DRAFT FOR CONSULTATION

STRATEGIC ENVIRONMENTAL ASSESSMENT
INTERREG AURORA PROGRAMME 2021 - 2027

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Strategic Environmental Assessment Interreg AURORA programme 2021 - 2027

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1 INTRODUCTION

1.1 1ST DRAFT VERSION

This pm is a 1st draft version of the SEA Assessment of the Interreg Aurora Programme for 2021 – 2027. The purpose of this draft version is to allow for a public consultation of the SEA of the programme.

The main focus in this version is on the actual assessment of the programme structure, programme content and on the financial balance, i.e. chapters 7 – 9. Other sections (especially those marked in grey) of the SEA report are only preliminary and not completed. The completion of those sections are not seen to have any significant effect on the actual SEA of the programme. All sections, however, are subject to further revisions, before the final version of the SEA is submitted, e.g. as a result of the public consultation process.

Further details are found in the draft programme version, and the SEA Scoping document, both of which are sent out on public consultation.

1.2 BACKGROUND

The European programmes for territorial cooperation (Interreg) is an instrument within the cohesion policy designed to meet any challenges of a cross national-boundary border. The programmes are part financed under the European Regional Development Fund (ERDF).

Interreg has been part of EU cohesion policies since 1990. The overall objectives are minimizing the negative impact of national boundaries on a harmonized economic, social and cultural development within the EU as a whole. During 2021 a new programming period will commence; it involves the period of 2021 – 2027 and corresponds with the EU budget periods.

For the forthcoming Interreg programmes the EU Commission presented a proposed new directive in 2018 (COM(2018) 374 final, 2018/0199(COD)). The cross border programmes shall, according to this proposal, focus more than earlier on institutional cooperation, on removing border-obstacles, and on the development of common cross-border services.

Interreg Aurora (Sweden-Finland-Norway) is one of the cross border programmes covering the Nordics. The geography of the Aurora programme will be shown below.

1.3 THE PURPOSE OF THE SEA

According to the Swedish Environmental Code, Sect. 6, 3 §, anyone setting up a plan or programme required by law or other directives, shall perform a Strategic Environmental Assessment (SEA) to establish whether the execution of the plan or programme may cause considerable environmental impact.

In accordance with the SEA directive (Directive 2001/42/EC) and the proposed new Interreg directive (COM(2018) 374 final, 2018/0199(COD)) such an assessment shall also be carried out for the Interreg programmes, with the options of through a screening process deciding whether or not a full SEA shall be carried out, or not. The Managing Authority (MA) for the programme (Länsstyrelsen i Norrbottens län) has decided that a full SEA shall be carried out for the Interreg Aurora programme. The objective of the SEA is to better integrate aspects of the environment and sustainability in the programme.

2 THE PROGRAMME AREA

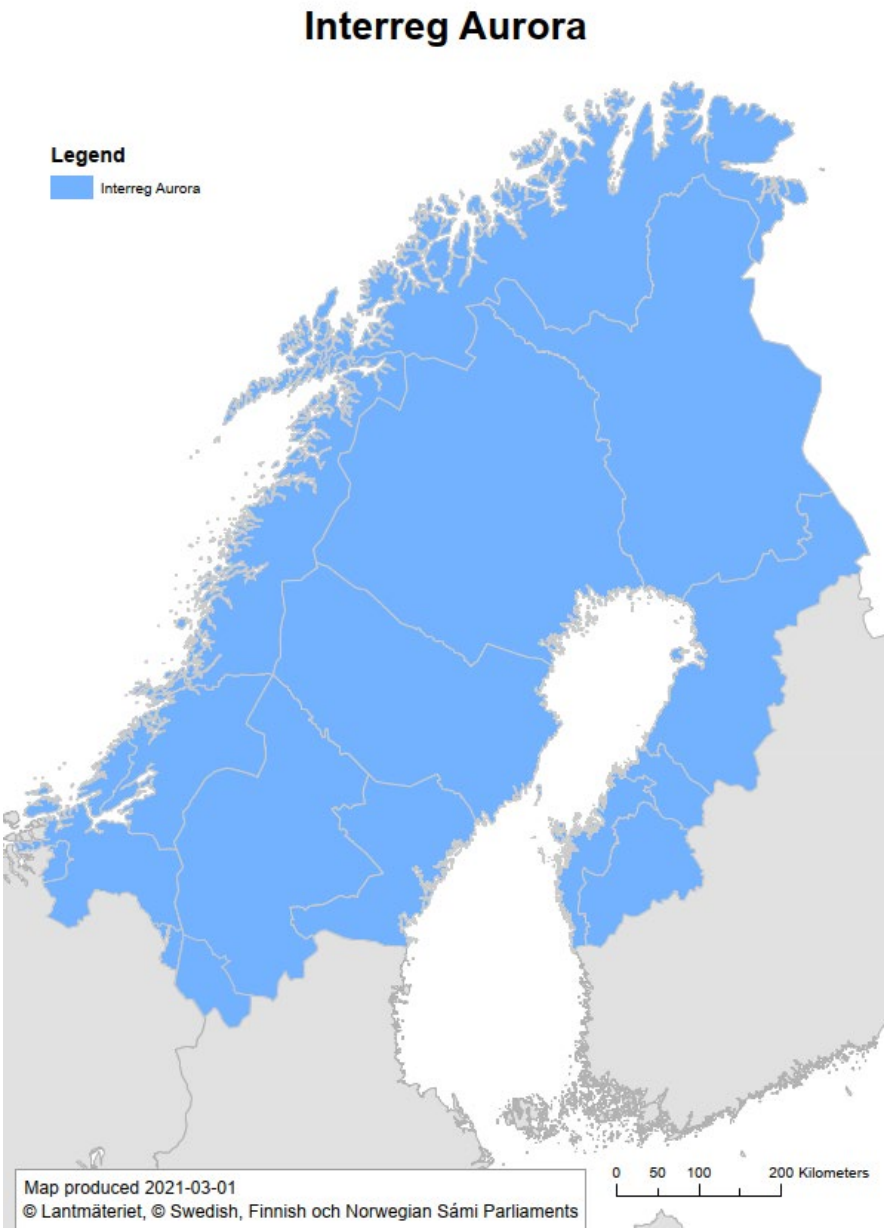
The area included in the proposed Interreg Aurora Programme is very vast. It covers the area included in the previous period covered both by the Nord and the Botnia Atlantica programmes.

