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Swedish Environmental Protection Agency
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Finland's response to the notification in accordance with Article 3 of the Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention) regarding planned wind farm Rajala in Pajala Municipality, Norrbotten county in Sweden

The Finnish Environment Institute acknowledges that Finland has received the notification, dated 18 June 2025, and the consultation documents from Sweden in accordance with Article 3 of the Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention), regarding the planned wind farm Rajala in Sweden.

Hydro REIN Sweden AB is planning to build the Rajala wind farm in the municipality of Pajala in the county of Norrbotten. The project area is located around 20 kilometres south of Pajala and around 16 kilometres from the Finland-Sweden border. The planned project area covers around 58 square kilometres. The wind farm will consist of up to 57 turbines, with a maximum height of 300 metres. It is estimated that the planned wind farm will produce around 1.2 terawatt hours (TWh) of electricity per year.

Consultation in Finland

According to the Finnish Act on Environmental Impact Assessment (252/2017), the Finnish Environment Institute is the competent authority and responsible for information and consultation tasks under the Espoo Convention.

In the notification, the Swedish Environmental Protection Agency requested an indication whether Finland intends to participate in the EIA procedure for the planned Rajala wind farm project, to provide comments concerning the scope for the assessment of the environmental impacts of the project affecting Finland and submit comments from the public and the authorities in Finland.

The public and the authorities were given the opportunity to comment on the consultation documents from 24 June to 25 August 2025, which were available on the website of Finland's environmental administration (ymparisto.fi) and a platform by Ministry of Justice in Finland for requesting and submitting statements electronically (lausuntopalvelu.fi).

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Remarks received during the consultation

The Finnish Environment Institute received seven (7) statements. The Finnish Environment Institute has prepared a summary of the original statements in English below. However, the original statements in Finnish or Swedish, which are enclosed to this letter, include important and detailed remarks which need to be examined and taken into consideration in their entirety.

Centre for Economic Development, Transport and the Environment of Lapland

The Centre for Economic Development, Transport and the Environment of Lapland considers that Finland needs to participate in the environmental impact assessment procedure for the project. Finland is likely to be significantly affected, and the impacts and their significance for Finland should be assessed.

Finland as an area affected by the impacts

The assessment programme notes the distance of the project area from Finland but does not provide a map showing the location of the project in relation to Finland. Based on a map review, the project's impact area extends to the northern part of the municipality of Pello and the southern part of the municipality of Kolari in Finland. The project area is located approximately 19.5 km from Jarhoinen in Pello, Finland, approximately 16.0 km from Väylänpää and approximately 16.2 km from Temppeliharju in Kolari.

Based on preliminary information, the Centre for Economic Development, Transport and the Environment of Lapland considers it likely that there will be impacts on birdlife and the landscape in Finland. In addition, the combined impacts of wind power projects implemented in the municipality of Pajala in Sweden may extend to Finland. According to the assessment programme, the impact on birdlife, combined impacts and transboundary impacts will be examined in the environmental impact assessment procedure. However, the content of the transboundary assessment is not disclosed. Regarding birdlife, it remains unclear whether the assessment will cover the possible cross-border territories of migratory birds and large birds of prey. The visibility area of the project in the Torne Valley is not presented.

Landscape

The closest nationally significant landscape area to the project area is the Venejärvi village landscape (VAM150157), located approximately over 40 km from the project area. In addition, visibility of the landscape site in the direction of the project area is likely to be restricted by Muotkavaara and Venerova. The Centre for Economic Development, Transport and the Environment of Lapland agrees with the statement by the Finnish Heritage Agency on 6 August 2025 (MV/01406/2025) that the project is unlikely to have an impact on sites of landscape and built cultural heritage value in Finland.

