Karelia ENPI 2007-2013

Strategic Environmental Assessment

Contents

1. Introduction

Objective of the report

The objective of this strategic environmental assessment (SEA) is to compile an environmental report that improves the environmental dimension of the Karelia ENPI CBC –programme for the programming period 2007-2013.

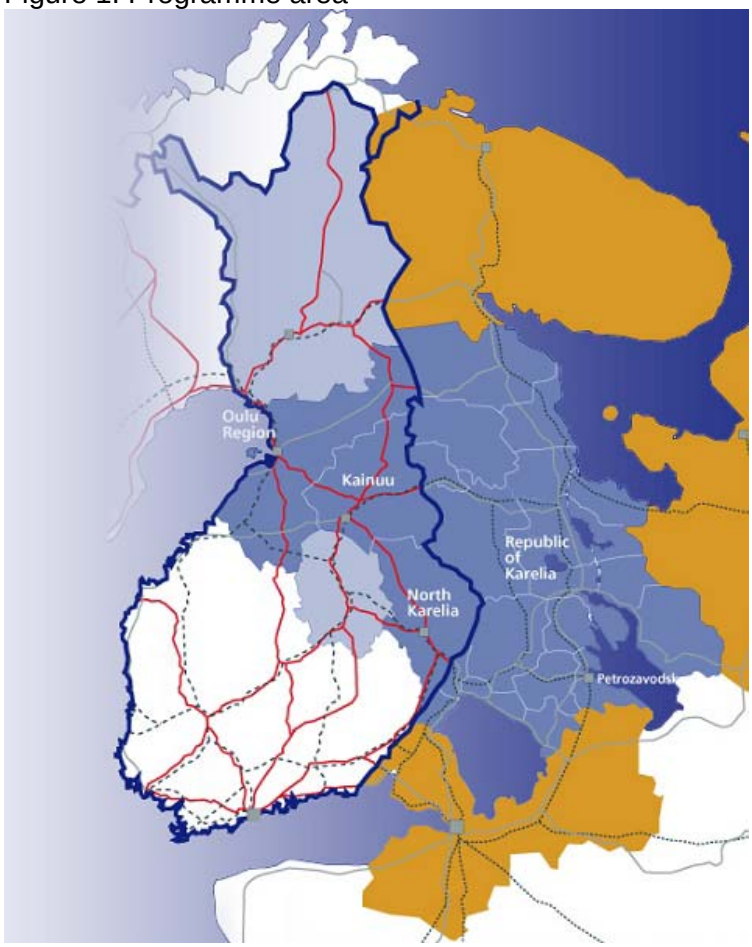
The report is prepared in accordance with Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment as well as with the Finnish legislation 'Laki viranomaisten suunnitelmien ja ohjelmien ympäristövaikutusten arvioinnista' (200/2005).

Key Facts

Information on the Karelia ENPI CBC –programme is presented in Table 1. The key facts identify the programme boundaries, explain the programme rationale and specify a contact point for further information. The programme area is illustrated in Figure 1.

Table 1: Karelia ENPI CBC Programme 2007-2013	
Managing Authority	Council of Oulu Region, Oulu, Finland
Programme Title	Karelia ENPI CBC Programme 2007-2013
Programme Rationale	The main objective of the Karelia ENPI CBC Programme is to increase wellbeing in the programme area through cross-border cooperation. To achieve this goal objective is to strengthen strategic guidance of programme implementation and to pursue concrete cross-border results and visible impacts on strategically important fields of activities.
Programme Duration	The programme will run for seven years from 2007 until 2013.
Programme Area	The eligible area comprises three regions in Finland; North Karelia, Kainuu and Oulu region and the republic of Karelia in Russia. The adjacent regions are North Savo and Lapland in Finland and the City of St. Petersburg and the regions of Leningrad oblast, Murmansk and Arkhangelsk in Russia.
Contact Point	Karelia ENPI CBC Programme Council Of Oulu Region Kauppurienkatu 8 A 90100 OULU, Finland website: http://www.kareliaenpi.eu e-mail: info@kareliaenpi.eu

Figure 1. Programme area



1.3. Structure of the Report

Section 2 reviews the environmental context of the Karelia ENPI CBC –programme. This includes consideration of the environmental performance of the current Euregio Karelia Neighbourhood Programme and the preceding Interreg III A Karelia programme, an overview of the priorities of the draft programme for 2007-2013 and the synergy with environmental strategies, programmes and policies.