Following NUTS III regions are covered by the programme:

Sub-area Aurora
Finland
Lappi/ Lappland
Pohjois-Pohjanmaa/Norra Österbotten
Keski-Pohjanmaa /Mellersta Österbotten
Pohjanmaa/ Österbotten
Etelä-Pohjanmaa/Södra Österbotten
Sweden
Norrbotten
Västerbotten
Västernorrland
Norway
Troms og Finnmark
Nordland

Sub-area Sápmi
Lappi/Lappland, Pohjois-Pohjanmaa/Norra Österbotten and Keski-Pohjanmaa/Mellersta Österbotten in Finland. In addition to the official area of the Sámi homeland*, the geographical area of the sub-area Sápmi covers the entire region of Lapland, and the regions of North Ostrobothnia and Central Ostrobothnia. In Sweden Sápmi sub areas covers the whole of Norrbotten, Västerbotten, Västernorrland and Jämtland, as well as Idre Sameby in Dalarna. For Norway the Sápmi sub area covers Troms og Finnmark, Nordland and Tröndelag as well as part of Innlandet (Elgå Reinbeitedistrikt).

**The Sámi homeland means the areas of the municipalities of Enontekiö, Inari and Utsjoki, as well as the area of the reindeer owners association of Lapland in Sodankylä.*



2.1 THE ENVIRONMENT IN THE PROGRAMME AREA

The SEA shall also cover a description of the environmental conditions in the programme area that might be affected by the plan or programme. It shall, furthermore, describe relevant existing environmental conditions related to certain natural areas or other areas of specific environmental importance. Below are presented conditions that have been considered to be the most relevant for the programme. The description draws heavily on background descriptions from the proposed programme.

Since the programme area is so wide a detailed description of environmental issues or problems are neither relevant nor possible. What is given here is instead an overview of the multiplicity of natural habitats and values within the programme area and that may be affected by the measures funded under the programme. Examples of protected areas of various kinds within the programme area is also provided. Furthermore, part of this description concerns the area's sensitivity to different forms of environmental impacts.

Nature in programme area

The programme covers large areas of high natural value. The programme area in all three countries consists of forest land, mountains, coast-line, fjords and archipelagos, all of which are sensitive natural area types with high degrees of biological diversity and species-richness. The low density of the population is in this case an important asset. Large areas are relatively unpopulated and make up what is often described as Europe's largest wilderness. The natural areas in the programme area stands out as an arctic region, meaning a cold climate, polar nights and vast sparsely populated areas. The programme area is also divided by the cultivation-limit, which means that large areas are characterized by limited plant-life.

The ecosystems of the programme area are in many instances unique, with many species being confined to the biotopes of the area. Arctic ecosystems are unique, and play a vital part for the physical, chemical and biological balance of the planet. Despite an arctic climate there is a wide variety of biotopes and ecosystems within the area.

In the area's western and northern parts, especially in the two Norwegian fylken of Nordland and Troms og Finnmark as well as in the Swedish mountain ridge, a mountainous landscape is dominating and meets with the Atlantic Ocean, often in deeply cut fjords. The climate along the coast of the Atlantic and the Barents Sea is often strikingly mild providing a much richer flora and nature than further inland.

Away from the coast lines a high level plateau is spread from the interior of Swedish Lapland, over Treriksröset, over Norwegian Finnmark and into the norther parts of Finnish Lappi region. To the south and the east of this plateau a far-reaching forest landscape begins, covering mainly the Finnish and Swedish parts of the programme area. The forest consists mainly of conifer, mixed with elements of deciduous trees both in the mountain areas and along the coasts. In both Finland and Sweden, the forest land is cut across by large river valleys, often holding landscapes formed by cultivation, such as along the Torne river. Also, other parts of the coasts along the Bothnian Sea and Gulf holds flat cultivated land.

The areas around the Bothnian Sea and Gulf are also affected by rapid land-uplift from the last glacial period. These areas are known for vast but shallow archipelagos with a species-richness both in the sea and ashore. The programme area's natural areas are also formed by Sapmi cultural heritage, e.g. large areas under active reindeer herding.

