

Authority Services

16 May 2025

SYKE/2023/105

Swedish Environmental Protection Agency
asa.blomster@swedishepa.se
registrator@naturvardsverket.se
espoo@swedishepa.se

Reference: NV-09718-22 “Swedish MSP”

Finland’s response to the consultation of the national Swedish Marine Spatial Plans for the Gulf of Bothnia, the Baltic Sea and the Skagerrak/Kattegat

History of the consultation

On 28 November 2023, the Swedish Environmental Protection Agency notified neighbouring countries and Baltic Sea countries of the draft revised Marine Spatial Plan (MSP) and the Strategic Environmental Assessment (SEA) for Sweden. This was done in accordance with Article 10 of the Protocol on Strategic Environmental Assessment (SEA) in a Transboundary Context (Espoo Convention). Consultation on the proposals for the revised marine spatial plans took place from 28 November 2023 to 20 February 2024. Sweden received responses and feedback on the proposals from Lithuania, Estonia, Latvia, Norway, Denmark, Poland, Germany and Finland. The Swedish Agency for Marine and Water Management (SwAM) is the responsible agency for the development of maritime spatial planning in Sweden.

On 24 October 2024, the Swedish Environmental Protection Agency shared the Swedish response to the feedback received during the Espoo consultation and invited all participating countries to provide comments.

On 4 November 2024, the Swedish government rejected thirteen offshore wind farm applications in the Baltic Sea Proper due to Sweden’s defence interests, while approving one application to establish an offshore wind farm in the Skagerrak. This decision was communicated to all relevant parties under the Espoo Convention on 25 November 2024.

Current consultation

On 20 January 2025, the Swedish Agency for Marine and Water Management (SwAM) submitted revised Swedish MSP proposals and the impact assessment to the government, which is responsible for the adoption process in Sweden. Responses from the domestic and transboundary consultations, as well as comments received on the environmental impact assessment consultation, have been included.



The Finnish Environment Institute acknowledges that Finland received an invitation on 31 March 2025 to review the MSP proposals and impact assessment submitted to the Swedish government, and to submit further comments on the strategic environmental assessment (SEA) of the national Swedish marine spatial plans for the Gulf of Bothnia, the Baltic Sea, and the Skagerrak/Kattegat. Comments received during the transboundary consultation will be forwarded to the government and considered as part of the MSP adoption procedure.

Consultation in Finland

According to the amended Finnish Act on the Assessment of the Environmental Impact of Plans and Programmes of Authorities (200/2005, as amended by 912/2022), the Finnish Environment Institute is the competent authority responsible for consultation tasks relating to the SEA Protocol in Finland from 1 January 2023.

The public and authorities were given the opportunity to comment on the consultation documents from 11 April to 12 May 2025. These documents were made available on the websites of Finland's environmental administration and electronic public consultation, where statements could be submitted. The Finnish Environment Institute received 21 responses. The Finnish Environment Institute has produced an English summary of the statements received in Finland. However, the original statements enclosed with this letter in Finnish or Swedish must be considered in full. Please note that the original comments are attached to this letter.

Comments and information received to be taken into consideration

Ministry of the Environment

The Ministry of the Environment is grateful for the opportunity to comment on the assessment of draft amendment to the Swedish Marine Spatial Plan for the Gulf of Bothnia, the Baltic Sea and the Skagerrak/Kattegat.

The Swedish Maritime and Water Administration has carried out a consultation on the proposal for amended marine plans for the North Sea, the Baltic Sea and the Gulf of Bothnia and the North Sea and the associated impact assessment. Naturvårdsverket notified Finland of the amendments to the Swedish marine plans in 2023 and the environmental assessments were subject to a consultation period in Finland under the Espoo Convention from 12/2023 to 2/2024. The Ministry of the Environment gave its opinion. Sweden submitted its response to the Finnish feedback in October 2024. The Swedish draft marine plan has been amended since the consultation round. A major change has been the removal of all proposed offshore wind sites in the Baltic Sea Main Basin, as the Swedish government decided in November 2024, following a statement from the Defence Forces, to reject all offshore wind projects in the Baltic Sea Main Basin.

On 10 February 2022, the Swedish government approved Sweden's first Marine Spatial Plan. The proposed amendments to the Marine Spatial Plans have concerned new or modified energy recovery areas. The overall objective has been to prepare marine plans that create the conditions for an annual offshore wind energy production of 120 TWh. The use of energy recovery in the offshore plans refers exclusively to offshore wind energy. The Swedish offshore plan is of a strategic nature, which means that offshore wind energy can also be applied for in areas that are not defined in the offshore plans.

The marine plans identify a total of 24 energy recovery areas, five of which are study areas. These areas, if implemented, would allow for a theoretical annual production of 150 TWh. Ten of these areas are located in the economic zone, covering 80% of the total area.



The overall objective of marine spatial plans is to support the good status and sustainable development of the marine environment. The steering effect of the amended Marine Spatial Plans is considered to support Sweden's national environmental objectives, in particular regarding the impact on the atmosphere. The impact of the plans has also been assessed against the objectives of marine management.

The environmental statement under consultation covers not only the environmental impact assessment but also the assessment of the social and economic impacts. A general and strategic impact assessment has been prepared for each planning area and highlights the impacts that will arise in relation to the existing marine spatial plan.

The Ministry of the Environment gives its opinion on the impact assessment of the proposed amendment to the Gulf of Bothnia Marine Spatial Plan. No opinion is given on the environmental assessment of the proposed amendment to the Baltic Sea Marine Spatial Plan, as no energy production areas have been designated in the area.

General comments on the proposed amendment to the Marine Spatial Plan for the Gulf of Bothnia

In the Gulf of Bothnia, the full potential of offshore wind power generation would be 130 TWh per year. A total of 13 energy recovery areas are identified in the Gulf of Bothnia plan, of which three areas in the Southern Bothnian Sea are identified as study areas. The designation of the study areas is due to the significant uncertainty regarding the potential cumulative effects of offshore wind on migratory birds. For all energy recovery areas, special attention has been given to the needs of national defence. For nine sites, the preservation of the cultural values of the area has been taken into account, and for four sites, the preservation of the natural values.

