

Authority services

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Swedish Environmental Protection Agency
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Response to Sweden's Invitation to continuation of consultation regarding prior comments from Finland, regarding the plans for the offshore wind farm in the Sea of Bothnia in in Sweden's economic zone, Eystrasalt Offshore.

The project

The Eystrasalt Offshore wind farm is planned to be developed on the Eystrasalt Bank in the Bothnian Sea, outside of Hudiksvall within Sweden's economic zone. The project regards the establishment of a wind farm with an installed output of approximately 3,900 MW with wind turbines with a maximum total height of 370 m. The project is estimated to be able to produce approximately 15 TWh of renewable energy per year. The distance to the Finnish economic zone is about 13 km and the shortest distance to the Finnish coast is about 110 km. The planned project area covers an area of approximately 949 km² with an average depth of approximately 42 m.

Background

On 31 March 2021 Sweden sent the Finnish Ministry of Environment notification pursuant to Article 3 of the Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention) regarding a planned offshore wind farm in the Sea of Bothnia in Sweden's economic zone, Eystrasalt Offshore. On 26.5.2021 the Ministry of the Environment responded that Finland would participate in the Environmental impact assessment (EIA) of the project and delivered the statements collected in Finland to Sweden.

On the 29th of January 2024, the Swedish Environmental Protection Agency (SEPA) invited Finland to participate in consultation in accordance with article 4-5 of the Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention) regarding the application and EIA for planned offshore windfarm "Eystrasalt". Finland replied to Sweden with comments received from authorities and organisations on the 8th of March 2024.

In the invitation to continue consultation, dated 29 April 2024, SEPA stated that the developer had prepared replies to the specific comments received, both during the national hearing and the transboundary consultation.



Furthermore, SEPA invited the authorities and organizations in Finland whose comments have been replied to, to review these and eventually leave further comments to be taken into count by the permitting authority. The aim of this is to give the Finnish parties the same possibility to assess the developers replies to as Swedish parties did.

Consultation in Finland

According to the Act on Environmental Impact Assessment Procedure (252/2017), the Finnish Environment Institute is the competent authority and responsible for consultation tasks under the Espoo Convention. In its invitation on 29 April 2024 to continue the consultation, the Swedish Environmental Protection Agency requested Finland to review the developer's answers to Finland regarding its assessment of the environmental impacts of the project affecting Finland and to submit any comments that is received from authorities and organizations in Finland who's comments now have been replied to.

The authorities and organisations, that had submitted earlier comments regarding the planned offshore wind farm Eystrasalt, were given the opportunity to comment on the consultation documents from 6 May to 4 June 2024. The consultation documents were available on the website of Finland's environmental administration (environment.fi) and on the website of electronic public consultation (lausuntopalvelu.fi). The Finnish Environment Institute received 8 statements.

The Finnish Environment Institute has prepared a summary of the original statements in English below. However, the original statements, which are enclosed to this letter, include important and detailed remarks which need to be taken into consideration in their entirety.

Conclusions

The Finnish Environment Institute's wishes to thank respondents for the provided material as a response to its previous response on 8 March 2024. Unfortunately, it must be pointed out that the majority of issues raised by us were not considered nor answered at all. The transboundary impacts on spawning areas for Baltic herring, migratory fish, and birds are still not sufficiently considered and assessed and their significance seems to be underestimated. Furthermore, the current status of the project area's environment is still not sufficiently described, which causes problems in impact assessment. It also seems that the project does not include locations for sediment dumping areas. This information and the impacts need to be included in the EIA as well.

Overall, it seems, that Finland's concerns have not been addressed. The Finnish Environment Institute requests that Sweden fulfil its obligation under Article 6(1) of the Espoo Convention to ensure that, in the final decision on the proposed activity, due account is taken of the outcome of the environmental impact assessment, including the environmental impact assessment



documentation, as well as the comments thereon received pursuant to Article 3, paragraph 8 and Article 4, paragraph 2, and the outcome of the consultations as referred to in Article 5.

Due to limited consultation time and lack of access to all the appendices of the EIA and the permit application, Finland considers that the environmental impact assessment has not sufficiently complied with the Espoo Convention and so requests that the impact assessment be further supplemented in accordance with the provided response and the feedback given in the context of the environmental impact assessment.