Endangered natural areas and habitats

Many of the natural areas in the programme area are significantly affected by climate change and by other human activities. Many habitat types are under threat, e.g. pasture lands and forests. Moor lands and snow patches in the mountains are under threat by global warming. The forestry affects habitats by trench digging and clearings. The mountain areas are sensitive and at the same time popular areas for recreation and for the tourist industry. Land and plants may be damaged by visitors and by off-road vehicles and bikes, but also when exploited for natural resources, wind or water power or through mining and quarrying. In Norway climate change are expected to lead to a significant raise in sea levels. Allover is expected higher average temperatures, increased precipitation during winters and periods of drought. Seasons with a stable snow cover are becoming shorter, growing seasons longer and weather more extreme.

Cultural environment and cultural heritage

Even though the area is sparsely populated, the traces of human settlements go far back in history, and there is an abundance of areas with rich cultural environments and cultural heritage. The

population has always been concentrated to the shores of the sea and Gulf of Bothnia, and the Norwegian coastline. Here we find the majority of the area's towns, including historic town centers. Also, the larger river-valleys were places of early settlements. The rock carvings in Alta (Troms og Finnmark fylke), as part of UNESCO world heritage, is one good example of the region's importance over long periods of time.

In the inland settlements, Sami populations have a long tradition, including several important centers, both in northern and southern parts of programme area. Sami cultural heritage are traces of Sami peoples use of the landscape throughout centuries. They include Sami industries and crafts such as fishery, hunting and reindeer herding. But the Sami cultural landscape also include built environments such as chappels, housing and "churchtowns". Inland areas also have a cultural history of forestry and mining including villages, towns and other settlements.

The programme area also provides examples of how people has moved across the landscape in historic times, sometimes independently of today's national borders. Cultural and language communities often stretch across national borders, as the Sami community is one example of. Other examples are the meänkieli community in Tornedalen or the Swedish language community across Kvarken.

Environmental goals and protected areas

Throughout the programme area measures are taken to protect important natural and cultural areas and to counter the impacts of climate change. Parks, reserves and other forms of protected areas mean that biotopes of great value may receive protected status. Many of these protected areas in the three countries are also within the programme area. In Sweden, e.g., near 85 pc. of the entire area of natural reserves are within the three counties of Jämtland, Västerbotten and Norrbotten, where the majority of protected areas are in the mountain regions. The Natura 2000 Network has a strong focus on protecting areas of high natural value and encompasses many habitats in Sweden and Finland. Many of these areas are also under the protection from the bird directive (Dir. 2009/147) and the habitat directive (Dir. 92/43). Norway is not a member of the EU, and thus not in the Natura 2000 or bound by the EU directives mentioned since these directives are not included in the EES-cooperation, but is at the same time the country (of the three in the programme area) with the largest land area under protection (17 pc).

Several areas in the programme area are listed on UNESCOs World Heritage List. Among those listed for high natural value are Laponia and The High Coast (Sweden), Kvarken Archipelago (between Sweden and Finland) and Vega Island (Norway). Below are examples of further key data for protected areas of high natural values in the three countries.

Sweden

Approx.14 procent of total land area has some status as protected area.

National parks

The national parks enjoy the strongest protection. In total there are 30 parks in Sweden, of which 8 are in the mountain regions.

Natural reserves

In total there are approximately 5 000 natural reserves in Sweden. They enjoy lower levels of protection, compared with the national parks, but aim at long term preserving natural environment and species within its boundaries. The majority of the protected area are within the mountain regions. Of the total reserve area 85 pc are in the counties of Norrbotten, Västerbotten and Jämtland.

Natura 2000

The Natura 2000 areas aim at improving biological diversity and constitute a network of ecologically sustained areas in Europe. In Sweden there are close to 4000 Natura 2000 areas. Most of them are located in the mountain region and are also protected by the Bird Directive and the Habitats Directive and involves Animal and plant protection areas, biotope protection areas, national parks and natural reserves.

World Heritage Sites

In Sweden there are 15 so-called World Heritage Sites affiliated on UNESCO:s list. Two of them are natural heritage and are located within the programme area, these are Laponia and The High Coast. These ones are also considered to have high cultural values with regards to reindeer herding.

Finland

Approx. 10 pc. of the country's land area has some form of area protection.

National parks

Finland has 40 national parks in total. The number of national parks in the north is smaller, but they are instead often large surface sized. Examples of national parks in the programme area are Gulf of Bothnia National Park, Kauhaneva–Pohjankangas National Park.

Natural reserves

There are also 19 natural reserves in Finland. The natural reserves enjoy strong protection and have primarily been set up for scientific purposes and are mainly closed to the public.

Specific Nature Protected Areas and Natura 2000

There is also other nature protected areas in the form of mire reserves of Finland, protected herb-rich forest areas, the seal protection area among others. Altogether, the Nature Protected Areas cover around 12 500 areas[1].

Natural Protected Areas, Wilderness Areas and National Recreational Areas are part of the global network of protected areas. Almost all protected areas are included in the Natura 2000-network.