Section 3 examines the environmental baseline and trends, according to a range of themes. It also identifies strategic environmental issues.

Section 4 presents an environmental assessment of the new programme. Following a description of the evolution of the programme's environmental focus, the programme vision and objectives are subjected to an environmental appraisal. Thereafter, the report discusses likely significant adverse effects, and potential indicators for monitoring environmental effectiveness.

1.4. Assessment process

The process of environmental assessment was begun on January 2007. An announcement of the beginning of the process was then published on the local newspapers both in Finland and in Russia as well as on the programme's website. On January an opening meeting was held with the

programme area's environmental authorities and the guidelines were set for drafting the document. The assessment was drafted in parallel with the programme document giving the SEA an opportunity to effect on the content of the programme document. The public consultation was held between 24th October and 23rd November 2007. It was published on the local newspapers both in Finland and Russia, on the programme's website and on the websites of the regional councils of the programme area. The whole document was available in English and the summaries in Finnish and Russian. During the public hearing it was noted that the SEA should be available also in Finnish. The document was translated and the time for giving comments of it prolonged. On public consultation the environmental assessment was commented by the regional environmental authorities as well as by the Ministry of the Environment of Finland. In addition to correcting some technical errors on basis of the statements for example the indicators were specified more clearly and the description of the local environmental programmes was added.

2. The Karelia ENPI CBC Programme in Context

2.1. Introduction

In a review of the environmental context of the programme, this section considers the environmental performance of the current Euregio Karelia Neighbourhood programme as well as the preceding Interreg A programme, the content of the Karelia ENPI programme, and the significance of existing environmental strategies, programmes and policies as guiding instruments.

2.2. INTERREG III A Karelia and Euregio Karelia Neighbourhood programmes

The programme period 2000-2006 begun with the Interreg III A Karelia programme. Since 2004 the programme has been implemented as a neighbourhood programme called Euregio Karelia Neighbourhood programme. The programme area, including the adjacent regions, equates with the Karelia ENPI CBC Programme's programme area comprising of North Karelia, Kainuu and Oulu region in Finland and the republic of Karelia in Russia and of North Savo and Lapland in Finland and the City of St. Petersburg and the regions of Leningrad oblast, Murmansk and Arkhangelsk in Russia as the adjacent regions.

The main objective of the programmes has been to increase welfare in the programme area through cross-border cooperation as well as to create a new operational model of cooperation for the border region of the EU and Russia with the help of Euregio Karelia.

The current neighbourhood programme has three Priorities and six Measures:

- PRIORITY 1. BUSINESS ACTIVITY
  - Measure 1.1. Increasing Russia cooperation of enterprises
  - Measure 1.2. Promotion of preconditions for enterprises' Russia cooperation

- PRIORITY 2. EXPERTISE AND REGIONAL COOPERATION
  - Measure 2.1. Cross-border cooperation in the sectors of expertise and culture
  - Measure 2.2. Welfare and civil society

- PRIORITY 3. TRANSPORT AND COMMUNICATION
  - Measure 3.1. Border-crossings and regional planning
  - Measure 3.2. Traffic and telecommunication connections

The environmental impacts have been perceived on the Euregio Karelia neighbourhood programme document. Separate environment work group was involved on programming and the opinions of the environmental authorities were taken into account. No separate priority or entity was proposed for environmental projects; instead it was decided to realise financing according to the horizontal principle from all priorities. This way the environmental aspect could be included in the entities relating to business, research, education and regional planning in an emphasised way. Also the expected results from the environmental cross-border cooperation were defined on the programme document; in the long term, the primary duty is to change environment-related attitudes and in the short term it is hoped that the state of environment, nature and diversified utilisation of the nature will be improved by applying the principle of sustainable development and environment-related expertise on the project level. On the ex-ante evaluation of the programme it was stated that the environmental impacts of the programme are extensively taken into account.

