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**The Swedish reply to the notification pursuant of the Art. 3 of the Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention) regarding the planned offshore wind farms “Noatum North” and “Noatum South” within Finnish territorial waters**

The Environment Institute (SYKE) notified the Swedish Environmental Protection Agency (SEPA) on the 19<sup>th</sup> of December 2022 about the planned development and operation of two offshore wind farms (OWFs), *Noatum North* and *Noatum South*, within Åland’s marine waters.

The developer, *OX2 AB*, states that the proposed OWF *Noatum North* will include 340 wind farms with a maximum height of 420 meters and a total annual effect of 19,5 TWh, spanning a project area of 680 km<sup>2</sup>. The project area itself is located 15 kilometers north of Åland and 40 kilometers from the city of *Nystad* in Finland. *OX2 AB* similarly describes that OWF *Noatum South* is set to consist of 310 wind farms with a full height of 420 meters and a total annual effect of 18 TWh. The project area for *Noatum South* covers 1 700 km<sup>2</sup>, located 50 kilometers from the promontory *Kapellskär* in Sverige.

**Consultation in Sweden**

The Swedish Environmental Protection Agency is the responsible authority for submitting and receiving notifications and otherwise fulfilling obligations for environmental impact assessments in a transboundary context (Espoo Convention) in Sweden, according to the Environmental Assessment Regulation (SFS 2017:966). The notification and the consultation documents have been circulated for consideration by SEPA to 21 relevant government agencies, including but limited to the County Administrative Boards of *Stockholm* County and the County Administrative Boards of *Uppsala* County, *Norrälje*, *Tierp*, *Älvkarleby* and *Östhammar* municipalities, environmental organizations as well as affected interest organizations.

The consultation period lasted from the December 19, 2022 until February 8, 2023. Supplementary information regarding the potential effects on underwater

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habitats, fish stocks and fisheries as well as nature conservation areas and bird fauna was forwarded from SYKE to SEPA on the 18<sup>th</sup> of January 2023. Upon having received the additional material, several authorities requested a deferral that SYKE granted, setting an extended deadline to February 27, 2023.

SEPA hereby acknowledges having received the notification and would like to inform Finland that Sweden intends to participate in the upcoming Espoo process.

### **Remarks received during the consultation**

A summary of the statements received is included below, please note that the summary is written on behalf of the SEPA and not for the body to which the proposal is referred for consideration.

All statements are enclosed in full to this letter.

**BirdLife Sweden** generally considers that fewer and larger wind turbines have a more limited impact on the surrounding environment and ecosystems than a higher number of smaller wind turbines. However, due to the height of the individual wind turbines extending into the altitudes of migratory bird routes, the organization argues that the potential consequences ought to be within the scope of the environmental impact assessment (EIA) and therefore should be considered carefully. The evaluation should also include a description of the estimated overall displacement effect, with accompanying functional habitat loss of the OWFs in question and other OWFs in the Baltic Sea. The organization also calls for an assessment of the cumulative impact of increased boat traffic in the vicinity of the two OWFs.

BirdLife Sweden estimates that millions of birds could collide with wind turbines every spring and autumn following the large expansion of OWFs in the Baltic Sea. The organization therefore requests momentary shutdowns of wind turbines when expecting high concentrations of migratory birds, made possible by analyzing weather data and migratory patterns of species present in the area.

**Norrtälje Municipality** welcomes the development of OWFs to increase the production of renewable energy. When drafting of the EIA, the municipality proposes that the area included in the visualization and other impact assessments is extended beyond the current scope to include shipping routes, the municipal mainland, and the islands *Svenska högarna*, *Svenska björn*, *Kapellskär*, *Blidö*, *Tjockö*, *Rödlöga*, *Svartlöga* and *Gräskö*. The proposal is supported by the municipality by pointing out the multiple public interest areas in the region, including that of various protected habitats and Natura-2000 sites, high cultural heritage values, a diverse outdoor scene, tourism, business and the impact on ancient remains, the aquatic environment, fish stocks and fisheries as well as that on other natural resources.

Norrtälje Municipality also requests information about the reason for the project area of *Noatum South* being placed in the middle of a fairway.