World Heritage sites

Finland holds 7 UNESCO World Heritage sites, 6 are of cultural value and 1 is of natural value. Kvarken Archipelago between Finland and the High Coast in Sweden is one example of a world heritage site of natural value in the programme area and also a cross border one.

Another cross border world heritage site that involves all three countries is Struve Geodetic Arc which consists of a large number of station points (of which several are located in the three countries of the programme area) which the astronomer Friedrich Georg Wilhelm von Struve used for measuring the Earth's meridian and shape in the early 19th century.

[1] https://www.stat.fi/tup/suoluk/suoluk_alue_sv.html

Norway

Approx. 17 pc of the country's land surface holds some form of area protection.

National parks

In total there are 47 national parks in Norway, of which one fifth are located in the programme area, e.g. the Varanger Peninsula and Stabbursdalen in the northernmost parts of the area or Lomsdal-Visten in Nordlands fylke.

Landscape protection areas

In total there are 195 Landscape Protection Areas in Norway. Their protection is based on high cultural, ecological or experience grounded values.

Natural reserves

In total there are over 2 400 natural reserves in Norway. The reserves enjoy the strongest level of protection.

World Heritage sites

Norway hosts a total of 8 UNESCO world heritage sites. The Vega island with its archipelago is one example in the programme area.

Norway is not part of the Nautra 2000 network.

3 SCOPING AND METHODS OF ENVIRONMENTAL ASSESSMENT

The environmental impact of the programme shall be assessed against a background of global and national environmental goals.

3.1 AGENDA 2030 & THE GLOBAL GOALS (SDG)

The UN has adopted 17 global goals for a sustainable development. Some of these are of particular importance for the assessment of the programme's environmental impact and make up one of the main grounds for assessing environmental impact of the Aurora programme.

The global goals under the Agenda 2030 have also been integrated in the three individual countries' national environmental goals which are presented below.

3.2 SWEDEN'S ENVIRONMENTAL QUALITY OBJECTIVES

The Swedish parliament has adopted 16 environmental quality objectives. They are:

1. **Reduced climate impact**
2. Clean air
3. Natural acidification only
4. A non-toxic environment
5. A protective ozone layer
6. A safe radiation environment
7. Zero Eutrophication
8. **Flourishing lakes and streams**
9. Good-quality groundwater
10. **A balanced marine environment, flourishing coastal areas and archipelagos**
11. Thriving wetlands
12. **Sustainable forests**
13. A varied agricultural landscape
14. **A magnificent mountain landscape**
15. A good built environment
16. **A rich diversity of plant and animal life**

Several of these goals are of specific relevance for the assessment of the programme. They are goals where the environment in the programme area is of special importance for the national possibility of reaching these goals. They have been marked in bold style above.

3.3 FINLAND'S SUSTAINABLE DEVELOPMENT GOALS

Already in 2015 Finland developed a strategy for sustainable development, formulating eight SDG:s. They have subsequently been integrated into Agenda 2030. The eight goals are:

1 Equal prospects for well-being

2. A participatory society for all

3. Work in a sustainable way

4. Sustainable society and local communities

5. A carbon-neutral society

6**. A resource-wise economy**

7. **Lifestyles respectful of the carrying capacity of nature**

8. **Decision-making respectful of nature**

They all hold important aspects for the assessment of the programme and for the programme area, while some of the goals are of specific importance, since the development in the programme region is of crucial importance for reaching these goals.

3.4 NORWAY'S ENVIRONMENTAL QUALITY OBJECTIVES

The Norwegian parliament have adopted 23 environmental goals, sorted under six broader headings, as presented below.

1 Biodiversity

1.1 Ecosystems must be in good condition and provide ecosystem services

1.2. No species and habitats should be eradicated, and the development of endangered and near endangered species and habitats should be improved.

1.3 A representative selection of Norwegian nature will be taken care of for future generations

2. Cultural monuments and cultural environment

2.1. The loss of cultural monuments worthy of protection must be minimized

2.2. A priority selection of automatically protected and other cultural monuments will have an ordinary level of maintenance by 2020

2.3 A representative sample of cultural monuments and the cultural environment must be protected by decision by 2020

2.4 Protected buildings, facilities and vessels must have an ordinary level of maintenance by 2020

3. Outdoor life

3.1 The position of outdoor life shall be taken care of and further developed through safeguarding the right of public access, preservation and facilitation of important outdoor life areas, and stimulation of increased outdoor life activity for all.

3.2 Nature will to a greater extent be used as a learning arena and activity area for children and young people.

4. Contamination

4.1 Pollution must not harm health and the environment

4.2 Emissions of substances that are hazardous to health and the environment must be stopped

4.3 The growth in the amount of waste must be significantly lower than the economic growth, and the resources in the waste are utilized in the best possible way through material recycling and energy utilization.'

4.4 To ensure safe air. Based on the current state of knowledge, the following level is considered safe air: Annual average PM10: 20 µg / m3 Annual average PM2.5: 8 µg / m3 Annual average NO2: 40 µg / m3

4.5 Noise nuisance will be reduced by 10 per cent by 2020, compared with 1999. The number of people exposed to more than 38dB indoor noise level will be reduced by 30 per cent by 2020, compared with 2005.