On Mid term evaluation on 2003 it was noted that for the part of the environmental impacts the needs in the programme area are bigger on the Russian side, but the programme does not enable optimised influence on them. Only small number of environmentally oriented projects were on implementation in 2003 and it was guessed that the achievement of the environmental projects will be challenging.

On the update of the mid term evaluation on 2005 a case study connected to the environment was made. The purpose of the case study was to show how projects on that particular theme were implemented within the programme and thus to introduce a cross-cutting view to the results and impacts of the programme in addition to an analysis of the various priorities. By 2005 a total of 14 environmental projects had been funded out of the programme, of which eight were present in the organised meeting.

On the discussions it was pointed out that the major results of the environment related projects was besides the tools and materials produced the adoption of a new way of networking – the projects had led to the formation of a new type networks between Finns and Russians and involved in the cooperation such groups that had not collaborated with each other before. The main criticism, on the other hand, was towards the impossibility to carry out any comparing actions on the Russian side because of the Interreg funding needs to mainly benefit the Finnish partner. It was also noted that in monitoring the results and impact of the programme and its projects, it is impossible to obtain a correct picture of environmental projects if relying on the set range of indicators. The content of the programme is much broader and the indicators only measure certain restricted aspects.

When looked at the environmental indicators on the annual reports of the programme it looks like hardly anything has been done on the field of the environment. The percentual share of ERDF funding for projects with positive environmental impacts of the bound ERDF funding was by the end of 2005 8,25 when the objective is 20 %. Number of projects having taken into use environmental technology and/or developed environment-friendly products to cross-border cooperation was on 2005 6, the objective being 10, number of projects decreasing environmental load and/or promoting the use of renewable natural resources was 2 (objective 10) and there were no projects promoting for taking into use of environmental certification. Still it is reasonable to remember that these indicators don't tell all – several environment projects have been implemented and even more projects have taken into account environmental questions even their main sector is something else, for example tourism.

The Interreg III A Karelia programme changed into Euregio Karelia Neighbourhood Programme on 2004. This gave the long-waited opportunity to fund joint projects and activities also in Russia. Surprisingly there haven't been great demand for funding for environment orientated projects in Russia – most of the applications concerning environmental questions have been only for Interreg funding. Naturally this doesn't mean that there isn't need for funding on the Russian side. The situation will probably change when the actors have more experience of joint projects in general

and when the upcoming Karelia ENPI CBC programme hopefully simplifies the project management on both sides of the border.

2.3. Karelia ENPI CBC programme

The Karelia ENPI CBC programme continues the work of the Interreg III A Karelia and Euregio Karelia Neighbourhood programmes but regulatory from different starting point. As from 2007 the European Neighbourhood and Partnership Instrument (ENPI) is replacing geographical and thematic programmes previously operating in the partner countries. An innovative feature of the ENPI is its cross-border cooperation (CBC) component. Under this component, the ENPI will finance "joint programmes" bringing together eligible regions of Member States and Partner Countries. In practice, thinking Karelia ENPI CBC programme, this means that funding can be used without earmarking on both sides of the border and that decisions shall be made on regional level.

The novel programme gives better starting points also for the environment projects and for sustainable development as a whole. On the mid term evaluation of the Interreg III A Karelia/ Euregio Karelia Neighbourhood programme it was noted that the needs are bigger on the Russian side and on the mid term evaluation update that it would be important to get funding also for the actions on the Russian side of the border. The upcoming Karelia ENPI CBC programme enables funding for both Finland and Russia. This gives an opportunity to have a more influential effect on the environment of the programme area, especially when thinking the common challenges and the fact that the state of the environment on the one side of the border has a significant effect on the other side as well.