**Svenska kraftnät (SVK)** – the Swedish authority responsible for Sweden's transmission system, shares the view that, given the significant size of the two OWFs, there is likely going to be a need for several connecting links to the mainland. If so, SVK would need to investigate the possibility of connecting one of the cables to the Swedish transmission network. Currently, the authority is working on a development plan for the transmission network in the region of

*Roslagen* that, from a geographical standpoint, would be the natural location for a larger connection to Åland. One aspect included in the scope of the development plan for *Roslagen* is what grid reinforcements are required to enable the connection of additional large-scale electricity generation in the region. If a more formal dialogue about a future connection of a power hub at Åland is desired, it is best initiated by submitting an application for connection to the Swedish transmission grid at SVKs website:

<https://www.svk.se/aktorsportalen/anslut-till-transmissionsnatet/ansokan-om-anslutning/>

The **Swedish Agency for Marine and Water Management (SwAM)** states that the development and operations of the proposed OWFs might negatively impact marine mammals such as fish, seals, and porpoises. As a result, the agency requests that potential underwater noise and sedimentation should be described in the forthcoming EIA. Furthermore, SwAM lists a number of thematic areas that should be included in the analysis in the EIA, including but not limited to:

- The impact on the environmental quality standards of the Marine Strategy Framework Directive (2008/56/EC),
- A timetable for implementation with suggested time limitations during ecologically sensitive periods,
- The impact on one species that might lead to negative consequences for another seen in a larger ecosystem perspective but also on a local scale. Impacts on a larger scale and effects over time such as trophic interactions should also be included in the EIA, as well as
- Occurrence and possible direct and indirect impact on protected marine areas in Sweden as well as on red-listed species; and species listed by Helcom and OSPAR as threatened.

The **County Administrative Board of Uppsala County** asserts that the waters between Sweden and Finland are a shared natural resource that is dependent on both countries safeguarding its marine life. The EIA should, hence, describe the impact on various fish stocks such as herring, that plays an important role in the marine ecosystem and for coastal fisheries in the region. Moreover, the Administrative Board recommends that the development of the forthcoming EIA should include a new data collection to take stock of resting, foraging, and wintering birds within the two proposed project areas using complementing methods and during different parts of the years as well as over several years to avoid the results being affected by inter-annual variation. This recommendation is based on statements made by the Arctic Research Centre at Umeå University (ARCUM), about the sea and archipelago of Åland being an important migration route for endangered thermic migratory birds.

Furthermore, Uppsala County Administrative Board also emphasizes the importance of improving energy efficiency. The sheer size of the two proposed OWFs means that they will have a substantial and long-lasting impact that cannot be justified if the construction and operation of the projects are carried out using a technology that results in approximately one third of the energy produced being lost as surplus heat, and only two thirds of the energy being recovered by producing hydrogen. Consequently, the production of hydrogen would need to take place on shore and therefore be transmitted through high voltage cables from both parks to make sure that it could be used where it is most needed, i.e., either to support the main grid or in the production of hydrogen depending on the time of day and/or season. In addition to maintaining

a stable power supply, the flexibility of being able to adapt the use of the energy produced to where it is most needed, Finland and Sweden also have a responsibility to ensure that its interconnected national transmission grids do so at the lowest levels possible of greenhouse gas emissions.

The *Swedish Fishermen's Producers' Organization (SFPO)* describes that the project area of *Noatum North* overlaps with a zone important to the wandering of wild salmon but also for the spawning of herring. The organization also concludes that the status of the cod stock in the Baltic Sea is extremely poor, mainly due to the environmental situation, apart from the stock habiting in the Sea of Åland. The cod stock in the Sea of Åland may, as a result, be very important for the future of the Baltic cod. SFPO therefore considers it to be very important that potential impacts on that specific cod stock and the wild salmon and herring in the Baltic Sea are carefully investigated in the EIA.

The *Swedish Geotechnical Institute (SGI)* stresses that environmental-geotechnical risks such as sediment transport, turbidity, aggradation and the formation and dispersion of contaminated sediments should be assessed at an early stage.

The *Swedish Maritime Administration* argues that if the two OWFs are constructed, the available space for maritime traffic will be restricted and concentrated, increasing the risks for humans, properties, and the environment. The impending EIA should, therefore, contain information regarding the impact on radar and radio systems, the conditions for sea rescue operations and winter navigation as well as the tactical functions of icebreakers in the Baltic Sea.

