsinki and Mariehamn, and was also posted on the Internet.

The Ministry of Agriculture and Forestry views the matter mainly from the perspective of fishing. In this regard, the ministry considers the socio-economic and ecological information about the project, as well as the assessment made on the basis of this information, to be insufficient. This applies to both professional and recreational fishing. The ministry requires more specific assessments of fish populations, since evaluating the scientific basis of the current assessments is difficult. For example, the impact area of the wind farms is not considered to be large, yet no assessment has been made of how the construction stage will affect highly mobile fish stocks, such as sea trout (*Salmo trutta trutta*) and the Atlantic salmon (*Salmo salar*). In its statement, the ministry also draws attention to European Union legislation on fishing and fish stocks, and to the objectives set in these for the status of fish stocks. Moreover, the statement highlights the potential impacts of the project on aquaculture.

Metsähallitus (state enterprise administering state-owned land and water areas) regards harm caused to migratory birds as the most significant impact for Finland. The assessment report proposes several measures to mitigate the harm to bird migration, but these do not prevent negative effects, as is clear from the report: *Negative impacts on birds will be realised irrespective of the implementation of all recommended mitigation measures.*

Arctic waterfowl from the Hiidenmaa area apparently come to the Finnish coast in the Porkkala–Helsinki region or, depending on winds, further east. Most of the migrants follow the route between Hiidenmaa and mainland Estonia. From the Finnish perspective, large wind farms would have the most significant impact on common cranes and birds of prey. In spring, when these birds arrive in Finland, they fly so high above the Estonian mainland that they are probably out of reach of the wind turbine blades, but the situation is different in autumn. Common cranes and birds of prey coming from the direction of Hanko and Ingå glide downwards on their way from the Finnish to the Estonian coast. Hiidenmaa is an important staging area for Finnish common cranes, and thousands or even tens of thousands of them migrate via this island, which makes them prone to collisions.

Additional surveys are needed of the migration routes and behaviour of common cranes and birds of prey, in particular, but also of those of Arctic waterfowl, to provide a strong foundation for conclusions with regard to significant environmental impacts for Finland. If the wind farms are built, long-term monitoring of migratory birds is also of major importance and must be implemented over a larger area than the one proposed.

On the basis of the material provided the **Finnish Environment Institute (SYKE)** states that the north-west coast of Hiidenmaa is among the most important migration routes for Arctic birds in Europe. It is estimated that up to 20,000 long-tailed ducks may stop in one section of the project area (Apollo) to rest. The breeding areas of the birds gathering in this area are not precisely known, but the birds are probably part of the population that mostly nests in northern Russia and partially migrates through Finland. About 1,500 to 2,000 pairs of long-tailed ducks nest in Finland. The migration route and wintering areas of this population, which breeds in Lapland, 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 Hiidenmaa wind farm will not have significant effects on Finland's small population of long-tailed ducks. The threatened-species evaluation of 2010 placed Finland's nesting population of long-tailed ducks in the 'Least Concern' (LC) category, but, because of 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 fell from 4.3 million to 1.9 million — i.e., by more than 50 per cent. This is partly a consequence of poor nestling production in the Siberian nesting areas. Owing to lower nestling production, the death rate due to oil spills and hunting is greater for the adult population and adult mortality exceeds recruitment. The result is a continuous decline in long-tailed duck populations.

Unauthorised oil spills are one reason for these decreasing numbers. According to Swedish studies, such spills kill tens of thousands of long-tailed ducks every year in the Baltic Sea. In the Hoburgs Bank area, 12 per cent of the long-tailed ducks caught in fishing equipment (998 specimens) had traces of oil on their plumage. Hence, the long-tailed duck is already under threat on the Baltic Sea. Wind power may add to these threats. Research indicates that the disturbing impacts of open-sea wind farms on waterfowl extend to hundreds of metres, even kilometres, from the power plant. For the long-tailed duck, the impact range may extend to two kilometres. The plan does not specify the distances between the Hiidenmaa power plants, so the disturbing impacts on long-tailed ducks on the shoals cannot be assessed on the basis of the material submitted.