Based on the guidelines for assessing landscape impacts in wind power construction (The Ministry of the Environment/YM 2024:29), the planned 300-metre-high wind turbines are likely to be clearly visible in the Torne Valley area, depending on the terrain. Viewed from Finland, the planned wind turbines would be located at approximately 16 km at their closest point. In terms of landscape impacts, the outer impact area begins at approximately 8.2 km from the 300-metre-high wind turbines and becomes a distant impact area at approximately 20 km.

The Kittisvaara measuring point, which is part of the Struve Geodetic Arc, a chain of triangulation measurements, is located approximately 32 km from the project area near the town

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of Pello, Olosvaara is approximately 13 km from Jarhoinen in Finland, and Ylinenvaara is approximately 15 km from Lappea in Finland. The closest measurement points in the Struve Geodetic Arc chain included in the UNESCO World Heritage Site are in Sweden.

The Centre for Economic Development, Transport and the Environment of Lapland considers that the project's impact on the landscape must also be assessed with sufficient accuracy in the Finnish part of the impact area. A visibility analysis should be carried out for the entire impact area. An appropriate assessment requires illustrative material and expert review of the impacts of the change and their significance. The assessment must highlight the project's impacts on the structure, character and quality of the landscape. Visual impacts should be demonstrated regarding the population centres and tourist and recreational areas located in the Torne Valley. The assessment should consider the effects of signal lights on the landscape during the hours of darkness. The impact on the sightlines between the measurement points of the Struve Geodetic Arc chain should be assessed where necessary and, where possible, points outside the World Heritage Site should be considered. Where necessary, the assessment should include measures to mitigate adverse landscape impacts.

Birdlife

There are no nationally significant bird migration routes in the project area. However, the Torne River serves as a migration route and gathering area in autumn for several migratory bird species. Regionally valuable gathering areas include the Turtola fields, Kaulinranta, Purasenvaara fields and Närkki, as well as the fields of Kuivakangas, Mustajänkkä and Pahasuo.

The Torne River also has several valuable bird nesting areas. Pellojärvi-Säynäjäjärvi (FI1301005) is part of the Natura 2000 network based on the Birds Directive and is a nationally valuable bird nesting area. The islands of Kainuunkylä (FI1302105) are included in the Natura 2000 network based on both the Birds and Habitats Directives, and the area has been designated an internationally important bird wetland (Ramsar site). According to information obtained from the Natural Resources Institute Finland (Luke), the migration routes of taiga bean geese (*Anser fabalis*) nesting on the Finnish side pass through the Swedish side and probably also through the area affected by the Rajala wind farm project in Pajala. Some of these geese may be individuals nesting in Natura areas on the Finnish side. The goose is a protected species in, for example, Sotkavuoma (FI1300111), Pöyrisjärvi wilderness area (FI1300103), Pulju wilderness area (FI1300601), Pallas-Ounastunturi (FI1300101) and Teuravuoma-Kivijärvenvuoma (FI1300701) Natura areas. The impacts on the migration of geese must be investigated within the environmental impact assessment. In this context, the combined effects of the projects should also be examined.

Project

The consultation material does not provide any information on power lines likely to be associated with the project. The Centre for Economic Development, Transport and the Environment of Lapland considers that power lines may have an impact on birdlife in addition to the landscape, so the location and structure of the power lines must be clearly presented in the project description, and the impacts must be assessed appropriately and by comparing alternatives where necessary.

Cumulative impacts

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The cumulative impacts together with the wind power projects built and planned near the Finnish border in the municipality of Pajala must be illustrated and assessed. Electricity transmission should be taken into consideration in the cumulative impact assessment.

Regional Council of Lapland

The Regional Council of Lapland states that Finland should participate in the environmental impact assessment procedure for the Rajala wind farm.

Landscape impacts

The Rajala wind farm area is located on the Swedish side in the vicinity of the Western Lapland regional land use plan confirmed on 19 February 2014 and the Fell Lapland regional land use plan that entered into force on 16 May 2012.

The Government decided on nationally valuable landscape areas (VAMA 2021) at its meeting on 18 November 2021. The new list of areas replaces the previous list from 1995. The national land use objectives in the Land Use Act require that valuable landscape areas are taken into account in land use.