With the removal of the energy recovery areas in the Baltic Sea Marine Plan, it can be interpreted that the pressure for offshore wind power generation has shifted to the Gulf of Bothnia. This situation has changed significantly since the first draft of the Gulf of Bothnia Marine Spatial Plan, which was consulted between 12/2023 and 2/2024. Currently, altogether 6 600 km² of energy recovery and exploration areas is designated in the Gulf of Bothnia. Although the total area is smaller than in the first draft, as many as seven of the energy recovery study areas in the previous draft are designated as energy recovery areas in the current draft. There have also been changes to the original delimitation of the areas. The Ministry of the Environment considers that these changes to the energy recovery areas in the Gulf of Bothnia are significant and, if implemented, could have a cumulative cross-border impact. As the energy recovery areas are mainly located in the economic zone and in many areas either adjacent to or close to the Finnish EEZ, significant shadowing effects of offshore wind farms on potential wind energy areas in the Finnish EEZ can also be identified.

The Ministry of the Environment would like to highlight the state of play in the development of offshore wind energy in the Finnish EEZ and the current need to develop cooperation between countries in mapping the natural values of the EEZ.

- In Finland, the Act on offshore wind power in the EEZ (937/2024), which will govern offshore wind power project development, entered into force at the beginning of 2025. The consultation according to Espoo Convention is included in the Act and will be conducted during 2025, when the offshore wind farms in the economic zone will be completed.
- In August 2024, Finland has published an Operational Programme for the Promotion of Offshore Wind Energy, which contains 17 proposed measures for offshore wind power. If implemented, these draft measures will contribute to Finland's offshore wind targets for



increasing renewable energy production.

- One proposed measure (No. 14) relates to filling information gaps in offshore areas. Finland has identified the need for a large-scale mapping of the Outer Sea in the Gulf of Bothnia, as the EEZ lacks a comprehensive, up-to-date and multidisciplinary knowledge base needed for planning energy investments, ensuring safe shipping, communication infrastructure and sustainable use of the sea. Finland considers it important and useful to start discussions with Sweden on the mapping of the Outer Sea.

In the view of the Ministry of the Environment, the Gulf of Bothnia Marine Spatial Plan should not be adopted until the following has been achieved:

- negotiations between countries on the designation of offshore wind farms in the Gulf of Bothnia to ensure a sustainable development,
- the assessment of cumulative transboundary impacts, taking into account the amended Swedish draft Gulf of Bothnia Marine Spatial Plan, the existing Finnish Marine Spatial Plan and the offshore wind farms in the Finnish EEZ, and
- to jointly consider cable routes for offshore wind farms crossing the Finnish-Swedish border, taking into account environmental, economic, sociological and strategic aspects.

The Ministry of Economic Affairs and Employment

The Ministry of Economic Affairs and Employment would like to express its gratitude for the opportunity to comment on the environmental assessment of the proposed amendment to the Swedish Marine Spatial Plan for the Gulf of Bothnia, the Baltic Sea and the Skagerrak/Kattegat. The environmental assessment is based on the Protocol on Strategic Environmental Assessment annexed to the UN/ECE Convention on Environmental Impact Assessment in a Transboundary Context (Treaty Series 67/1997, Espoo Convention).

On 1 April 2025, the Finnish Environment Institute received a notification from the Swedish Environment Agency (Naturvårdsverket). According to this notification, on 20 January 2025 the Havs- och vattenmyndigheten has submitted to the Swedish Government revised draft marine plans and their impact assessment documents for the approval process. The Swedish Government is aware that further comments may still be submitted in the context of the transboundary consultation.

The amendments to the Swedish marine plans have been under consultation in Finland from December 2023 to February 2024, in accordance with the Espoo Convention. In October 2024, Sweden submitted a response to the feedback received from Finland. Since then, changes have been made to the Swedish Marine Spatial Plan due, among other things, to the Swedish government's rejection of 13 offshore wind projects in the main Baltic Sea in November 2024.

Sweden's offshore plans aim to create the conditions for 120 TWh of offshore wind power production per year. However, current plans include areas for an annual production of 150 TWh, as it is not realistic to expect that all the areas included in the offshore plan will be realised.

The Ministry of Economic Affairs and Employment gives its opinion on the impact assessment of the proposed amendment to the Gulf of Bothnia Marine Spatial Plan.



Comments on the proposed amendment to the Marine Spatial Plan for the Gulf of Bothnia

A total of 13 areas in the Gulf of Bothnia have been identified in the Swedish Marine Spatial Plan as potentially suitable for energy production. Some of these areas have been designated as energy production areas or energy production research areas. The areas are located both in the EEZ and in territorial waters.

The development of offshore wind projects in the Finnish EEZ has been active in the 2020s. However, the Finnish EEZ Act, in force since 2005, did not provide clear rules for offshore wind development. The Ministry of Economic Affairs and Employment has prepared a new law on offshore wind power in the EEZ, which entered into force at the beginning of 2025. Under the new law, the Government will select the offshore wind energy areas in the EEZ, and the Energy Agency will organise a tendering process to allocate the areas to project developers.

In May 2024, the Government adopted negative decisions on applications for exploitation rights submitted under the Finnish EEZ Act, which sought exclusive rights to develop offshore wind power production in a specific area. At the time of the negative decisions, a new law on offshore wind power in the EEZ was already in preparation and the intention has been to allocate offshore wind power areas to developers through a tender process organised by the Energy Agency in accordance with the new law.

The selection of offshore wind energy sites in the economic zone has been prepared in Finland and the environmental impact assessment of the authorities' plans and programmes for the draft Council of State decision on site selection is due to start in May. The draft decision includes four offshore wind energy sites in the economic zone, all of which are located in the Gulf of Bothnia.

In the view of the Ministry of Economic Affairs and Employment, the Swedish Marine Spatial Plan should pay more attention to the effects of the proposed energy production areas on the exploitation of offshore wind energy potential in the Finnish EEZ. It has been difficult to consider the impacts on a concrete level, as Finland has not yet taken decisions on the designation of offshore wind energy areas in the EEZ. As the process of selecting offshore wind energy sites in the economic zone progresses, it should be possible to assess the impacts more effectively. In particular, the project areas B111, B113, B135 in the Bothnian Bay and B160 and B161 in the Bothnian Sea, which border or are in the vicinity of the economic zones, may have a significant impact on the exploitation of offshore wind potential in the Finnish EEZ.