In addition, the Finnish Environment Institute notes that the permit granting procedure cannot be completed before the consultations under the Espoo Convention have been concluded between our countries and expects Sweden to provide the requested answers in writing or to arrange a bilateral meeting where the pending issues can be discussed.

Moreover, Finland wishes to point out that since the export cable connection lines are inextricably linked to the main project and the environmental impacts of these associated works are not assessed as part of the EIA of the wind farm project, it sees the need to also participate in the EIA of the cable project when it begins. The reason being is the anticipated significant adverse transboundary impact on, for example, herring spawning grounds or migratory fish populations. [The need to assess the associated works is referenced in the EU Commissions note on Interpretation suggested by the Commission as regards the application of the EIA Directive to ancillary/associated works \(2012\).](#)

Statements received in Finland

Southwest Finland Centre for Economic Development, Transport, and the Environment (The ELY Centre of Southwest Finland)

The ELY Centre of Southwest Finland has studied the developer's response addressed to Finland, as well as the appendices concerning the possible environmental impacts on Southwest Finland and Satakunta and their assessment.

The ELY Centre would like to further emphasise that documents related to an international consultation should be of good quality and have understandable language. The Finnish translations of the responses regarding the effects on birds and fish (Appendices 2 and 3) are mainly difficult to understand and contain many incorrect expressions, which makes them difficult to comprehend.

In its earlier statement, the ELY Centre has noted the possible effects of cooling waters on the Baltic Sea and the need to specify the assessment of the extent of the area affected by cooling waters. However, the ELY Centre states that this has not been taken into account in the responses or in the additional materials submitted.



The ELY Centre notes that the project plans to monitor several species groups (bats, birds, fish, and fishing), especially from the construction phase of the wind power project and from the start of its operation. The ELY Centre considers the organisation of monitoring to be important and necessary in this project in general but would like to emphasise that if we want to obtain accurate information on the environmental impacts of the project in question, the starting point must also be known. Although the aim is not to produce information at the level of scientific research, monitoring should also be carried out before the implementation of the project and preferably using the same methods after the project has commenced.

Southwest Finland Centre for Economic Development, Transport, and the Environment – The Fisheries Authority

The Fisheries Authority has examined the developer's response and its annexes.

Not all questions were answered satisfactorily, and some questions and arguments have not been answered at all. Despite these shortcomings, a satisfactory solution has been offered to the key trawling conflict.

According to the response dated 15.4.2024, the developer has not commented on or does not consider it necessary to comment on the statement of the Fisheries Authority under the Espoo Convention (submitted to Sweden on 8.3.2024 by the Finnish Competent Authority). The same applies to the comments from other Finnish parties. In Annex 1 (response to national comments, 27.3.2024), the developer responds in part to the earlier statement made by the Fisheries Authority. This statement (submitted directly to the Gävleborg County Council on 26 January 2024) was submitted with one day's notice because the simultaneous consultation in Finland required by the Espoo Convention had not been carried out. The statement submitted on 26 February 2024 did not cover all environmental impacts because there was not enough time to prepare it and study the documents. The developer must respond carefully to the statement submitted on 8 March 2024 and, if necessary, revise the deficiencies and factual errors. In accordance with Article 6(1) of the Espoo Convention, environmental impacts must be given due consideration.

We ask for the continuation of negotiations on open issues in accordance with Articles 2(3) and 6(3) of the Espoo Convention. If the developer has nothing further to add, we request the initiation of consultations with the authorities in accordance with Article 5 of the Espoo Convention.

I. The replies of the Fisheries Authority to the developer's response (Reply on comments from Finland, 15.4.2024)

Espoo Convention (2.1): the developer's reply states that sufficient documentation has either been delivered to Finland or was available for inspection, in Finnish or in English. Furthermore, the developer considers that Finland will not be significantly affected under the Convention.