The village landscape of Venejärvi in Kolari, located approximately 25 km east of the Torne River, was designated as a nationally valuable landscape area. Venejärvi has been designated in the Fell Lapland regional land use plan as an area/site of importance for the preservation of the cultural environment and/or landscape (plan identifier/ma 5986).

The cultural landscape of Ratasjärvi in Pello, which is located approximately 26 km south of the centre of Pello and approximately 3 km east of the Swedish-Finnish border, was also designated a nationally valuable landscape area. The village of Ratasjärvi is also an RKY 2009 site, i.e. a nationally significant built cultural environment. In the Western Lapland regional land use plan, the cultural landscape of Ratasjärvi and the village of Ratasjärvi have been designated as areas/sites of importance for the preservation of the cultural environment and/or landscape (ma 8147).

The inventory of built cultural environments compiled by the Finnish Heritage Agency (RKY 2009) has been adopted by the Government as the inventory referred to in the national land use objectives based on the Land Use and Building Act. The sites included in the inventory must be considered as a starting point for land use planning. The old church and bell tower in Kolari are nationally significant built cultural environment sites and are designated as a building conservation area/site in the Fell Lapland regional plan (protected building/SR 3085).

Nationally valuable landscape areas and nationally significant built cultural environments must be taken into account in the assessment of the project's landscape impacts by indicating the visibility of wind turbines from the above-mentioned areas. The assessment of landscape impacts requires illustrative material and an analysis of the impacts of the change and their significance.

The Western Lapland regional land use plan also designates an area/site (Kittisvaara) important for the preservation of the cultural environment and/or landscape (ma 6092) in connection with the Torne River. The Fell Lapland regional land use plan designates the confluence of the Torne and Muonionjoki rivers as an area/site important for the preservation of the cultural environment or landscape (Lappea, ma 5990).

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The assessment of landscape impacts must also consider the effects of aviation obstruction lighting on the landscape during hours of darkness. The aviation obstruction lights of wind turbines are visible from a long distance in the dark and affect, for example, the visibility of the Northern Lights. Negative landscape impacts are significant for the tourism operating environment and the development of the tourism industry in the Torne River and Torne Valley area.

In the regional land use plan, the border river Torne is designated as a nature conservation area (SL 4051) and the river is part of the Natura 2000 network. The Torne River is Europe's most important salmon river and has significant ecological, economic and cultural importance. The regional land use plan for Western Lapland designates the lake areas of Ylitornio-Pello (mv 8415) as a tourist attraction and a target area for the development of tourism and recreation in connection with the Torne River. The landscape impacts of the Rajala wind farm must also be assessed in relation to the Torne River.

Cumulative impacts

Eolus Energy Oy is planning to build a maximum of 16 wind turbines in the municipality of Pello in the Teikovaara and Saarivaara areas, approximately 2.1 kilometres north-east of the village of Pello. The distance from the project area to the Swedish border is approximately one kilometre. An environmental impact assessment procedure is currently underway for the project.

The environmental impact assessment procedure for the Rajala wind farm must assess the cumulative impacts of the project in question and other wind power projects in operation or planned in the surrounding area.

No-fly zone/Cross-border area (CBA)

The municipalities of Ylitornio, Pello, Kolari and Muonio are in a joint CBA training area between Finland and Sweden, where the air forces of both countries conduct low-altitude training. The CBA was established in 2012, but the area was activated for training use in the summer of 2023. The Rajala wind farm area is located on the Swedish side of the CBA area, which means that the Finnish Defence Forces must also be consulted on the environmental impact assessment procedure for the Rajala wind farm.

The use of distance zones in the consultation document maps would make it easier to assess where the wind farm's impacts will take place and how significant they will be.