In the view of the Ministry of Economic Affairs and Employment, there is a need for negotiations between the countries on the designation of offshore wind energy areas before the adoption of the Gulf of Bothnia Marine Spatial Plan, to coordinate the exploitation of offshore wind energy potential in the Finnish and Swedish maritime areas in the Gulf of Bothnia.

Ministry of Transport and Communications

The Finnish Environment Institute (Syke) has requested the Ministry of Transport and Communications to comment on the environmental assessment of the proposed amendment to the Swedish Marine Spatial Plan for the Gulf of Bothnia, the Baltic Sea and the Skagerrak/Kattegat. The environmental assessment is based on the Strategic Environmental Assessment Protocol to the UN/ECE Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention). The Finnish Environment Institute is the competent authority for the Espoo Convention in Finland.



The Ministry of Transport and Communications has made a statement to the Finnish Environment Agency on Sweden's amended marine plans on 29 January 2024 (VN/34755/2023).

Since the last round of consultation, the energy production areas bordering the outer limit of the Finnish EEZ have been changed from "*alternative energy recovery areas*" to "*energy recovery areas*" in the revised draft marine plan. In the revineuvottelu pyyntö sed Swedish Maritime Spatial Plan for the Gulf of Bothnia, energy recovery areas are in the immediate vicinity of important shipping areas and in some places on both sides of shipping areas, which may have significant negative impacts on the safety and smooth functioning of shipping.

The Ministry of Transport and Communications considers it important to coordinate the needs of maritime transport and energy recovery not only in the permitting and clearance procedures for individual projects, but also in guiding strategic plans, such as maritime spatial plans, where the overall spatial planning and coordination is guided by a global perspective across project and national boundaries.

The number of offshore wind projects planned for the Gulf of Bothnia and the Baltic Sea has increased significantly in recent years. The planned projects are often located in exclusive economic zones (EEZs) in close proximity to their external borders. The Ministry of Transport and Communications reiterates its earlier statement that when considering the inclusion of new offshore wind farms in maritime spatial plans, the authorities should take into account the impact of offshore wind farms on shipping in the entire Gulf of Bothnia and Baltic Sea region.

Offshore wind farms can have an impact on shipping to and from Finland. Particular attention needs to be to the routes used by winter shipping, which differ from those used in open waters.

In other respects, the Ministry of Transport and Communications refers to the opinion of the Finnish Transport and Communications Agency Traficom.

The Government of Åland

Statement on the environmental impact assessment of the amended Swedish maritime spatial plans for the Gulf of Bothnia, the Baltic Sea and Skagerrak and Kattegat

The Government of Åland has taken note of the revised Swedish maritime spatial plans and the associated impact assessment and would like to thank for the opportunity to submit comments within the framework of the cross-border consultation under the Espoo Convention.

The Government of Åland is gratified that the MSPs seek to strengthen ecosystem services and resilience, as well as traditional nature conservation. This holistic approach is valuable and could inform the revision of Åland's own maritime spatial plan. Taking special consideration of areas with high nature values is an important step when considering the sea's carrying capacity in a time of climate change.

The Government of Åland reiterates the importance of cross-border cooperation and information exchange in the maritime spatial planning process. The government considers that the Swedish Agency for Marine and Water Management has laid a solid foundation for this in the proposed MSPs. To achieve sustainable and coordinated management of our common marine areas and deepen knowledge of cumulative effects, deeper collaboration is needed in the continued work. The Government of Åland is keen to continue participating in the development of comprehensive planning from a sea basin perspective and looks forward to



further cooperation with the relevant authorities in Sweden and Finland.

Finnish Transport and Communications Agency Traficom

In its opinion, Traficom makes the following points:

Traficom has already previously submitted comments on Sweden's amended marine plans to the Finnish Environment Institute on 11.11.2024 (TRAFICOM/672359/04.04.05.03/2023) and 26.1.2024 (dnro TRAFICOM/672359/04.04.05.03/2023).

Since the last round of consultation, the energy production areas bordering the outer limit of the Finnish EEZ have been changed from "*alternative energy recovery areas*" to "*energy recovery areas*" in the revised draft marine spatial plan. Traficom reiterates the concerns it has already expressed in previous opinions about the designation of energy production areas in the immediate vicinity of areas used by shipping. In the Gulf of Bothnia Marine Spatial Plan under review, energy recovery areas are in the immediate vicinity of key shipping areas and in some places on both sides of shipping areas, which, inter alia, undermines maritime safety and increases the potential for environmental risks. In the case of individual offshore wind projects, experience has shown that it is very difficult to get zoning changes changed once project planning has started, and capacity and annual production targets have been set by the project developer. This would justify stronger coordination of maritime and energy recovery areas not only in the permitting and clearance procedures for individual projects, but also in strategic plans at the higher level - such as the Marine Spatial Plans - where the overall spatial planning and coordination is guided by a broad perspective across project and national boundaries.

From the point of view of Finnish and Gulf of Bothnia shipping, it would have been desirable that the delimitation of the energy recovery areas along the outer limit of the Swedish EEZ had taken more equal account of the operating conditions of Finnish and Swedish shipping. The designation of energy harvesting areas in the outer part of the EEZ, which also includes the main shipping lanes in the Gulf of Bothnia, will in many places shift the impact of the wind farms towards the east and the Finnish maritime areas. If the energy harvesting areas are implemented as proposed, maritime traffic routes are likely to shift increasingly to the Finnish sea areas and complicate traffic arrangements and the operating conditions for shipping, especially in the Bothnian Sea.

Finnish Transport Infrastructure Agency

In its opinion, the Finnish Transport Infrastructure Agency states the following. The Agency already made a statement to the Finnish Environment Institute on 29 January 2023 (VÄYLÄ/8069/00.03.02/2023) on the Swedish maritime plans.