5. Climate

5.1 Until 2020, Norway will cut global emissions of greenhouse gases corresponding to 30 per cent of Norway's emissions in 1990

5.2 Under the Paris Agreement, Norway has undertaken an obligation to reduce greenhouse gas emissions by at least 50 per cent and up to 55 per cent in 2030 compared with the level in 1990

5.3 Norway will be climate neutral in 2030

5.4 Norway has legislated a goal of becoming a low-emission society by 2050

5.5 Reduced greenhouse gas emissions from deforestation and forest degradation in developing countries, in accordance with sustainable development

5.6 Political goal that society should be prepared for and adapted to climate change.

6. **The polar regions**

6.1 The extent of wilderness areas on Svalbard shall be kept at bay, and the biodiversity will be preserved virtually unaffected by local activity.

6.2 The 100 most important cultural monuments and cultural environments on Svalbard will be secured through predictable and long-term management

6.3 Negative human impact and the risk of impact on the environment in the polar regions must be reduced

Several of the goals have significant meaning for the programme are and for the programme. This is in particular true for the goals under the headlines of biodiversity where most of the natural habitats of the programme area are significantly different to those in central or southern Norway.

4 SCOPING THE ENVIRONMENTAL ASSESSMENT

The SEA report shall identify, describe and assess considerable environmental impact. As environmental impact shall be considered: direct or indirect; temporary or permanent; cumulative or non-cumulative; long, medium or short term; impact on:

1. The population and public health
2. Animals or plants listed under national or EU legislation, and biodiversity in general
3. Land, soil, water, air quality, climate, landscape, built environment and cultural environment
4. Land-use, water-management and the physical environment in general
5. Other management of raw-materials, natural resources or energy
6. Other parts of the environment

The scoping consultation and hearing is about the scope of the SEA and its level of detail.

4.1 EXTENT AND LEVEL OF DETAIL

The SEA shall contain all information reasonable with regards to:

- Current knowledge and methods of assessment
- The programme content and level of detail
- Public interest
- The fact that certain issues are better assessed when subsequent plans or programmes are made or in the examination of certain subsequent permits

The scope and level of detail of the SEA shall be reasonable in respect of the points above. This means that the SEA shall have the same level of detail as the programme it concerns. This will mean that the SEA will be confined to a general level.

The SEA report is therefore suggested to follow the following outline:

- Summary
- Introduction

- Description of the programme area
- The scoping and methods of the assessment
- Description of the programme
- Description of the current environmental status,
- Assessment of possible programme impact on environmental aspects
- Description of actions taken to reduce negative environmental impact, in e.g. the programming stage and through systems of monitoring
- Description of a counterfactual situation and assessment of alternatives to proposed programme
- Conclusive assessment

4.2 GEOGRAPHICAL SCOPE OF SEA

The SEA will for most cases cover the programme area. Where relevant it will be recognized that some actions may have an impact beyond the programme area, e.g. regarding impact on the climate. This will be dealt with in relation to the nature of every such impact.

4.3 SEA AND TIMING

No general time-limit for assessing environmental impacts can be identified, New projects can be funded only up until 2027, allowing for 2-3 years of funding beyond that date. Impacts from projects may in some cases be seen much later than that.

4.4 SCOPING OF PROGRAMME CONTENT

The table below shows our proposed assessment for whether we can expect an impact from the programme on the various environmental aspects to be considered. The table also presents our assessment as to what degree such an impact may be.

Our assessment is that measures resulting from the programme both contribute to positive and negative impacts on the different environmental aspects. In the table we have uses + signs to indicate a possible positive impact and – signs for a possible negative impact. Several signs (++ or +++) indicate that the impact may be more important. The zero (0) means that we do not expect a significant impact from the measure (either positive or negative) on the environmental aspect, or that there are other levels where potential impact are better assessed (e.g. at a local plan or permits).

For example, the sign – means that we expect some negative impact on the environmental aspect in question from the programme measure, while --- means that we can expect considerable negative impact. The signs + and +++ means that we expect some or considerable positive impact respectively from the measure studied.

The color keys used in the table thus indicate which parts of the programme where we foresee the most important need for a strategic environmental assessment and which environmental aspects to covered in that assessment. The dark red fields in the table, thus, are those where we expect the most important impact from the programme. In lighter red fields we expect some impact. For areas marked with grey color, there is not expected to be significant environmental impact, alternatively any possible impact is expected to be handled in other plans or programmes.

Programme content		*Environmental aspects*							
Policy Objectives	*Specific Objectives*	*Natural Environment*	*Aquatic Envrionment*	*Cultural Environment/heritage*	*Climate*	*Risk & Security*	*Soil Pollution*	*Air Quality*	*Noise*
PO1 -A smarter Europe	Enhancing research and innovation capacities and the uptake of advanced technologies	++/-	+/-	+/-	++/-	+/0	+/0	+/0	0
	Enhancing growth and competitiveness of SMEs	--	-	-	--	0	0	0	0
PO2 A greener, low-carbon Europe	Promoting climate change adaptation and disaster risk prevention, resilience, taking into account eco-system based approaches	++	++	+++	+	+++	0	0	0
	Enhancing protection and preservation of nature, biodiversity and green infrastructure, including in urban areas, and reducing all forms of pollution	+++	+++	++	+	0	++	++	++
	Promoting sustainable multimodal urban mobility, as part of transition to a net zero carbon economy	+/-	+/-	+/--	++	+/-	+/-	++	++/--
PO 4. A more social Europe	Improving cross border access to education and training. Improving access to and the quality of education, training and lifelong learning across borders with a view to increasing the educational attainment and skills levels thereof as to be recognised across borders;	0	0	0	0	0	0	0	0
	Enhancing the role of culture and sustainable tourism in economic development, social inclusion and social innovation	-	-	++/-	-	0	0	0	0
ISO 1 better Interreg governance	Other actions to support better cooperation governance.	0	0	0	0	0	0	0	0