Reindeer Herders' Association

The Rajala wind power project area is located in the Sattajärvi and Korju Sameby areas. The documents describe that the area is mainly used for seasonal grazing, except for grazing in winter and early summer. The eastern part of the area belongs to the Sattajärvi Sameby area. To the north of the area are reindeer grazing areas, rutting areas, gathering areas, calving areas, enclosures and passageways. The western part of the area is located in the Korju Sameby area. A north-south reindeer migration route runs through the area from Ulmavaara, connecting to migration routes on the southern side of the area.

There is a reindeer gathering area in the Typpyrävaara area. The south-eastern part of the study area borders on a calving area, which also includes areas designated as gathering, grazing and rutting areas. The study area is located in a nationally significant reindeer herding

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area. In Finland, the Orajärvi and Kolari reindeer herding cooperatives are the closest to the project's impact area.

In projects such as this, measures to prevent and mitigate impacts and adverse effects, as well as issues of compensation and liability, must be examined and resolved with particular care.

Impacts of the project on reindeer husbandry and their assessment

Changes to the environment always affect the conditions for reindeer husbandry. The EIA procedure plays a key role in assessing the project's impact on reindeer husbandry. The impact assessment must examine the status of the areas and their significance for the activities of the reindeer herding cooperatives in the impact area. The project's impact on the reindeer herding cooperatives' reindeer pastures, the use of reindeer grazing areas, reindeer husbandry activities and structures, as well as the social, cultural and economic impact on reindeer husbandry of the reindeer herding cooperatives must be investigated. These investigations require consultation and dialogue with the reindeer herding cooperatives. They should also identify measures to prevent and mitigate any adverse impacts of the project. The assessment should evaluate the cumulative impacts of other similar projects and other land use.

The impacts on reindeer husbandry in Sweden are briefly mentioned in the documents. No impacts on reindeer husbandry on the Finnish side have been assessed or mentioned. Reindeer are likely to avoid the wind power production area beyond the project area. Several peer-reviewed scientific studies have been published on this in Sweden, and there is experience from several Finnish reindeer herding cooperatives. Due to the short distance, it is possible that reindeer from the project area may migrate to Finland. The planned Rajala wind farm area is located approximately 16 kilometres from the border between Sweden and Finland. There is no fence along the entire length of the border between the two countries that would prevent reindeer from migrating to Finland. The migration of reindeer would cause additional work and costs. In addition, conflicts may arise with farmers and permanent residents, in whose areas crops and gardens must not be damaged by reindeer.

The project may also have significant adverse effects on reindeer husbandry in Finland, which must be assessed. The effects extending to Finland must be assessed and documented appropriately. The impact assessment must utilise research data and the experience of the local reindeer herding cooperative and reindeer herders. Measures to prevent and mitigate the adverse impacts of the project must also be identified. If the project proceeds, efforts should primarily be made to prevent and mitigate the adverse effects and to compensate the reindeer herding cooperative in full for any adverse effects that cannot be prevented or mitigated.

The Reindeer Herders' Association considers that Finland should participate in the EIA procedure for the Rajala wind farm project.

Finnish Heritage Agency

The Finnish Heritage Agency has issued the following statement on the cultural landscape, built cultural environment and archaeological cultural heritage.

The wind farm would be located approximately 20 kilometres south of the Pajala urban area. The plan consists of a maximum of 57 wind turbines with a total height of up to 300 meters. The distance between the project area and the border between Finland and Sweden is approximately 16 kilometres.

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The planned Rajala wind farm area is more than 50 kilometres from the nationally valuable landscape area (VAMA 2021) of Aavasaksa in Ylitornio. The landscape area includes the Aavasaksa Struve Geodetic Arc, a UNESCO World Heritage Site. Another nationally valuable landscape area is the village landscape of Venejärvi in Kolari, which is approximately 40 kilometres from the project area. The cultural landscape of Ratasjärvi in Pello and the village landscapes of Lohijärvi and Leukumanpää in Ylitornio are also tens of kilometres away.