In Sweden's revised maritime plans, the energy production areas in the Gulf of Bothnia, which are adjacent to the outer limit of the Finnish EEZ, have been changed from '*alternative energy recovery areas*' to '*energy recovery areas*'. As previously stated, these areas are located in close proximity to areas used by maritime transport. The energy production areas examined in the Gulf of Bothnia sectoral plan are located in close proximity to important maritime transport areas, with the transport area sometimes located between the energy production areas. This reduces maritime safety and increases the risk of pollution accidents.

The coordination of shipping and energy production, with the aim of ensuring smooth and safe year-round shipping, should be carried out as early as possible and taken into account in the overarching plans. The further an offshore wind farm or other energy recovery project progresses, the more difficult it will be to make changes that take account of the need for safe navigation.



Sweden's maritime spatial plan designates areas for energy recovery on the border between the economic zones of Sweden and Finland, in the same area where the most important shipping routes in the Gulf of Bothnia pass. This shifts the impact of energy recovery towards Finnish maritime areas, as maritime traffic is likely to shift more towards the Finnish side of the sea.

The selection of offshore wind power areas to be built in Finland's economic zone will be carried out in a process led by the Ministry of Economic Affairs and Employment, in which the various interests related to maritime use will be coordinated from the outset. Preliminary area boundaries will be published in early summer 2025. Their planning takes into account the needs of maritime traffic on the open sea, which should also be taken into account in Sweden's plans.

Coordination of the Finnish Maritime Spatial Planning cooperation

The Finnish Coordination Group for Marine Spatial Planning, which manages the marine spatial planning cooperation between the coastal county associations responsible for marine spatial planning in Finland, is grateful for the opportunity to provide an opinion on the environmental assessment of the proposed amendment to the Swedish Marine Spatial Plan for the Gulf of Bothnia, the Baltic Sea and the Skagerrak/Kattegat.

The Swedish Maritime and Water Administration has carried out a consultation on the proposal for amended Marine Spatial Plans for the Gulf of Bothnia, the Baltic Sea and the North Sea and the accompanying impact assessment. Naturvårdsverket notified Finland of the amendments to the Swedish Marine Spatial Plans in 2023, and their environmental assessments were subject to consultation in Finland under the Espoo Convention during the period 12/2023-2/2024. The Coordination of Marine Spatial Planning Cooperation issued an opinion. Sweden responded to the Finnish feedback in October 2024.

Following the consultation round, changes have been made to the draft Swedish Marine Spatial Plan. The most significant of these is the decision to remove all proposed offshore wind farms from the main Baltic Sea, based on a decision by the Swedish government in November 2024 following a statement from the Swedish Defence Forces. The removal of the sites has led to an expansion of the areas allocated to the Gulf of Bothnia, which has implications for the planning and use of Finland's marine areas.

We consider it important that such significant changes are clearly specified and properly documented also as part of the environmental impact assessment. The Finnish Coordination Group for Marine Spatial Planning cooperation stresses the importance of a continuous and reciprocal information exchange and hopes to participate in future intergovernmental negotiations and also before adoption of the Gulf of Bothnia plan. We suggest that the above-mentioned issues be considered in the further work of the environmental assessment process and in the preparation of the final Marine Spatial Plan.

This opinion was prepared by the Finnish Coordination Group for Marine Spatial Planning. The group is made up of the Regional Councils of Kymenlaakso, Uusimaa, Southwest Finland, Satakunta, South Ostrobothnia, Ostrobothnia, Central Ostrobothnia, North Ostrobothnia and Lapland.



Finnish – Swedish Transboundary River Commission

The Border Rivers Commission thanks you for the opportunity to give an opinion on this matter. The Commission gave an opinion at an earlier consultation stage:

[2023-12-20 opinion on the HaV's proposal for another marine plan](#)

The situation of wild salmon in the Gulf of Bothnia

The impact assessment notes the following:

"The situation for wild salmon in the Gulf of Bothnia has improved since a couple of decades, and today shows good status, while stocks further south are generally weaker. Reduced fishing, together with other measures, has led to reduced mortality in recent years, but there are concerns about disease-related mortality in several rivers."

The Commission highlights that this is somewhat dated information. At the time of writing, the status of the Torne River salmon after the last two summers is alarmingly poor. According to last year's report "Torne River stocks of salmon, sea trout and migratory whitefish - joint Swedish-Finnish biological basis for assessment of appropriate fishing regulations in 2025" ¹ which is done annually in cooperation between SLU and the Finnish Natural Resources Institute (LUKE):

"Preliminary data from 2024 indicate a continued weak return of salmon to many rivers in the Gulf of Bothnia, including the Torne River. It is currently unclear what is behind this change, but a continued deterioration in natural marine survival, possibly in combination with delayed sexual maturity, is a likely explanation that needs to be investigated."

"The downward trend in the number of spawning migrants since 2021 is clearly worrying, and there is unfortunately a clear risk that the population trend of recent years could be the start a downward trend for the stock."

"The Torne River salmon stock has long shown a positive development trend where the size of the return migration and smolt production meant that the stock was at or above the MSY level. However, the return of spawning fish in 2023 and 2024 have been remarkably weak and significantly lower than ICES forecasts, which is most likely explained by a deterioration in natural marine survival (see section 2.1). The weak salmon returns in 2023-2024 are expected to result in smolt production in a few years below the MSY level of the stock and the slightly higher national target levels set by Sweden and Finland (Figure 2.8)."

The Commission notes that recent research indicates a deterioration in the marine survival of the Torne River salmon and there is a risk of a negative stock trend for the coming years. With this in mind, the Commission highlights that it is particularly important to act according to the precautionary principle. This negative outlook should be kept in mind when assessing the potential impact of planned offshore wind power as salmon stocks may prove to be less resilient to negative impacts than assessed based on literature studies.

Impact of offshore wind power on salmon

From the consultation document:

"The question of how offshore wind power can affect salmon was raised in the consultation for the marine spatial plans. The Swedish Agency for Marine and Water Management therefore commissioned SLU Aqua to make a compilation of the current state of knowledge based on available research on the risk of impact from offshore wind power on migrating salmon (Koehler et al., 2024). The assessment is based on literature on salmon biology and on the impacts of offshore wind power."