From the scoping is concluded that the SEA of the programme shall focus on the following six proposed specific objectives:

- Enhancing research and innovation capacities and the uptake of advanced technologies
- Enhancing growth and competitiveness of SMEs
- Promoting climate change adaptation and disaster risk prevention, resilience, taking into account ecosystem-based approaches
- Enhancing protection and preservation of nature, biodiversity and green infrastructure, including in urban areas, and reducing all forms of pollution
- Promoting sustainable multimodal urban mobility, as part of transition to a net zero carbon economy
- Enhancing the role of culture and sustainable tourism in economic development, social inclusion and social innovation

5 DESCRIPTION OF THE PROGRAMME

Region Norrbotten, Troms og Finnmarks fylkeskommune and Lapin Liitto have been commissioned to coordinate the process of developing the proposed programme. A work organized in the so-called Joint Programming Committee (JPC) where all concerned regions in the three countries as well as the Sami Parliaments are represented.

The objective of the programme is to stimulate cross border cooperation through funding different types of cross border development projects. As in every ERDF-funded programme interventions are structured under different thematic objectives. Such thematic objectives are in the forthcoming programme called policy objectives. Under every such policy objective one or more specific objectives shall also be selected. It is the JPC that selects and proposes policy objectives and specific objectives, from a given list of possible objectives.

The proposed programme is not yet completed, but this draft SEA is based on a preliminary version of the programme dated April 15, 2021. A similar version is accompanied this SEA.

Compared to the previous programme generation, this programme is designed to be better in line with the overall objectives of the interreg programmes, by e.g. having several possible specific objectives focusing explicitly on the cross border added value of programme interventions.

6 ASSESSMENT OF POSSIBLE PROGRAMME IMPACT ON ENVIRONMENTAL ASPECTS

Below are given WSP's preliminary assessment on all the proposed specific objectives, except those decided not to include in the scoping (see chapter 5).

6.1 SPECIFIC OBJECTIVE: ENHANCING RESEARCH AND INNOVATION CAPACITIES AND THE UPTAKE OF ADVANCED TECHNOLOGIES

One of the reasons for selecting this specific objective is that the R&D investments in the programme area is lower than in e.g. the metropolitan regions of the three programme countries. One main objective of the programme is to help increase the investment in R&D and the uptake of advanced technologies in the programme area firms and communities.

It is claimed in the draft programme, that "today's industrial structure in the programme area is a combination of sustainable utilization of natural resources and initiatives to promote advanced technology". Data suggests however that some of the largest net-contributors to CO^2 emissions in the Nordics are in fact the industry in the programme area. Several of Sweden's absolutely largest emitters are based in the programme area, including SSAB and LKAB plants (SCB, Naturvårdsverket). Nordland and Troms og Finnmark fylken are the two fylken with the highest CO^2 emissions per capita in Norway (including other oilbased regional economies such as Vestland and Rogaland fylken for example) (SSB, Miljödirektoratet). And in Finland two of the ten largest emitters, including the number one emitter in Finland (the steel plant in Rahe) are within the Aurora programme area (Statistikcentralen, Energimyndigheten)

Major investments are however now planned for or already taking place to make the industries of the programme region more sustainable, with regards to CO^2 emissions.

It is WSP's assessment that the Aurora programme may play an important role in reducing CO^2 emissions from the area's industries. Research and innovation capacities, and the uptake of advanced technologies are of great importance for achieving that goal. However, as the programme content under this specific objective is formed, it cannot be ruled out that investments in R&D may also serve to further stimulate fossil industries, instead of actively reducing CO^2 emissions.

It is therefore WSP:s recommendation that the specific objective shall be formulated so that *all projects under this priority shall (mandatory) focus on enhancing research and innovation capacities and the uptake of advanced technologies that are exclusively directed towards the greening of the region's industries.* It is our assessment that such a criteria is compatible with supporting R&DI in any industrial sector.

6.2 SPECIFIC OBJECTIVE: ENHANCING GROWTH AND COMPETITIVENESS OF SMES

Besides the mainly large firms involved in the natural resources industry a large share of the region's industry are found among small and medium sized firms, or even micro enterprises. The latter is especially true when assessing the Sami industries.

This specific objective focuses on meeting the needs of such firms, e.g. promoting collaboration to gain access to know-how and other resources that they themselves lack. The Sámi Area is in need of a more diversified competence and business structure to provide jobs for the young Sámi population.