The European Commission has set four important objectives to ENPI CBC programmes; economic and social development, common challenges, secure and efficient borders and people to people. At least two of these has to be chosen for the programme. Into the priorities and activities of the Karelia ENPI CBC all four of these objectives have been included.

The main goal and objective of the programme is to increase wellbeing in the programme area through cross-border cooperation. The wellbeing is thought to consist of both subsistence and of quality of life. Following this the programme has been divided into two priorities of which both support the main objective.

The first priority includes the activities supporting the cross-border economic development.
The second priority concentrates into issues which are improving the quality of life – and has been mostly built on issues such as health, pleasant and clean environment, functional and practical structure of society and services (including also cultural services).

Objectives and frames are set for each of the call for proposals for securing the outcome of the programme. It is possible that one call for proposal is for certain type of action or certain sector only. The content of each call for proposals isn't finalized on the programme document but the Monitoring Committee of the programme makes the decisions concerning the content about a year before the call's launching. When defining the content the environmental impacts shall be taken into account.

No special priority or entity has been proposed for the environmental issues at this point. The environmental issues and the sustainable development are considered to be an important horizontal principle of the programme. This doesn't prevent, though, from devoting one or more of the call for proposals primarily for environmental questions. In any case the objective is that all of the calls for proposals include an environmental viewpoint, for example when giving funding for tourism industry there could be a project concerning the sustainable development of tourism. This approach has been favoured by the environmental authorities as well as by the project actors – it is

thought that environmental questions shouldn't be separated from other issues but included into every sector and field of action.

2.4. Synergy with Environmental Strategies, Programmes and Policies

At global level, the most important overriding initiatives are the Rio Declaration on Environment and Development and the Kyoto Protocol. The Rio Declaration was agreed at the UN Conference on Environment and Development in 1992. It seeks to ensure that current developments do not threaten the needs of present and future generations, that environmental protection constitutes an integral part of the development process and that in principle the polluter bear the cost of pollution. Parallel outcomes from the conference include the Framework Convention on Climate Change, setting an overall framework for intergovernmental efforts to tackle the challenge posed by climate change, and Agenda 21, which addresses the integration of environment and development in decision-making, particularly at the strategic level of policy, planning and management. Both Finland and Russia have ratified the Rio Declaration.

The Kyoto Protocol is an amendment to the UN Framework Convention on climate Change, and it entered into force in February 2005. It responds to predictions by the Intergovernmental Panel on Climate Change that global temperature is rising. The protocol seeks to reduce collective emissions of greenhouse gases. Countries that ratify this protocol commit to reduce their emissions of carbon dioxide and five other gases or to engage in emissions trading if they maintain or increase emission of these gases. The Kyoto Protocol now cover more than 160 countries and over 55 % of global greenhouse gas emissions. Both Finland and Russia have ratified the Kyoto Protocol.

The European Union is committed to environmental issues. The challenge is to combine protecting the environment for the quality of life of current and future generations with continuing economic growth in a way which is sustainable over the long term. European Union environment policy is based on the belief that high environmental standards stimulate innovation and business opportunities.

The environment policy of the European Union is based on the Treaty Establishing the European Community. On article 174 it is stated that the objective of the Community policy on the environment shall contribute to pursuit for preserving, protecting and improving the quality of the environment, for protecting human health, for prudent and rational utilisation of natural resources and for promoting measures at international level to deal with regional or worldwide environmental problems. The policy is based on the precautionary principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay.

At the moment, within the context of the EU, the most important documents are the Sustainable Development Strategy and the Sixth Environmental Action Programme. Sustainable development became a fundamental objective of the EU in 1997, when it was included in the Treaty of Amsterdam as an overarching objective. The first EU Sustainable Development Strategy was launched at the Gothenburg summit in 2001. The strategy is to promote ecological, economical and social sustainable development. In June 2006 the European Council adopted an renewed Sustainable Development Strategy.