There are currently no wind farms where salmon occur in Swedish seas to be able to study actual effects, nor are there any studies from wind farms in other countries. According to the current state of knowledge, the risk of migrating salmon being adversely affected is considered to be low if wind farms are constructed with bottom-fixed foundations with a long distance between the towers and are located in the open sea at a not too shallow water depth (more than about 30 meters)."

The Commission notes that there is still a lack of practical experience with offshore wind power to be able to assess the actual impact on salmon in the Bay of Bothnia and the Baltic Sea. One factor that complicates the assessment of impacts is the amount of offshore wind power planned throughout the wider international Baltic Sea area and the cumulative effects that may arise from such a large-scale change in the marine environment

Cumulative and transboundary effects

The consultation document states the following:

"If wind farms are established in several of the more coastal energy areas, there is a risk of cumulative negative effects on both fish spawning and conditions for salmon migration."

"The uncertainty surrounding the development of Finnish offshore wind power makes it difficult to assess the risk of cumulative effects, but in general there is a risk of impact mainly in shallower coastal waters. For migrating salmon stocks, marine areas in both Sweden and Finland are important."

Furthermore, the Swedish Agency for Marine and Water Management describes that:

"Overall, the MSPs are not expected to have a significant negative effect on fish in the MSP areas. However, the effects may vary slightly between different areas. "

The Commission underlines what it already commented in the first round of statements, that it is impossible to take a position on proposed energy areas without considering the totality of energy areas in the entire Gulf of Bothnia and the Baltic Sea. There is still a need for an assessment of the cumulative impact of all planned wind power farms in the transboundary sea basin in question. Such a more strategic assessment of the impacts of all planned offshore wind power requires good cross-border cooperation with the other Baltic Sea countries.

Centre for Economic Development, Transport and the Environment of Lapland

Natural environment

The Centre for Economic Development, Transport and the Environment of Lapland refers to its earlier statement on the matter (17.1.2024) and continues to emphasise the importance of assessing the combined effects of offshore wind farm areas planned in different sea areas and different countries. The aim should be to assess combined effects at the level of the master plan, since the environmental impact assessment of individual projects only considers the combined effects between the project in question and known projects in the vicinity. Many species of birds, fish and marine mammals that may be affected by offshore wind farm projects often move over large areas of the Baltic Sea.

In addition, the Centre for Economic Development, Transport and the Environment of Lapland draws attention to the hydrographic impacts highlighted in the assessment report. According to the modelling study, large-scale offshore wind energy construction may have an impact on hydrographic factors such as temperature, salinity, currents and stratification. The results suggest that large-scale expansion of the offshore wind energy area in the Baltic Sea may cause a shift of the halocline towards the surface and an increase in salinity and temperature at depth due to wind farm-induced wind attenuation behind a wind farm, leading to reduced water mixing. According to the Centre for Economic Development, Transport and the



Environment of Lapland, this may have implications for wider Baltic Sea food web and eutrophication trends, and the effects will probably also be reflected in Finland.

Fisheries industry

Regarding the current status of salmon stocks in the Gulf of Bothnia, the Centre for Economic Development, Transport and the Environment of Lapland notes that, for example, the number of spawning salmon (*Salmo salar*) that have entered the Torne River has decreased sharply since 2022. In 2023, the number of rising salmon was down to around 20 000 salmon and in 2024 to around 24 000 salmon. Weak salmon spawning migrations are estimated to lead to a reduction in the production of migratory juveniles and below the Maximum Sustainable Yield (MSY) target level for the salmon stock in the Torne River (Palm et al. 2025). It is currently unknown whether the weak spawning migration in 2023 and 2024 is due to a short-term dip or a longer period of reduced survival in the sea and reduced spawning migrations. At least in 2025, the salmon spawning migration in the Torne River is at risk of remaining weak. The development of salmon stocks in other rivers in the Bothnian Sea over the past few years is also worrying.

The Centre for Economic Development, Transport and the Environment of Lapland considers that the data gaps and uncertainties, especially for migratory fish, should be clearly highlighted in the conclusions of the impact assessment report. For example, there is a lack of information on salmon migration routes in the marine area and little knowledge of the migration behaviour of salmon juveniles in the marine area.

The Natural Resources Institute Finland and SLU (Sveriges lantbruksuniversitet) have started a joint project to study the behaviour of migratory fish in the Gulf of Bothnia using acoustic telemetry (2025-2026). According to the Centre for Economic Development, Transport and the Environment of Lapland, the study of migratory routes of migratory fish should also be considered in the areas of planned offshore wind farms. On the other hand, the effects of wind farms on migratory fish during operation in the conditions of the Bothnian Sea are not known. For example, wind power construction may change the temperature, currents and salinity of the sea inside and outside the wind farm area. The effects of these changes, together with noise, shadow flicker and electromagnetic radiation during the operation of the wind farm, on migratory behaviour of salmon, for example, have not been studied.

The Regional Council of Lapland

Areas allocated to the Bothnian Bay

The proposal designates a total of four energy zones in the Bothnian Bay, compared to five energy recovery zones and alternative zones in the previous proposal. For the rest of the Gulf of Bothnia, six energy recovery areas and three study areas are proposed. In total, these areas would allow a maximum of 130 terawatt-hours of annual production. The proposal also includes offshore wind energy sites and study areas in the southern parts of the Swedish maritime regions.

Of the energy areas designated in the proposal, the closest to the Sea Lapland is the energy area in the south-eastern part of Malören, about 45 km from the centre of Tornio, about 50 km from the centre of Kemi and about 25 km from the outer boundary of the Bothnian Bay National Park. The area of the south-eastern part of Malören has been extended to the west-south-west of the boundary of the previous proposal, covering part of the eastern part of Farstugrunden of the previous proposal. In total, the proposed area covers approximately 500 km², partly in



territorial waters and partly in the exclusive economic zone and is delimited in the immediate vicinity of the shipping lane to the ports of Kemi and Tornio. The Malur-Sansker alternative area, which is closer to the Finnish coast, is not included in the proposal anymore.

The area in the south-eastern part of Malören is designated as an area where special attention must be paid to overall safety, high natural values such as fish spawning grounds and mammal areas, and high cultural heritage values. The area is suitable for foundations attached to the bottom. The document also states that the area is used for winter navigation, which should be taken into account in terms of impacts. It is not clear from the documentation what proportion of the additional production the area would account for, nor how and to what direction the energy produced in the areas would be transferred for use.