In the scoping process we identified that support mechanisms under this specific objective may involve negative impact on the environment, e.g. regarding both climate aspects as well as local aspects. One example where potential negative impact may be important is regarding investments in the tourism industry, where investments unless well monitored may have adverse impact both on natural environmental assets as well as on CO^2 emissions. At the same time it is necessary for all firms, big or small, to oversee its business strategies and to make sure that their business models are sustainable.

It is therefore our recommendation that *all projects (mandatory) under this priority shall focus on strengthening sustainable development of the industries.* It is our assessment that such criteria are compatible with supporting most industrial sectors.

6.3 SPECIFIC OBJECTIVE: PROMOTING CLIMATE CHANGE ADAPTATION AND DISASTER RISK PREVENTION, RESILIENCE, TAKING INTO ACCOUNT ECO-SYSTEM BASED APPROACHES

The measures under this specific objective target specifically the green transition and sustainable use of natural resources and adaptation to a different climate are highly prioritized in the program area and since the area is partly very industrial it has significant effect on the programme area.

This include awareness raising and communication, designing, adapting methods and methodologies, experience exchange, best practices and learning as result of joint implementation. In focus are cross-border cooperation.

Although we foresee positive environmental assessment general measures of precaution need to be taken at the level of implementing projects to make sure that e.g. any local negative impacts are avoided. This is a general recommendation, that is important throughout the programme, and that will be further developed under chapter 8 below.

6.4 SPECIFIC OBJECTIVE: ENHANCING PROTECTION AND PRESERVATION OF NATURE, BIODIVERSITY AND GREEN INFRASTRUCTURE, INCLUDING IN URBAN AREAS, AND REDUCING ALL FORMS OF POLLUTION

As is noticed in chapters 3 and 4, there are many designated areas of protection, including several important trans-border natural areas and connected cross-border ecosystems, in the region. However, much of the programme area is still not under specific legal protection. This specific objective is about increasing the protection of areas and preserving biodiversity and habitats in the programme area.

We foresee mainly positive environmental impact from these measures. Also for this measure, specific precaution is needed at the level of implementing projects, e.g. with regards to restoration, to make sure that any local negative impacts are avoided. Such precaution is further dealt with in chapter 8.

6.5 SPECIFIC OBJECTIVE: PROMOTING SUSTAINABLE MULTIMODAL URBAN MOBILITY, AS PART OF TRANSITION TO A NET ZERO CARBON ECONOMY

This specific objective is justified referring to the large emissions from the transport sector in the region, promoting the investments in a transport system that reduces the CO^2 emissions as well as increasing the interconnectivity of the regions of the programme area and its small urban areas.

A wide range of investments are to be made possible under this specific objective, they include:

- Awareness raising
- Analysis, simulations and surveys
- Strategy development
- Plans, drawings and designs
- Coordination of plans
- Planning and implementation of digital solutions and processes
- Small scale pilot actions enabling lower CO^2 emissions transport systems
- Experience exchange activities as joint seminars, study visits, surveys and trainings

It is WSP's assessment that the Aurora programme may play a part in the transition to a more sustainable transport system in the programme area. However, as the programme content under this specific objective is formed, is not mandatory for funded projects to specifically address sustainability.

It is therefore our recommendation that *all projects (mandatory) funded under this priority shall focus contributing to the development of a sustainable transport system of the programme area.*

6.6 SPECIFIC OBJECTIVE: ENHANCING THE ROLE OF CULTURE AND SUSTAINABLE TOURISM IN ECONOMIC DEVELOPMENT, SOCIAL INCLUSION AND SOCIAL INNOVATION

Like in other areas, the tourism and culture sectors of the programme area have been adversely and severely affected by the pandemic and the restrictions undertaken to control it.

This specific objective focuses on the recovery, stabilization and adaptation to "a new reality" with regards to the tourism industries. Some of the area's most popular destinations (such as Nordkapp,

The Ice Hotel and Santa Claus Village) were prior to 2020 highly dependent on long-range and short-stay visitors, and are now likely to be in need for transforming their business models into more sustainable ones. The area is at the same time home to a large number of small-scale tourism based on a rich and unique cultural heritage and on sustainable models. The Sámi culture and languages are an important part of this heritage that needs to be sustained and developed for a functional area. Traditional livelihoods and [traditional] utilisation of the nature is integral part of cultural values, and loss of traditional knowledge are seen as prominent.

The specific objective focus on developing the role of culture and sustainable tourism in the programme area. The forming of this specific objective can also be altered to call for a mandatory focus on sustainability in funded investments, both regarding enhancing the role of culture and the promotion of sustainable tourism.

WSP therefore recommends that *all projects (mandatory) funded under this priority shall focus contributing to the development of a sustainable enhancing of the role of culture or sustainable tourism in the programme area*

7 ASSESMENT OF RESOURCE ALLOCATION

The allocation of resources is of course a key issue for assessing the environmental impact of the programme. Following the assessment above we can foresee possible positive and negative impact on the environment, partly depending on which specific objective we choose, or depending on how much of the total resources is spent on which specific objective. For some of the selected specific objectives we foresee only a positive impact on the environment, i.e. for the specific objectives of *Promoting climate change adaptation and disaster risk prevention, resilience, taking into account eco-system based approaches*, and the specific objective *Enhancing protection and preservation of nature, biodiversity and green infrastructure, including in urban areas, and reducing all forms of pollution*.