Furthermore, the administration calls for an assessment of possible locations for hydrogen production and/or storage platforms in relation to maritime traffic and the risks associated with cables and hydrogen/oxygen pipelines potentially crossing shipping lanes.

The *Swedish Meteorological and Hydrological Institute (SMHI)* emphasizes that several OWFs are considered for development in the southern Bothnian Sea and in the northern Baltic Sea, and that the impact on the marine environment of each individual OWF is considered limited while the combined impact could prove to be significant. The institute therefore requests that two aspects are investigated in the EIA:

1. The redistribution of the ocean's top layer and its impact on near-surface biological production, and
2. The input of high saline water to the Baltic Sea due to the offshore production of hydrogen, and the effects that it might cause and the potential spread to adjacent nautical zones.

The *Swedish Pelagic Federation (SPF)* claims that the available knowledge on how fish stocks and the greater environment is impacted by various factors such as underwater noise, vibrations, shifts in currents or electromagnetic fields around high voltage cables are insufficient and that these factors and their respective cumulative impact would need to be investigated further. Additionally, the organization notes that offshore hydrogen production is an early-stage technology and that the process to handle associated residues such as brine and cooling water should be disclosed in the EIA as well as the effects they may have on local conditions and physical and biological marine processes.

The *Swedish Transport Administration* emphasizes the importance of taking national shipping lanes and transit traffic in the area into account when developing the EIA for the two OWFs.

*Tierp Municipality* mentions that multiple OWFs are being considered in or close to the project areas of *Noatum North* and *Noatum South*, listing *Olof Skötkonung*, *Najaderna*, *Fyrskippet* and *Baltic Offshore Delta* while stressing the importance of assessing the cumulative impact of the large-scale development of OWFs currently taking place in the Baltic Sea. The municipality also describes potential security threats and the increased risk of interference and sabotage when another state owns or operates components in the national grid.

The municipality requests that the EIA should include general descriptions of the impact on the frail ecosystem of the Baltic Sea and particularly that of bats, migrating and nesting birds, cod, and herring. In addition, Tierp municipality argues that the development of the two proposed projects will lead to limited access and opportunities to carry out commercial fishing and that the scope of the EIA should include an analysis of whether this will further increase the pressure from foreign fishermen in Swedish waters when large-scale industrial fishing is made more difficult in a theoretically valuable area in Finnish waters.

*Älvkarleby Municipality* concludes that the proposed OWFs could have a negative impact on shipping lanes, protected natural reserves as well as other areas of public interest due to its proximity to the Swedish territorial watershed.

*Östhammars Municipality* highlights the importance of considering the cumulative impact of the multiple proposals currently being considered in the associated area. The municipality lists that potential consequences from these projects include but are not limited to Swedish and international shipping lanes, blue growth, bird life and fish stocks. Furthermore, Östhammar municipality emphasizes that the EIA should include:

1. Information about the steps taken to limit and manage the potential spread of microplastics to the ocean.
2. Descriptions of how different types of leakages, e.g., of substances deemed hazardous to the environment, would be managed during construction, operation, and decommissioning of the OWFs. The description should incorporate a quantification of the risk of accidents that could lead to oil spills at sea, noting that a wind farm can contain up to 3 000 liters of oil and the recent experiences in 2022 from such a leak in Swedish marine waters off the Swedish coast close to the city of Härnösand.
3. Visualizations as well as descriptions of the visual impact on the local scenery, particularly that of the island Gräsö.

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*This decision has been made digitally and therefore lacks signatures.*

For the Swedish Environmental Protection Agency

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Desk officer

**Cc**

Sandra Jalalian and Astrid Öfverholm at the Swedish Ministry of Climate and Enterprise

**Enclosed, statements made in Swedish by:**

BirdLife Sweden  
Norrtälje Municipality  
Svenska kraftnät  
Swedish Agency for Marine and Water Management (SwAM)  
The County Administrative Board of Uppsala County  
The Swedish Fishermen's Producers' Organization (SFPO)  
The Swedish Geotechnical Institute (SGI)  
The Swedish Maritime Administration  
The Swedish Meteorological and Hydrological Institute (SMHI)  
The Swedish Pelagic Federation (SPF)  
The Swedish Transport Administration  
Tierp Municipality  
Älvkarleby Municipality  
Östhammars Municipality

