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Statement regarding notification pursuant to Article 3 of the Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention) concerning a planned offshore wind farm on site O-2.2 as defined in the Site Development Plan 2023 (FEP 2023) in the German Exclusive Economic Zone of the Baltic Sea

The Swedish Meteorological and Hydrological Institute (SMHI) acknowledges the opportunity given by the Federal Maritime and Hydrographic Agency of Germany to supply a view on the proposed plans.

The countries that border the Baltic Sea, including Germany and Sweden, have numerous plans for offshore large-scale wind farms. SMHI appreciates that the impact of only one wind farm may be small, but the cumulative effects may be significant in a transboundary context. Consequently, SMHI proposes that Sweden continues to take part in the Environmental Impact Assessment.

Specifically, SMHI wishes to emphasize the cumulative effects the large number of existing and planned wind farms, pipelines, subsea cables, and other infrastructure installations in the southern parts of the Baltic Sea could impart on the severe oxygen deficit in the deep waters of the central Baltic Sea.

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Furthermore, wind farms influence currents, mixing, and stratification on a regional scale, with consequences for physical and biogeochemical conditions in the Baltic Sea¹. The combination of increased mixing and reduced stratification enhances the transport of bottom water¹, that has a high content of for instance carbon dioxide and nutrients, to the surface. This has implications for air-sea gas exchange and oceanic cycling of greenhouse gases, as well as for marine ecosystem processes.

SMHI has the opinion that the above potential environmental effects should be considered in the site development plan, and that the national development plans of the Baltic Sea countries should be coordinated.

Head of Department of Community Planning Services Magnus Rödin has decided on this matter prepared by Ylva Ericson.

For SMHI

Magnus Rödin
Head of Department of Community Planning Services

¹ Christiansen, N., Carpenter, J.R., Daewel, U., Suzuki, N., Schrum, C., 2023. The largescale impact of anthropogenic mixing by offshore wind turbine foundations in the shallow North Sea. *Front. Mar. Sci.* 10:1178330. doi: 10.3389/fmars.2023.1178330