Our response: the consultation document sent to Finland contained numerous references to the EIA programme's annexes. The annexes were essential



because without them it is difficult or impossible to understand the conclusions of the consultation document. However, the essential annexes or links or other information on their availability had not been provided to the Finnish contact authority, i.e., the annexes were not available in Finland. The annexes should have been submitted to Finland or should have been further explained in the consultation document in order to be considered as having provided the information required by Article 4 of the Espoo Convention (Espoo Convention, Annex II).

In our view, the transboundary effects are very significant; the developer's dissenting view is based on interpretations that are not supported by sufficient evidence.

Commercial fisheries, section 2.2.2: The developer considers that the fisheries in the area and the impact on fisheries have been extensively and adequately studied. The developer considers that there are no significant impacts, and that catches can be fished elsewhere.

Our response: the developer does not comment on our argument that their conclusions are not correct. The fisheries report is good, but the critical technical details were not known to the authors of the report. The report on fisheries economic impact used incorrect price data, as also stated by fishermen's organisations. In addition, the authors are not familiar with the Finnish fishing economy, so the economic impact has been underestimated. The developer's interpretation that there is no significant impact is, in our view, wrong. Fishing in the area is relatively more important than in the rest of the Gulf of Bothnia and is not transferable elsewhere for biological and technical reasons. The reasoning is explained in more detail in our submission of 8 March 2024. The need for further clarification will depend on the outcome of the consultations (see also section 2.2.6).

Commercial fishing, section 2.2.3: The developer stated their commitment to a fisheries and underwater wildlife monitoring programme, which will be carried out for two years before construction starts, one year during construction and two years after the end of the construction phase. The programme will be limited to 15 million SEK and will be developed in cooperation with the county council.

Our response: only one year of monitoring during the estimated four-year construction period is not sufficient to identify temporary environmental and fishery impacts. Monitoring data will affect the assessment of compensation claims. The financial cap will prevent necessary research from being conducted if unforeseen challenges arise, which is likely. We will require continuous monitoring during construction and, by agreement, fisheries monitoring during operation. The price cap may prevent these obligations from being met. We also note that the total amount of money to be spent on monitoring all underwater impacts and fisheries is the same as for the monitoring of lesser black-backed gulls and bats alone (Annex 1), which will presumably be less affected by the project. We demand that monitoring address all aspects sufficiently. We ask Gävleborg County Council to organise



an opportunity for the Finnish fisheries and environmental authorities to influence the content of the monitoring programme.

Commercial fishing, section 2.2.4: The developer mentions that their own fisheries cooperation programme and offers not to build in areas shallower than 20 metres and ensures not to use water cooling with its transformers.

Our response: the Fisheries Cooperation Programme is a matter between the project and private operators in the fisheries sector. Any compensation issues do not lapse.

The developer's 20-metre depth limit is not justified by any facts. The Fisheries Authority's upper limit of 25 meters, as stated in their statement, is based on preliminary data on the general location of the thermocline during the assumed spawning season. We assume that the sediments are spread within the same water layer, so the mitigating effect of the 20-metre depth limit is likely to be small. According to Annex K1 of the permit application, spawning could occur up to 30 meters deep. We still require a 25-metre upper limit if the 20-metre limit is not justified. We do not object to the construction of shallow areas, provided that the developer can demonstrate that the activity will not cause major or permanent damage to fish stocks or marine wildlife. We believe that the method and timing of construction are a more significant factors than the depth. We call for a more detailed study of the impacts and the submission of a justified construction plan, with or without an upper depth limit.

We appreciate the commitment of the developer to exclude water cooling.

Commercial fishing, point 2.2.6: The developer proposes not to build any wind turbines in the buffer zone on the western side of the project area, as shown on Map A.

Our response: the buffer zone proposed by the developer can partly eliminate the fishing impacts. This will also reduce the expected need for assessment and compensation. If the buffer zone is implemented and no other construction, cables or sediment dumping areas are established in the zone in addition to the power plants, we consider that the project will have less impact on fisheries.

Commercial fishing, point 2.2.7: The developer notes that the permit application does not propose a fishing ban in the project area and the plan for the sediment dumping area will be subject to a separate review procedure.

Our response: in our statement, we call for ensuring that there will not be a ban or technical barrier to trawling. In practice, this will require clarification and a written commitment from the developer. We continue to insist on this.