In addition to the energy zone, an area intended for public use has been designated in the vicinity of Sea Lapland, surrounding the energy zone on the Swedish side. 'Public use' means an area in which no specific use has priority. Alongside public use, the intended uses for this area include maritime transport and recreation. Particular attention should be paid to the area's high natural and cultural values, such as fish spawning grounds and areas frequented by mammals.

Identified transboundary impacts

The proposed amendment to the Marine Spatial Plan assesses transboundary, cumulative impacts. In the Gulf of Bothnia, these may include impacts on birds, seal populations, fisheries, landscape, cultural environment, recreation, hydrography, commercial fisheries and shipping.

The risk of cumulative impacts is estimated to be particularly high in areas where energy production is planned in marine areas of high natural value and ecological connectivity, such as the habitats of migratory birds. Impacts on the cultural environment and landscape may also be significant, particularly where wind turbines are visible from neighbouring coasts. For maritime transport, energy infrastructure can increase the risk of accidents and reduce maritime safety. In addition, offshore wind energy can have implications for international fisheries and defence. The assessment of cumulative impacts is proposed to require cross-border cooperation and planning that considers the maritime landscape.

The energy zone in the south-eastern part of the Malören area of the Bothnian Sea is assessed to have a potentially large impact on the Baltic Sea ringed seal (*Pusa hispida botnica*) and the cultural environment. A medium impact is estimated for migratory birds, landscape, marine cultural heritage values and recreation. The impact on migratory salmon is estimated to be minor and the impact on shipping is estimated to be marginal.

The impacts on salmon migration are based on the assumption that the risk of impacts is low when wind turbines are in deep areas of the outer sea, sufficiently spaced apart from each other with base foundations. There is more uncertainty for floating foundations, but the risk of impact is still considered low. It is also noted that there are currently no wind farms in the Swedish sea in areas where salmon occur, so the actual impacts cannot yet be investigated, nor have similar studies been carried out on wind farms in other countries.

The proposal document states that the winter conditions in the Bothnian Sea require a high degree of adaptability from maritime transport and icebreaking operations. Large offshore wind farms can limit the necessary flexibility and pose challenges for winter shipping, especially for freight flows in the ports of northern Sweden. In addition, there are uncertainties about the impact of wind power on sea ice formation and thus indirectly on icebreaking needs and costs. The overall impact is difficult to estimate due to the uncertainty of the impact on winter



shipping, but the impact is estimated to be medium for both Swedish and international shipping. According to the Marine Spatial Plan, safety distances to fairways will be decided in the authorisation and more detailed planning.

Relationship to the Marine Spatial Plan and the Regional Plan

In its previous opinion, the Regional Council of Lapland has highlighted the relationship between the Swedish maritime spatial plan and the Finnish maritime spatial plan, the regional land use plans in force in Lapland and the Lapland Agreement.

On 2 December 2024, the management group of the Regional Council of Lapland decided to launch the preparation of the phased regional land use plan for security and transport for Lapland 2050, to announce the launch of the phased regional land use plan and to open the participation and assessment scheme for public consultation. The phased regional land use plan for security and transport for Lapland 2050 was announced on 24 January 2025. The aim of the phased regional land use plan is to update the existing regional land use plans in view of the geopolitical situation and to respond to changes in the operating environment in terms of land use planning, particularly regarding the transport system and security. The aim of the phased regional land use plan is to indicate the development objectives for the transport system in accordance with the Lapland's Transport Strategy 2050 and to take into account the land use needs of the Defence Forces. In addition, the aim is to designate key areas for large industrial or warehouse buildings.

Lapland's Transport Strategy 2050 states, among other things, that the development of ports and connections to ports must take into account the needs of military mobility. The action plan 2036 connects the waterways leading to the ports of Ajos in Kemi and Röyttä in Tornio to Swedish waterways and deep open water in cooperation with Sweden and secures icebreaking to the ports on the Bothnian Sea.

The 2050 strategy identifies in the regional land use plan the fairways and ports serving the needs of shipping, as well as areas for the development of nationally significant port activities, which will secure the expansion and development needs of ports. For maritime transport, the port of Kemi Ajos - Swedish waterway network and the port of Tornio Röyttä - Swedish waterway network have been identified as shipping routes to be developed.

The view of the Regional Council of Lapland

The Regional Council of Lapland thanks for the opportunity to comment on the proposal for Sweden's amended maritime spatial plans. Solutions in Swedish sea areas may have a significant combined impact on the spatial structure, accessibility, environment - including maritime transport, security of supply, national defence and ecological and regional development connections in the Bothnian Arc - of Finland, especially Lapland. Through these impacts, spill-over effects may also be felt back to Sweden.

In the proposed Marine Spatial Plan these transboundary impacts have been successfully identified. The Regional Council of Lapland considers the environmental impact assessment to be mostly accurate and agrees with the estimates of uncertainties of certain impacts presented in the proposal. However, the Regional Council of Lapland continues to emphasise that if the implementation of the energy recovery areas has an impact on winter navigation or on migratory fish in the Torne River, especially salmon, the impact will be transboundary. This applies to all energy recovery areas in the Gulf of Bothnia, considering both the production area itself and, in the case of migratory fish, the transmission of power to the mainland, the cumulative and combined effects of these. The Regional Council of Lapland emphasises that



migratory fish are of great ecological, cultural and economic importance in the Torne River Valley and the Bothnian Sea and the Baltic Sea more widely.

The rise of migratory fish in the Torne River must not be jeopardised. Migratory fish are an important part of the identity of the Torne River Valley. In addition, the Torne River Valley Common whitefish (*Coregonus lavaretus*) dipnet fishing tradition is in the process of applying for UNESCO Intangible Cultural Heritage status.

The Regional Council of Lapland asks to take into account that winter shipping is of great regional importance in Lapland and in the wider region of Finland. In addition, the Regional Council of Lapland considers that it should be checked whether the energy area in the south-eastern part of Malören is of importance for security of supply and military mobility, for example regarding the connection between Kemi and Luleå during the winter period. If necessary, the area should be adapted to meet these needs.