The sixth EU Environment Action Programme (adopted in 2002) defines the priorities and targets of European environmental policy until 2010. The Action Programme, 'Our Future, Our Choice' has four priorities. The first priority is tackling climate chance the objective being to stabilise concentrations of greenhouse gases in the atmosphere at a level that will not cause unnatural variations in the Earth's climate. The second priority protecting nature and wildlife and the third

action is for the environment and health the objective being to achieve a quality of environment where the levels of man-made contaminants do not give rise to significant impacts on, or risks to, human health. The last priority are natural resources and waste where the approach is to prioritise waste prevention, followed by recycling, waste recovery and incineration.

Also a number of EU directives has a direct relevance for the Karelia ENPI CBC programme, for example Water Framework Directive (2000) that prevents deterioration in the status of ground and surface water bodies, promotes the sustainable use of water and introduces a co-ordinated approach to water management and the Birds Directive and the Habitats Directive which makes the ground for the EU's nature conservation policy.

At national level there are several Finnish-Russian bilateral agreements which aim at protecting the common environment. The environmental issues are an important part of the Finland's neighbouring area cooperation with Russia. The cooperation is based on the agreement signed in 1992. The objective of the cooperation is to minimize environmental risks.

Both Finland and Russia are members of several environmental cooperation bodies, for example the Arctic Council and the Barents and Euro-Arctic Council. Also both countries participate on the Northern Dimension Programme that aims at addressing the special regional development challenges of northern Europe. These include cold climatic conditions, long distances, wide disparities in standards-of-living, environmental challenges including problems with nuclear waste and waste water management, and insufficient transport and border crossing facilities.

At local level on the Finnish side the Environmental Strategy of Northern Ostrobothnia 2005–2015, the Environmental Programme of North Karelia 2010 and the Environmental Programme of Kainuu 2006-2009 needs to be taken into account. The main objectives of the Environmental Programme of Kainuu are protecting biodiversity and securing clean and pleasant environment, efficient protection of water resources, sustainable use of environment and increasing of environmental awareness. The objectives of the Environmental Programme of North Karelia are ensuring the preservation of the region's natural environment, sustainable use of the nature and its assets and to provide a clean and stimulative environment for the inhabitants. The Environmental Strategy of Northern Ostrobothnia has been divided into four themes which are environmental research, - technology, - education and – awareness, residential environment of good quality, improvement of the state of environment and biodiversity.

On the Russian side the Concept of Social and Economic Development of the Republic of Karelia covers also the policy of ecology and environmental protection. The concept has been approved in 2006 and is valid until 2012. A target programme Ecology and natural resources of the Republic of Karelia for the period from 2004 to 2010 has been approved in 2004 and several sub programmes such as mineral resources, forests and water resources are implemented under it. Besides setting objectives concrete actions are implemented within the programme, for example in 2006 pesticides which have become outdated and forbidden to use, but saved up at the agricultural enterprises of the republic, were collected and stored for further recycling.

It can be noted that the main objectives of the environmental strategies and programmes do not contradict the Karelia ENPI CBC programme's objectives. On the contrary the objectives can be supported by the activities of the programme. The environmental legislation has increased in Finland. After year 1990 almost all legislation has been renewed. Remarkable share of the legislation was produced on 1994 when Finland was preparing for EU membership. But even without the impact of EU the national legislation is increasing. Also in Russia environmental legislation has been largely renewed. In Russia there is, for example, an Environment Conservation Act and a new Air Protection Act as well as extensive forest, water and waste acts. The republic of Karelia has paid special attention on enforcing the environmental legislation.Both in

Finland and in Russia there are also national environmental programmes. However, those aren't analyzed here since they are based on international programmes.