For one specific objective - *Enhancing growth and competitiveness of SMEs* – we anticipated mainly negative impact in the scoping document, although that risk can be reduced by following WSP:s recommendations in chapter 6. And for the remaining specific objectives we either anticipated a mix of positive or negative impact or little or none overall impact.

From an exclusive environmental point of view, an optimal resource allocation should of course maximize the financial resources spent on the specific objectives which are most likely to have a positive impact and to minimize resources spent on the specific objectives where we have reasons to fear negative impact. However, such an argument is difficult to uphold for several reasons: firstly, *not* causing a negative environmental impact is not the only objective of the investment; secondly, a risk for a negative impact may be handled through well designed selection criteria and monitoring systems and outweighed by its other positive impact; and thirdly, predicted co-funding conditions may set limits that mean that an optimal resource allocation is not possible. To exemplify, under specific objective 1a private funding is likely while it is much less so under specific objective 2. Overbalancing the budget in favor of specific objective 2 might risk not finding enough cofounding leaving resources unused at the end of the day. Thus, the budget allocation is a balancing act where other aspects than the possible environmental impact also need to be considered.

Bearing the above discussion in mind, we conclude with two notes under this section. Firstly we encourage the programming committee to consider all options for increasing the allocations for specific objectives *Promoting climate change adaptation and disaster risk prevention, resilience, taking into account eco-system based approaches*, and the specific objective *Enhancing protection and*

preservation of nature, biodiversity and green infrastructure, including in urban areas, and reducing all forms of pollution, of course taking co-funding into account.

Secondly, we reinforce the importance of avoiding funding projects with possible negative impact under other specific objectives. This is especially important for objectives with a proposed large budget allocation, as can be foreseen for specific objective 1a. This can be done by ensuring exclusively funding projects with a positive environmental impact. It may also be accomplished by having strong selection criteria and an efficient monitoring system in place.

8 ASSESSMENT OF ACTIONS TAKEN TO REDUCE NEGATIVE ENVIRONMENTAL IMPACT, IN E.G. THE PROGRAMMING STAGE AND THROUGH SYSTEMS OF MONITORING

The management of the programme is in many ways key to what environmental impact we might expect from the implementation of the programme. Since it is difficult to foresee all individual projects in detail there is a strong need for having a programme management at place, that can reduce the risk of funding projects with a possible negative impact on the different aspects of environment assessed in this report.

In the Interreg programme such management can be achieved by selection criteria and by a close monitoring of environmental aspects after projects have been selected, including some mechanism of stopping funding for projects that do not live up to the environmental standards set out in the programme. Of course, national and EU legislation is also in place to secure that negative environmental impacts shall not be the result. However, the measures of project selection and programme monitoring that is suggested in this section is complementary to legislation.

Project selection criteria are decided by the programme monitoring committee (PMC). So, the recommendations here has to be addressed by the drafting of the programme and finalized by a decision in the PMC. We have recommended specific selection criteria promoting projects with a positive impact on the environment under the sections 7.1, 7.2, 7.5 and 7.6 making sure all investments are designed to increase sustainability. In the sections 7.3 and 7.4 we recommend using selection criteria that addresses the need for projects to be designed as to avoid any negative impact from funding.

We furthermore recommend that projects' environmental impact are closely and continuously monitored throughout the projects. This can be done through the project reporting system and in combination with an ongoing programme evaluation.

9 DESCRIPTION OF A COUNTERFACTUAL SITUATION AND ASSESSMENT OF ALTERNATIVES TO PROPOSED PROGRAMME

The discussion of a counterfactual alternative is an integral part of an SEA. In planning for a new physical development project this may involve discussing an alternative location for the project or not building at all. But, what are the alternatives to funding an INTERREG programme?

The alternative of no funding at all, will affect all the specific objectives under the programme, but its impact on the environment will vary between different objectives.

Dead-weight is the degree of funding which is spent on investments that should have taken place even without the programme funding. For example, when the programme funds a firm's investment in new technology, even though the firm should have funded this investment anyway. The degree of dead-weight depends on what types of investments are funded and what level of private co-funding that is required for that specific funding. In principle, the higher degree of private co-funding required the higher is also the risk of dead-weight in the public funding spent.

In this programme we can expect the highest deadweight risks within one specific objective, i.e. special objective: Enhancing growth and competitiveness of SMEs. This means that at least part of the investments funded under this objective is likely to take place even without this funding, but perhaps at a later stage. For other specific objectives it is likely that most of the investments will not take place without the programme funding, or that the will be significantly postponed.

It is WSP:s conclusion that the overall effect of the programme on the programme area environment as well as on the climate is positive. Not funding the programme can therefore not bee seen as a viable alternative, at least not from a sustainability point of view. Furthermore, non-funding will not stop all the investments under the specific objective which is the one most likely to be associated with a risk of a negative impact.

Other alternatives, such as changing the programme area or entirely shifting the focus on what types of projects that are funded, are not seen as viable, at least not within the present EU budget programming period.

10 CONCLUSIVE ASSESSMENT

This part will be completed in final version.