The nature and landscape impacts of the south-eastern part of Malören also have cross-border effects and may also have an impact on tourism, which is an important regional economic sector in Lapland and has growth potential in the region of the Bothnian Sea.

Council of Oulu Region

The Marine Plan aims to ensure fossil-free electricity production by 2040. Four energy production areas have been designated in the Baltic Sea. Six energy production areas have been designated in the Bothnian Sea. Three areas have been proposed as energy study areas because of the migration routes of birds.

Most of the energy production areas are in the Swedish EEZ, but some are also located in territorial waters. In the territorial seas and EEZs of Sweden and neighbouring countries, human activity is constantly increasing. Offshore wind energy production is expected to increase both in Sweden and in neighbouring countries.

The Baltic Sea has good conditions for energy production and, with large industrial investments, a demand for energy. For offshore wind power, both fixed and floating platforms are possible in the region. In addition to energy production, various areas suitable for public use and areas of importance for national defence have been identified in the Bothnian Sea. In addition, areas of particular importance for recreation and natural values have been identified, as well as areas suitable for the extraction of mineral resources. Maritime transport is of great importance for industry in northern Sweden, with the specific characteristics of tectonic uplift and winter ice conditions.

Different areas have been identified as having their own specific characteristics, which need to be considered when using the areas or planning activities. A comprehensive assessment of the impacts of the Marine Spatial Plan has been carried out for the three plan areas and the results and conclusions have been collected. The prevention, avoidance and minimisation of significant adverse environmental impacts have also been examined by subject matter.

The Marine Spatial Plan has also assessed the cumulative and transboundary impacts of the proposed offshore wind energy production, which is important because of the increasing offshore wind farm production. In the Gulf of Bothnia, impacts are estimated to include fisheries, the Baltic ringed seal (*Pusa hispida botnica*) birds, benthic fauna, the cultural environment, landscape, hydrography, fisheries and shipping. Cumulative risks are more pronounced when energy production takes place in areas of high nature value. Wind farms can have a significant impact on in the cultural environments and landscapes of neighbouring



countries. For salmon (*Salmo salar*), impacts will be limited when sites are in deep sea areas. There will be impacts on maritime transport and the infrastructure it requires. Winter navigation and icebreaking will face major challenges if offshore wind energy is developed as planned in the areas under Swedish and Finnish control.

In terms of North Ostrobothnia's regional planning, the phased regional land use plan for energy and climate for North Ostrobothnia in Finland is currently being approved, which also addresses offshore wind power in the region's territorial waters. A total of five offshore wind energy areas have been proposed, three of which are close to the border of the Finnish EEZ and within the sphere of influence of the offshore wind energy areas in the Swedish Marine Plan. In addition, OX2's Halla project is in the planning stage in the Finnish EEZ and is also a candidate for a tender area in the EEZ by the Ministry for Economic Affairs and Employment of Finland.

The Regional Council of Oulu considers that the Swedish Marine Plan has merit, but the Marine Spatial Plan has failed to consider, for example, the so-called shielding effects of large wind power areas, which can also have a significant impact on wind power projects in neighbouring countries. More should also be done on joint research across national borders, such as migratory fish research, since these are shared marine areas. In addition, interaction between countries should be increased to further minimise transboundary cumulative negative impacts and to develop offshore wind projects on both sides of the Gulf of Bothnia.

Finnish Meteorological Institute

The Finnish Meteorological Institute has examined the environmental impact assessment with regard to the hydrography and ice situation in the Gulf of Bothnia and the Baltic Sea proper and has the following comments:

The Finnish Meteorological Institute considers that the environmental impacts and their uncertainties have been extensively assessed. There is very little comprehensive research on the Baltic Sea, and hardly any existing examples of the environmental impacts of offshore wind power. The report refers to a study by SMHI on the effects of offshore wind power on hydrography in the whole Baltic Sea area, which is probably the most comprehensive report on the subject.

The Finnish Meteorological Institute considers that the environmental impacts of the implementation of the Marine Spatial Plan have been comprehensively considered and can be used as a basis for planning mitigation/reduction measures for future offshore wind developments.

Natural Resources Institute Finland (Luke)

In its opinion, the Natural Resources Institute Finland will only comment on matters related to its own field of competence.

In Sweden's draft Marine Spatial Plan, all new offshore wind areas in the Baltic Sea are in the Gulf of Bothnia, where 13 offshore wind areas have been designated. Five of these areas border the maritime border between Finland and Sweden. The impact assessment report on the proposed plan also highlights the risks associated with the potential cumulative effects of offshore wind farms in the Gulf of Bothnia. These risks relate, for example, to the breeding of the ringed seal (*Pusa hispida*) and migratory birds in the Bothnian Sea. A large amount of offshore wind power is also planned for the Finnish maritime area in the Gulf of Bothnia. The potential combined effects of offshore wind power are transboundary. Therefore, the Natural Resources



Institute Finland believes that in the future, efforts should be made to consider the combined effects on the Gulf of Bothnia as a whole. This would be better achieved if, in the future, the updates of the Swedish and Finnish offshore plans were to be carried out on the same timetable. In addition, Luke states that more useful research data are urgently needed, especially for assessing and anticipating combined effects.

The Finnish Heritage Agency

The Finnish Environment Institute has given the Finnish Heritage Agency the opportunity to comment on the proposed amendment to the Swedish Marine Spatial Plan and its impact assessment. The Finnish Heritage Agency has examined the matter regarding the consideration of the marine cultural environment and cultural heritage, including underwater cultural heritage.

Taking the cultural environment into account in documents

The consultation documents include a draft marine spatial plan in English and an impact assessment document. The proposed amendment to the Marine Spatial Plan identifies areas where particular attention needs to be paid to the cultural environment and where other land uses may cause adverse impacts. Areas where cultural and natural heritage values should be preserved are marked on the MSP maps with a specific designation (K). The need for coordination between the cultural environment and other uses of the maritime area, such as nature conservation, energy projects, defence and maritime transport, has been identified.