In Finland most nature conservation areas belong to European Natura 2000 network. The objective of Natura 2000 network is to promote the conservation of natural habitats and the habitats of wild fauna and flora while taking into account the economic, social and cultural requirements and specific regional and local characteristics of each Member State of EU. In the Finnish programme area there are totally 394 Natura 2000 areas with total area 573 296 hectares (In Finland 1 632 area with total 4,6 million hectares). The typical habitat areas in the programme area are boreal forest and aapa mires. It is also important to notice that the boreal forests, and other habitats as well, on the Russian side of the border have an effect on the restoration work done on the Finnish side. It is important to plan the actions of the Karelia ENPI CBC so that they do not cause any threats to Natura 2000 areas, or areas connected to them on the Russian side. The impact assessment on Natura 2000 areas must be done in more detail within individual project planning. Naturally, also the actions outside the conversation areas should be planned and implemented in such a manner that they do not unnecessarily damage biodiversity or the state of the nature.

3. Environmental baseline and strategic environmental issues

3.1. Environment of the programme area

The area covered by the Karelia ENPI CBC Programme comprises of Kainuu, North Karelia and Northern Ostrobothnia in Finland and the Republic of Karelia in Russia. Finland and Russia share approximately 700 km of border in the programme area. The geographical coverage of the programme area is 263 667 km^2, of which the Republic of Karelia makes up 180 500 km^2.

The programme area in its integrity reaches from the Gulf of Bothnia in the Baltic Sea through forest, fog, ridge and hill areas divided by river and lake routes up to the White Sea and Äänisjärvi and Ladoga, the big lakes in Karelia. The nature in the programme area is diversified and vulnerable. Due to more efficient business activities nature protection areas are in a central position in the conservation of the diversity of nature. In the future the significance of nature protection areas will become emphasised in the utilisation of nature for tourism and other purposes. The economic multiplier impacts of nature tourism and auxiliary activities related to it can be significant on the regional level.

Finlands nature protection area system is based on natural and national parks, other conservation areas as well as natural monuments established through legislation. Majority of the protected places are included in the proposition of the government for the areas of the EU's Natura 2000. Of Finland's 35 national parks, eight are situated either partly or totally in the programme area. The biggest of these parks is Oulanka national park covering 270 km^2.

The government has named nationally the most significant sceneries in 1995. Of these 31 are located in the programme area; the cultivation and land upheaval area of Liminka, the village scenery of Melalahti-Vaarankylä as well as the hill and lake scenery of Koli could be mentioned as examples. The programme area comprises also hundreds of smaller, also nationally significant cultural environments. Nationally or regionally significant landscapes may also be designated as landscape conservation areas under Finland's Nature Conservation Act, so that their special natural, cultural or historical features can be suitably managed and preserved. Only one such landscape conservation area has so far been established – the Hietajärven-Kuivajärven landscape conservation area in Suomussalmi which is located in an immediate proximity of the Russian border.

The cultural interaction between Karelia and the Finnish regions can be perceived on the architectural heritage of the programme area. One of the most important cultural environment sites of the programme area is the State Historical-Architectural and Ethnographic Museum "Kizhi" which located on the island Kizhi in the Onega lake. In 1990 the monuments of Kizhsky Pogost and the surrounding buildings were included into the UNESCO's World Heritage List. In addition there are several important cultural environments on the programme area, though, it can be noted that the architectural heritage is, in European level, very young.
In Finland the preservation of valuable landscapes and buildings is mainly ensured through local authority planning decisions. Culturally or historically significant buildings and built-up areas may also be protected under the Act on the Protection of Buildings. In Russia are valuable historic and cultural monuments are protected by legislation.
In the Karelian Republic the nature protection areas are classified according to the object's value, size and protectional purpose to protected areas, national and natural parks, scenery, botanic, zoological as well as dendrologic protected areas and national monuments. There are a total of 955 090 hectares, 5,5 % of the total area of the republic, of protected nature areas in the Republic of Karelia. There are three national parks in Karelia – Paanajärvi, Vodlajärvi and Kalevala. The national park of Kalevala was founded on November 2006. The largest area of unbroken old forests of Fennoscandia is located there. The planning of the national park has been an important element of the environmental protection cooperation between Finland and the republic of Karelia. The preparation work has also been funded by Interreg and Tacis programmes and can be considered as a good example of successful cooperation.