Birds frequenting and migrating through the area also include the black-throated diver, red-throated diver, common eider ('Near Threatened', NT) and common scoter. Of the auk family, the black guillemot, razorbill and common guillemot ('Critically Endangered', CR) can be found there. Where these bird species are concerned, it is unknown whether some birds using the area belong to the population nesting in Finland. Among these species, the power plants pose a direct threat of collision for divers, because they generally fly at the height of the propeller blades of the stations. In contrast, auks usually fly low, close to the surface of the water, and are therefore at no risk of colliding with the blades. However, the direct deterrent impact of the wind farm and the weaker nutritional status of the seabed on account of construction would pose a threat to all waterfowl.

In terms of environmental protection, it is vital that the project not alter water conditions in the Baltic Sea and not result in significant, long-term adverse impacts on marine organisms and bird life. The objective should be to reach a solution that does not significantly affect the structure and functioning of the marine ecosystem.

The Centres for Economic Development, Transport and the Environment for Southeast Finland, Uusimaa and Southwest Finland place special emphasis on the impacts of the project on migratory birds. If a decision is made to build the wind farms, the permit procedures for the power plants should take into account as fully as possible the recommended protection measures for bird life that are proposed in the EIA report.

The Åland Government emphasises the importance of the area for breeding of seals in wintertime and as a wintering area for Steller's eider in the Baltic region. The sea area between Åland and Estonia is used by the same species and by the same populations. The need for monitoring of the area is vital after the project has been implemented and put into operation. It is important to emphasise the cumulative impacts of several currently planned wind farms on migrating, staging and wintering species in combination with already operating wind farms. These results must then be used both in the operation of existing wind farms and for justifying the implementation of new wind power projects, in order to avoid loss of biological diversity.

The Finnish Association for Nature Conservation and BirdLife Finland emphasise the importance of the project area for bird migration and therefore suggest that new alternatives be developed or that the project be scrapped altogether. Moreover, the impacts of the project on bats have not been surveyed in accordance with the EUROBATS Guidelines. The effects of underwater noise caused by the project should be examined also; it may disturb the harbour porpoise, seals and some species of fish. These organisations also require information about the combined effects of this project and other wind farm projects planned for the Baltic Sea.

Based on the comments received, and reflecting its own views, the Ministry of the Environment would like to state that the area where the wind farms are planned to be located is a possible wintering habitat for Steller's eider, one of the Finland's international target species. Through the planned area goes also one of the most important route for migratory birds. These concerns should be taken into account. Finland has much knowledge and expertise in these matters, and the Finnish Environment Institute (SYKE) can be contacted for assistance as the national expert body. In addition, possible transboundary impacts on sea mammals, on migratory fishes and bats should be assessed.

The risks to birds can be summarised as follows:

- The project would prevent sea ducks (long-tailed ducks, common scoters, common eiders) from stopping at the shoals and would significantly reduce their number and distribution on

Estonian offshore shoals, since these species cannot, in practice, navigate inside wind farms. The initial estimate is that long-tailed ducks wintering in the area and stopping there on their autumn migration account for a major proportion of the Estonian long-tailed duck population during these seasons. In the Nystedt wind farm area in southern Denmark, for example, the construction of wind power plants resulted in a dramatic reduction in the number of wintering long-tailed ducks. In the surrounding areas, their number increased during the same period. The exact reason for this decline is unknown; it may be due to a decrease in food supply or a disruptive impact.

- The wind farms have been planned perpendicular (NW–SE) to the direction of bird migration. This maximises the negative impact on birds, compared to the areas being oriented parallel (SW–NE) to the direction of migration. With regard to spring migration, the worst area is the southernmost wind farm shoal, located closest to the coast. During autumn migration, the easternmost area (Apollo) is the most problematic. Particularly in low-visibility conditions, the wind farm areas pose a high collision risk to Arctic waterfowl and coastal birds whose key migration routes are near the wind farms and whose routes are determined daily by the wind direction and strength.

- Migration calculations have not been done for the project; only previous calculations were analysed. Very few calculations have been done in general.

In terms of environmental protection, it is vital that the project not alter water conditions in the Baltic Sea and not result in significant, long-term adverse impacts on marine organisms and bird life. The objective should be to reach a solution that does not significantly affect the structure and functioning of the marine ecosystem. If the wind farms are built, long-term monitoring of migratory birds is also of major importance. The permit procedures for the power plants should take into account as fully as possible the recommended protection measures for bird life proposed in the EIA report.

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Metsähallitus
Åland Government
Finnish Fishermen's Association (Suomen Ammattikalastajaliitto SAKL ry)
Finnish Association for Nature Conservation
BirdLife Finland