The separate assessment of sediment dumping is worrying. In our statement, we pointed out that the sediment dumping as set out in the consultation document will have transboundary, long-term environmental impacts. We call for the procedure to be notified to the competent Finnish authority in accordance with the Espoo Convention to give Finland opportunity to influence the project.



The response of Fisheries Authority to the national response (Bemötande av remissyttranden, Bilaga 2) and the draft permit conditions (Konsoliderad villkorslista, Bilaga 1, 27.3.2024) and other annexes.

As some of the questions have not been addressed in the formal response, we will also comment on the attached national response and other annexes to the extent that the issues in our opinion have been addressed there.

The status of the herring stock as a sub-population: the developer repeatedly emphasises that the herring stock in the area does not form a separate, genetically distinct sub-population and therefore considers that there will be no damage to the overall stock in the Bothnian Sea. This view is based on a genetic study funded by the developer of which only a graph is presented in Annex B2, grouping the genetic samples of spring-spawning herring from the whole Baltic Sea in relation to each other.

Our response: the research results presented are not sufficient and are not presented in an acceptable manner. In our view, based on the picture presented, it cannot be argued that the herring in the area are not a distinct subpopulation. The researchers of the study confirmed to us that they are not able to distinguish the herring in Eyrasaltbanken from others, but the results are not presented. The results must be presented in a scientifically acceptable manner. We still consider it unlikely that the spawning stock in the area is not genetically adapted. It has been studied that the spring spawning herring in the Baltic Sea are genetically close to each other, so they are grouped together as shown in the graph. However, Baltic herring have diverged in the genes that regulate environmental responses (Han et al. 2020, <https://doi.org/10.7554/eLife.61076>), and the differences between fish from different regions need to be investigated using appropriate statistical tests and the results presented.

In addition, if there is no genetically distinct population in the area, it can be assumed that spawning disturbance will affect the regional substock (population is different from stock), i.e., the number of fish caught, unless fish come directly from elsewhere. The developer must then demonstrate that herring stocks in other areas can compensate for the damage caused in the area.

Spawning of herring in the area: (The developer has argued in the consultation document that spawning in the area could not be proven. In response, we stated that the evidence was insufficient and that we consider the area to be an important spawning area until proven otherwise. Our view was substantiated in the statement submitted on 8 March 2024. We did not have access to Annex K1 of the consultation document and conclude now that spawning has been proven but not adequately mapped). The developer suggests that spawning in the area is not significant to the overall stock of the Gulf of Bothnia. This assessment is based on the assumption that the spawning stock is not local, that spawning occurs in a relatively small area under the same conditions as in other spawning areas, and that fish can be fished elsewhere. The development of the overall stock in the Bothnian Sea has been modelled under different disturbance scenarios.



Our response: the developer has not proven that the spawning stock in the area is not local. Evidence of spawning fry and recruit production (extent of spawning area, density of spawning, density of fry) has not been provided. Evidence of the share of the population in the area (if it exists) from catches in different areas of the Bothnian Sea has not been provided. In the absence of these data, it must be assumed that the spawning area is important for the herring stocks fished in the northern Bothnian Sea. The developer refers to Supplementary Appendix K1, which indicates that spawning takes place in areas less than 30 meters in depth. On this basis, potential spawning areas could therefore be found over an area of up to tens of square kilometres. This differs from the HELCOM model, which estimates the area of spawning grounds in the project area at around 3 km² (Annex B2). Presumably the spawning area is considerably larger. We also assume that the productivity of the spawning area will be higher than by the coastline as mortality due to oxygen depletion, sedimentation and egg predation is likely lower than in the open sea. In our statement, we stressed the importance of the open sea spawning grounds as potential refugia for herring due to the environmental changes along the coast.

There is insufficient evidence to support the developer's view that the area is of no importance as a spawning area. The results of the stock modelling cannot be applied until the genetic identity of the spawning stock in the area has been proven. The failure of a regional spawning for three or more consecutive years will mean the demographic collapse of the whole stock unless replenishment from other stocks occurs. The matter must be clarified, or we will continue to call for conservation and precautionary measures in accordance with our statement submitted on 8 March 2024.