Of the state's nature protection areas the most famous also as tourist attractions are Valamo's monestery island, Kizh's museum island and Kivatsu. Also Karelia's several village environments, the most famous being the village of Paanajärvi, form magnificent cultural-historical wood constructions, which are in danger of becoming dilapidated and destroyed.

The chain of natural forests reaching from the Baltic Sea to the Arctic Ocean in the border regions of Russia and Finland is called the Fennoscandia's Green Belt. It incorporates the current and planned protected areas on both sides of the border which are very important for the whole of Northern Europe in terms of the ecosystem within the boreal forest zone and the protection of species.

3.2. State of the environment

Air

The air pollution load is concentrated mainly to centres with industrial production. On the Russian side, the most significant sources of environmental load are Kostamuksha, Kondopoga, Segeza and Petrozavodsk. The biggest sources of environmental load in the Finnish side of the programme area are Oulu, Kajaani and Raahe with their industrial plants. In the majority of the programme area the air quality is good.

In the latest decades, strong and successful contributions have been made to reduce the air pollution originating from the industry and energy production in Finland, but the plants on Karelia's side are clearly more old fashioned. The problems created by defective technology can be seen when comparing between the effluents and emissions of production plants operating in Finland and those operating in the Karelian Republic. Effluents and emissions (water and air) to the environment are remarkably higher in the production plants in Karelia than in Finland. Also heating plants are significant sources of environmental load on the Karelian side. The problem is made worse by the poor housing stock and the waste percentage of heat energy resulting from it. In addition, Karelia's air quality is influenced by the long-range transport of air pollutants. By estimation more than half of air pollution in Karelia is caused by emissions transported with winds

from Murmansk, St Petersbourg, Archangel, Finland and Sweden. On the other hand also air pollution emissions of Kostamuksha mine are transported also to the Finnish side. As a whole the emissions in Finland caused by the republic of Karelia are minor due to the predominant western winds. On unusual conditions, such as the forest fires on 2006, the situation can be different.

Ground waters and watercourses

There are plenty of ground waters in the area, and on Finland's side groundwater is used as household drinking water. In the whole programme area on the Finnish side groundwater is used as household water, with the exception of Oulu where 95 % of household water is surface water. On the Karelian side, nearly only surface water is used as household water and its quality is not particularly good.

The groundwaters are threat by human actions in many ways both in Finland and in Karelia. These are for example trenching, industrial areas, dumping grounds, service stations and garages located on or near groundwater areas.

Effluents have a small influence in the programme area as a whole, but on the Karelian side wastewaters load the watercourse. In the Karelian Republic, insufficient and defective organisation and technology of wastewater treatment cause the biggest problems. Karelian watercourses are threatened especially by the producers of pulp and paper. Eutrophication can be seen in many lakes.

The pollution of Onego and Ladoga lakes, the White sea, Vygozero-Ondsky reservoir, rivers of Shuya, Neglinka, Lososinka and their water-currents with crude and un- or partly purifies sewage is a serious environmental problem in the republic of Karelia. In six regional centres of the republic there are no sewage disposal plants and there, basically, sewage is discharged in reservoirs being sources of drinking water supply (towns of Kem, Belomorsk, Medvezhiegorsk, Pudozh, settlements of Louhi and Kalevala). In all about 10 percent of the municipal sewage is discharged without purification and great majority insufficiently purified. Also deterioration of sewer waste disposal plants and networks of water drain increases every year. The availability of good-quality service water isn't self-evident for all the inhabitants of Karelia.

Assessing of the state of the waterways is nowadays often based, along the Water Framework Directive, on the state of the water population and on their living conditions. It is also important to notice the importance of the healthy fish population for the nature tourism on the programme area.

Finland and Karelia share several boundary lakes, such as unique Pyhäjärvi of Karelia. Joint efforts for the shared water ways will continue to be important and relevant, especially when taking into account the Water Framework Directive according to which the objectives of the framework needs to be taken into account when implementing actions on shared waters.

Waste management

In Finland waste management's most important principles are reduction of waste amount and increasing of recycling according to the EU´s directives concerning waste management. The municipalities occupy a central role in the organisation of waste management. In the latest years the municipalities have strived for organising waste management in cooperation, which results in more efficient waste management with smaller costs.