The draft Marine Spatial Plan describes the cultural environment and heritage of each of the three geographical areas, such as fishing villages, sawmill communities, industrial and transport heritage sites and archaeological sites, including wrecks. The part of the marine spatial plan closest to Finland is the Gulf of Bothnia, which is where the High Coast/Kvarken Archipelago (Korkearannikko-Merenkurkku) World Heritage Site, based on geological values shared by Sweden and Finland, is located. This area has been taken into account in the draft plan, which is important.

The impact assessment document is thorough. For each of the three geographical areas covered by the Marine Spatial Plan, the impact of energy zones on different activities has been assessed. The cultural environment and heritage are strongly reflected in the impact assessment. If the proposed energy site is less than 35 km from a cultural heritage site, visual impacts should be given special attention in the preparation of the energy project. Underwater cultural heritage has been considered, which the Finnish Heritage Agency considers important for offshore energy projects. For example, in the Gulf of Bothnia, where energy zones are being added to the Marine Spatial Plan, maps are used to show the location of known marine archaeological sites in both areas already included in the plan and in new energy areas. The number of known sites is shown in the table. It is also noted that the information on marine archaeological sites in Swedish waters is not comprehensive, so that the preparation of offshore wind farms must include an inventory of underwater cultural heritage.

The impact assessment takes into account the adverse visual and landscape impacts of energy projects on cultural environments, Swedish World Heritage sites and recreation. The impacts will be illustrated by means of maps. For example, in the Gulf of Bothnia Marine Spatial Plan Area, the assessment has identified five energy sites with high negative impacts on cultural heritage.

The assessment also describes the landscape impacts of the energy areas in the Gulf of Bothnia on the Finnish side. One energy zone is estimated to have an indirect impact on the



Finnish side of the Bothnian Sea National Park and the cultural environments of Kemi, which are about 25 kilometres away. The second energy site risks adverse visual impacts on the Kvarken World Heritage Site.

The Finnish Heritage Agency's position on the draft amendment to the Swedish Marine Plan

The draft amendment to the Swedish Marine Plan has been drafted with the participation of Swedish Cultural Environment Authority. In the Agency's view, it is up to the authorities in each country to ensure that the cultural environment is taken into account in a sufficient and appropriate way in maritime spatial planning. In Sweden, the preparation of the maritime spatial plan has been carried out with great care with regard to the cultural environment, as can be seen, inter alia, from the fact that the preparation has included the definition of 'marine value areas' along the entire coastline and that, for example, information on marine archaeological sites has been updated in the cultural environment register in the counties during the preparation.

The cultural environment and heritage have been well taken into account in the proposed amendment to the Marine Spatial Plan. The Finnish Heritage Agency has no comments to make on the proposed amendment and the impact assessment.

The Finnish Heritage Agency will, as far as possible, follow developments in marine spatial planning in other countries and contribute to the updating of Finnish marine spatial planning.

Responded but did not give any statement or stated that they are not going to issue their own separate statement (7): Centre for Economic Development, Transport and the Environment of Southwest Finland, The Regional Council of Southwest Finland, Centre for Economic Development, Transport and the Environment of Uusimaa, Helsinki-Uusimaa Regional Council, Finnish Institute for Health and Welfare, The Finnish Safety and Chemicals Agency (Tukes) and The Finnish Border Guard.

Conclusion

In conclusion, the adoption of the Gulf of Bothnia Marine Spatial Plan hinges on the resolution of several key issues. We believe that Finland and Sweden can resolve these matters effectively through constructive dialogue and cooperation.

Based on the feedback received and at the request of the Ministry of the Environment and the Ministry of Economic Affairs and Employment, the Finnish Environment Institute requests that Sweden and Finland engage in bilateral negotiations to jointly finalise the designation of offshore wind energy areas in the Gulf of Bothnia, and the assessment of cumulative transboundary impacts prior to adopting the Marine Spatial Plan for the Gulf of Bothnia. These negotiations would ensure that all responses are given thorough consideration, and the decisions are based on all available information.

Both Finland and Sweden are under pressure to include new energy production areas in their maritime plans. As these areas have an impact to other uses in the Gulf of Bothnia, it is important to approach this issue strategically and bilaterally. This is particularly important in terms of environmental impact but also regarding fairway planning, ensuring winter navigation safety, and determining cable routes for offshore wind farms that cross the Finnish–Swedish border.

Coherence and coordination between the Finnish and Swedish maritime spatial plans are crucial, particularly regarding maritime transport and offshore wind farms in the Gulf of Bothnia.



To this end, the countries must maintain sufficient contact through informal and formal discussion and information-sharing forums.

Strengthening cross-border cooperation and integrating environmental impact assessments are essential steps towards the sustainable, coordinated management of our shared marine resources.

The Finnish Environment Institute is confident that the ongoing cooperation and the bilateral negotiations under the Protocol on Strategic Environmental Assessment (SEA) to the Convention on Environmental Impact Assessment in a Transboundary Context will achieve a mutually beneficial outcome.

Head of Services

Jenni Juslén

Senior Officer,
 Point of Contact for the Espoo Convention
 and the SEA Protocol

Ulla Helminen

This document has been electronically signed.

For information Ministry for Foreign Affairs of Finland
 Ministry of the Environment
 Ministry of Economic Affairs and Employment
 Ministry of Transport and Communications
 Government of Åland (Ålands landskapsregering)
 Finnish Transport and Communications Agency Traficom
 Finnish Transport Infrastructure Agency
 Coordination of the Finnish Maritime Spatial Planning
 cooperation
 Finnish – Swedish Transboundary River Commission
 Centre for Economic Development, Transport, and the
 Environment of Lapland
 The Regional Council of Lapland
 Council of Oulu Region
 Finnish Meteorological Institute
 Natural Resources Institute Finland (Luke)
 The Finnish Heritage Agency
 Centre for Economic Development, Transport and the Environment
 of Southwest Finland
 The Regional Council of Southwest Finland
 Centre for Economic Development, Transport and the Environment



Suomen ympäristökeskus
Finlands miljöcentral
Finnish Environment Institute

of Uusimaa
Helsinki-Uusimaa Regional Council
Finnish Institute for Health and Welfare
The Finnish Safety and Chemicals Agency (Tukes)
The Finnish Border Guard.