



OX2 and the Swedish Meteorological and Hydrological Institute will examine how OX2's energy parks can oxygenate the Baltic Sea

The Swedish Meteorological and Hydrological Institute (SMHI) has been approved a research grant from the Swedish Environmental Protection Agency and the Swedish Agency for Marine and Water Management to, together with OX2, research if artificial oxygenation can contribute to restore parts of the Baltic Sea that are deprived of oxygen today. The oxygen will be a by-product from the hydrogen production by two offshore energy parks OX2 plans, Neptunus outside Blekinge in the south of Sweden and Pleione east of the island of Gotland.

Eutrophication causes oxygen deficiency in large areas of the Baltic Sea. When the deep water becomes anoxic, it affects the entire food web. Loss of vegetation and benthic animals affect the fish population, which in turn affect birdlife and marine mammals. The cod that spawn in the deep parts of the Baltic Sea is greatly affected by the lack of oxygen. Low level of oxygen also contributes to the summer algae blooms.

During hydrogen production, oxygen is produced as a by-product. Usually, this oxygen is vented into the atmosphere, but now OX2 aims to use the oxygen from the offshore energy parks of Neptunus and Pleione, to oxygenate the deep waters in the Baltic Sea. SMHI has been granted funding to scientifically investigate, in cooperation with OX2 among others, how the oxygen concentrations will be affected in the long term and what impact it could have on the marine environment and improve the biodiversity. OX2 has applied to the government for permission to produce 370,000 tonnes of hydrogen at Neptunus, which would give almost 3 million tonnes of oxygen per year.

SMHI will be responsible for the research on how the oxygen levels will change in the Baltic Sea. Researchers from the Stockholm University and Norwegian Research Centre (NORCE) will be part of the project to discuss the effects of the oxygenation of the Baltic Sea and the marine environment. As part of the project, the technical preconditions necessary to pump and spread the oxygen at the bottom will also be investigated, and OX2 will contribute with knowledge on the energy parks. The research will focus on how the oxygen can spread in the Baltic Sea, how the level of oxygen can change over time, and what impact it will have on the ecosystems.

“Anoxic and hypoxic bottom-areas in the Baltic Sea are historically large. It is therefore important, in addition to continue to reduce the nutrient loads, to leave no stone unturned to find ways to improve the situation. By using models, we can apply the precautionary principle and find out the long-term impact before taking a possible next step,” says Sam Fredriksson, Researcher in Oceanography, SMHI.



“This could potentially be a great opportunity to not only produce fossil free energy but also contribute with nature positive actions to restore a healthier sea. At the same time, all interventions in nature have to be done in a carefully and thoroughly way. That is why we are very happy to be working with SMHI to investigate the opportunities with this technique,” says Elina Cuellar, project manager, OX2.

In connection to the project OX2 will be cooperating with Uppsala University and Baltic Waters to investigate how oxygenation and the release of cod can strengthen the cod stock in the Baltic Sea. First experiments on how release of support fish stock and oxygenation can improve the conditions for the cod will be performed during spring.

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About OX2 AB (publ)

OX2 develops, constructs, and sells renewable energy solutions at scale. OX2 also offer management of wind- and solar farms after completion. OX2's project development portfolio consists of in-house developed as well as acquired projects in onshore and offshore wind, solar, and energy storage, in various phases of development. The company is also active in developing projects based on other renewable energy technologies, such as hydrogen. OX2 is operating on eleven markets in Europe: Sweden, Finland, Estonia, Lithuania, Poland, Romania, France, Spain, Italy, Greece, and Åland. Since 2023 OX2 is also operating in Australia. Sales in 2022 was about 7.6 billion SEK. The company has about 400 employees and is headquartered in Stockholm, Sweden. OX2 is listed on Nasdaq Stockholm since 2022. www.ox2.com

Image Attachments

Seabed Map (1)

Elina Cuellar

Attachments

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