The nearest built cultural heritage sites of national significance (RKY 2009) are in Kolari. The old church and bell tower of Kolari are approximately 40 kilometres away. The Lappeankangas coal kilns, which are part of the iron manufacturing history of the Torne Valley, are approximately 20 kilometres away.

No notable impacts on regionally significant cultural environments and landscape areas designated in regional land use plans can be identified.

Due to the long distance, the landscape impacts of the Rajala wind farm on valuable landscape and cultural environment sites in Finland can be assessed as neutral or minor, at most. The project would therefore not have any significant environmental impacts on valuable landscape areas, built cultural environments, or archaeological cultural heritage in Finland.

The Finnish Heritage Agency does not consider it necessary for Finland to participate in the environmental impact assessment procedure regarding the cultural environment.

Finnish Meteorological Institute

Regarding the weather radar network, the Finnish Meteorological Institute does not see any need to participate in the EIA procedure, as the area is more than 20 km away from the nearest weather radar.

Please note that there are plans for numerous wind farms in the area (on both the Finnish and Swedish sides), which, if implemented, will cause significant interference with radar measurements and may affect weather services in the area. The Finnish Meteorological Institute is concerned about the quality of weather radar measurements in the future and is currently discussing the requirements for compensation measurements in these types of areas. There is no concrete proposal yet, but if this is decided, the Finnish Meteorological Institute wishes to express its possible demand for compensation measurements already at this stage.

Finnish – Swedish Transboundary River Commission

The Finnish – Swedish Transboundary River Commission is grateful for the request for a statement and considers that Finland should participate in the environmental impact assessment procedure regarding potential significant transboundary environmental impacts.

Finnish Safety and Chemicals Agency (Tukes) have no comments on the matter.

Participation in the transboundary EIA procedure

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Based on the statements received and its own deliberations, the Finnish Environment Institute states in accordance with Article 3(3) of the Espoo Convention that Finland intends to participate in the EIA procedure of the Rajala wind farm.

Conclusions

The Finnish Environment Institute considers it important to examine and assess all the impacts mentioned in the statements given in Finland. Considering the location of the project area, it may have a transboundary impact, for example, on migrating birds, the large birds of prey, the landscape and reindeer husbandry. In addition to the assessment, it would be advisable to include a map demonstrating the project area's location in relation to Finland.

The potential impact on migratory birds and large birds of prey that cross borders must be taken into consideration in the environmental impact assessment of the project. The Torne River is an important migration route and gathering place for several bird species in autumn. In particular, the impact on taiga bean geese (*Anser fabalis*) must be assessed.

The project's impact on the landscape in the Finnish side must be assessed with sufficient accuracy. This impact must be presented using illustrative material, alongside an analysis of the effects and significance of the changes. The landscape assessment must consider the effect of aviation warning lights on the landscape during dark hours. The EIA report must include measures to mitigate any adverse landscape impacts.

The project may have significant adverse impact on reindeer husbandry in Finland. The possible adverse impact on reindeer herding, reindeer grazing lands and reindeer husbandry must be assessed. This assessment will require dialogue with reindeer herding associations. The measurements to prevent and mitigate these adverse impacts must be identified.

The cumulative impacts of wind power projects built and planned near the Finnish border must be assessed. Cumulative impacts amplify the impacts of individual projects and cause new impacts, for example on weather services in the area.

In addition, the project area is located on the Swedish side of cross-border training area, where the air forces of Sweden and Finland conduct low-altitude training. The project's impact on this defensive perspective must be taken into consideration in the EIA documentation.

To conclude, the Finnish Environment Institute wishes that the EIA documentation will provide a transboundary environmental impact assessment from Finland's perspective with a specific regard for the provided statements to the extent possible.

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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 Foreign Affairs
Ministry of the Environment
Centre for Economic Development, Transport and the Environment of Lapland
Finnish Heritage Agency
Finnish Meteorological Institute
Finnish Safety and Chemicals Agency
Finnish-Swedish Transboundary River Commission
Regional Council of Lapland
Reindeer Herders' Association