Flow modelling: the developer did not respond to our request for flow modelling, but states in the response to the Swedish commenters (Annex 2, 2.11) that the matter has been addressed.

Our response: changes in flow conditions can have a significant impact on the environment of the Bothnian Sea. The direct wind-wake effect alone extends at least 30 km from the wind turbines, i.e., also to Finland's territorial waters. The changes in water flow and their physico-chemical consequences can even reach as far as the Finnish coast. Without modelling, it is impossible to assess the environmental impact on Finland's economic and regional waters. Modelling must be carried out.

Passage: the developer notes that smaller vessels can pass through the production area. However, it has not been assessed whether fishing vessels of the current size can safely pass through the area and under what conditions. The developer does not comment on our request that the passage of fishing vessels must not be legally or technically prevented.

Our response: we continue to demand a commitment and, if necessary, proposals for measures to allow the passage of fishing vessels.



Fishing rights in the Swedish EEZ: the developer states that Finland has quota-based fishing rights in the Swedish EEZ. In this context, there is no specific regulation that would prevent the exploitation of the area.

Our response: fishing rights of Finnish vessels in Swedish territorial waters are primarily based on EU legislation. Access to fishing is not regulated in detail, but according to Article 4 of Sweden's Continental Shelf Act (Lag (1966:314) om kontinentalsockeln), exploitation permits shall, where necessary, include permit conditions to protect fishing. The Finnish fishery in the area is well established and fishing areas cannot be moved for technical, economic, and biological reasons. Therefore, we consider that the Swedish licensing authority should take into account the fishing rights and immobile fishing areas of Finnish vessels.

Protected area argument: the developer states that the technical inhibition of trawling protects herring spawning in the area.

Our response: as explained in our statement, there is no significant fishing in the vicinity of the project area during the spawning season, no fishing in the spawning grounds and the herring are protected by fishing regulations. The wind farm has no additional conservation value. The protection argument has also been put forward by the Gävleborg County Council, and we are open to enter into regulatory discussions with them on effective protection measures.

Missing issues in the response

Export cables: the developer does not take any stand on the export cable connection. Annex 2 states that cables are subject to a separate procedure. We previously stated that submarine cables could also threaten trawling. We still insist that submarine cables must be added to this procedure or be subject to a separate EIA procedure, in which Finland must be consulted.

Sediment dumping areas: the developer did not comment on sediment dumping issues. Poorly designed sediment dumping areas can prevent fishing and/or cause damage to spawning grounds and other marine life. We insist that dumping must be added to this procedure or be subject to a separate EIA procedure, in which Finland must be consulted.

Protection measures during construction: in our statement, we called for double layered bubble screens to prevent sediment spreading, and a sector model where no construction is allowed in the same sub-area in consecutive years. We also called for a moratorium on construction during the spawning season if spawning grounds are not identified. The developer has not responded to these or put forward any arguments to refute our claims.

Our response: we insist that the developer takes responsibility for the trawl resistance of the infrastructure. The question of responsibility is very important, and we demand an answer to this question.

Summary



We note that our statement under the Espoo Convention has not been adequately answered. Our comments and additional information have not been taken into account. The developer's argumentation is not sufficiently based on facts, and the facts we provided are ignored. Of the ten requirements of the statement submitted on 8 March 2024, only one has been answered satisfactorily, some not at all.

We stress that the buffer zone offered by the developer can, under certain conditions, significantly reduce the project's impact on fisheries. If the project commits to the buffer zone, the need for research will be reduced. This does not eliminate the need to negotiate the protection of spawning grounds and ecosystem impacts, including monitoring studies.

Please note that Swedish is the second official language of Finland; all documents can be submitted to the state authorities in Swedish (translation of annexes into Finnish is necessary during the consultation phase if the information required by the Espoo Convention is not sufficiently described in the consultation document). We request that in future all documents available to the Swedish authorities relating to fisheries and environmental impacts are also sent to Finland.

The Federation of Finnish Fisheries Associations

The developer of the Eystrasalt offshore wind farm has prepared a response to the comments collected in Finland and Sweden. Those who have previously given statements could give statements and express opinions on the developer's response between 6 May and 4 June 2024.

The Federation of Finnish Fisheries Associations submitted a statement in February 2024 and would like to issue the following statement regarding the developer's response:

We still believe that the environmental impact assessment and the answers given detract from the effects of the planned project on both fish stocks and fisheries in the area.

We do not believe that the response sufficiently addresses the cumulative effects of the massive wind power construction planned on both the Swedish and Finnish sides of the Bothnian Sea and the Gulf of Bothnia. No position is taken on the combined and cumulative impacts of all projects under planning and how the impacts could be mitigated by, for example, joint cabling. To say that the Eystrasaltbanken is only a small part of the production area of herring that contributes to the stock in the Bothnian Sea suggests this. If many of the herring's important spawning areas are destroyed through the expansion of various wind farms, the cumulative effect will be significant. We still believe that more coordination and analysis of the combined impact of offshore wind projects in Sweden and Finland is needed before granting permits to individual projects.

We also do not believe that sufficient answers are given regarding the effect on migratory fish, such as salmon. Several successive wind farms with



associated cables can disrupt the salmon's migration in the sea and delay the migration to spawning rivers.

Natural Resources Institute Finland Luke

Natural Resources Institute specified in its previous statement (04.03.2024) that the Eystrasalt project area, which is considerably shallower than the surrounding sea area, could potentially be an important spawning area for herring in the Bothnian Sea. This is a common perception among commercial fishermen operating in the area. The potential importance of the area is increased by the fact that, in addition to the Eystrasalt, there are only a couple of other larger shallow areas of less than 20 metres depth in the open sea of the Bothnian Sea, all of which are located in the Swedish Exclusive Economic Zone. In its previous statement, Luke considered that the information received from fishermen should be taken seriously, and the significance of the project area as a herring spawning grounds should be carefully examined, for example, through regular dives or other reliable methods. In its response, the developer states to be *“committed to not constructing foundations below 20 meters and to avoiding the installations of cables in these areas as much as possible”*. However no further studies are planned. Luke still considers that the importance of the project area as a spawning ground for herring in the Bothnian Sea should be carefully examined. Construction work on the deeper parts of the area, which may take several years, may also affect conditions in the shallower areas. Reliable background information on the current situation would be needed prior to any construction in order to assess the need for monitoring of the longer-term effects on herring and to ensure the quality of any monitoring.

Luke also drew attention to the potential cumulative impacts of wind projects, particularly on birds, in its previous statement. In its response, the developer states that the project cannot be required to carry out a comprehensive cumulative impact assessment, not least because other planned wind farms in the vicinity are pending approval. Luke also believes that the potential cumulative effects of offshore wind power should be anticipated and assessed through broad transnational cooperation, covering the entire range of species where appropriate. At the same time, the most obvious gaps in knowledge should be identified and a determined effort made to collect the additional data needed to anticipate cumulative impacts.

Finnish Transport and Communications Agency Traficom

Finnish Transport and Communications Agency has nothing new to say on the matter, and they refer to their earlier statement (28.2.2024).

Finnish Meteorological Institute

The Finnish Meteorological Institute has studied the documents and states that it has nothing more to say in the matter.

Finnish Safety and Chemicals Agency

The Finnish Safety and Chemicals Agency has no comment on the matter.



Government of Åland

The government of Åland decided not to issue a statement, because at an earlier stage of the process, the provincial government has assessed that Åland will not be directly affected by the project.

Service Development Director

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Senior Officer,

Ulla Helminen

Point of Contact to the Espoo Convention

and the Protocol on SEA

This document has been electronically signed. The electronic signatures can be verified from the register office of the Finnish Environment Institute.

Appendices

Statements received in Finland

For information

Ministry for the Foreign Affairs of Finland
Ministry of the Environment
ELY Centre of Southwest Finland
Finnish Meteorological Institute
ELY Centre of Southwest of Finland - Fisheries
Authority Natural Resources Institute Finland Luke
Finnish Safety and Chemicals Agency
Finnish Transport and Communications Agency
The Federation of Finnish Fisheries Associations
Ålands landskapsregering