The local waste plans in Finland are long-term development plans for the principles of prevention of waste and for sustainable development of waste disposal. Northern Karelia has its own waste plan, Kainuu and Oulu region are preparing a joint local waste plan. Essential objectives on the

waste plan of the Province of Oulu are reducing the amount of waste, raise the level of recycling, mitigate the environmental and health hazards and to increase the eco-efficiency and cost efficiency of the waste management. When considered the previous local waste plans it can be noticed that not all of the objectives, such as the level of recycling, has been met. Even the waste intensity (GPD in proportion to waste level) has decreased in Finland in recent years and the waste disposal is relatively well organised, the development still continues. For example, with the exception of the biggest centres of population, small waste accumulations and long distances create problems for recycling.

In the Karelian Republic waste management is not as well organised as in Finland. Many waste problems even in the industry are still unsolved. Significant part of waste disposal plants demand repair, replacement of equipment and reconstruction. Absence of means for reconstruction and purchase of equipment in local budgets leads to unsatisfactory work of waste disposal plants. Significant part of waste polluted by mineral oil is located on firm household waste disposal tips. There are almost no places of disposal of waste polluted by mineral oil. On the other hand, the consumption behaviour is more reasonable in the area than in the welfare countries due to the limited economic opportunities.

Forests

Exploitation of forests has influenced the state of the area's forests in recent decades. The forest landscape has been shaped most by clear cuttings with soil cultivation and construction of forest lorry roads. Due to the forests' age structure, the amount of utilisable tree stand is continuously increasing. The problem is that the economically utilisable wood resources are scattered and the availability of good quality, stout timber is decreasing.

Half of the surface of the Karelian Republic is covered with forests, one fifth with bogs and one fourth with watercourses. Forestry in the Republic of Karelia has developed from small-scale lumber industry into large-scale pulp industry. In Karelia, renewal and development of the technology applied in the utilisation of forests is important, because utilisation of the present technology may have remarkable long-term negative impacts on the forest nature. In addition to waste waters the nitrate and sulphur emissions to the air has had their effect on the environment. So far not too much attention has been paid on the Republic of Karelia on the environmental impacts and on emissions.

Large-scale and intensive utilisation of the forests causes one of the most significant environmental threats on the programme area – the loss of biodiversity. Forestry has already irretrievably decreased the biodiversity of the forest and wilderness nature on the Finnish side and causes the same threat on the Russian side as well. Forestry has decreased the biodiversity and had an significant effect on the state of the mires as well. Natural state areas have decreased on the programme area.

Environmental information and awareness

All three regional environmental centres of Finland's programme area have drawn up an environmental programme for their own regions. Also the Agenda 21 is being elaborated in most municipalities. Protection of the environment is being taught at schools as the horizontal principle. The environment and the northern dimension are important sectors of expertise in the region's biggest university, the University of Oulu. It is also relevant to notice the expertise of the University of Joensuu in forest sciences and the one of the State University of Petrozavodsk in forest engineering. In Karelia the environmental aspects are only partly raising to the general

consciousness, which offers a good opportunity to utilise Finland's environmental expertise for the benefit of Karelia.

4. Environmental assessment

4.1. Introduction

At this stage of the programme development, the exact locations, nature and impacts of actions cannot be identified, as this depends on specific projects that will be implemented. Also the objectives set for individual calls for proposals have an effect on the impacts. Accordingly, the approach of this report is to provide an indication of the range of potential impacts and suggest ways in which negative impacts can be minimised.

The value (EU-funding) of the programme is 23,203 million euros. It is reasonable to note that compared to larger programmes and strategies the Karelia ENPI CBC –programme's potential impact to the environment is less significant comparing both the positive and negative effects. But it is, though, possible to allocate the funding as environment-friendly as possible.

4.2. Alternatives

The Karelia ENPI CBC programme has been drawn up in accordance with ENPI Regulation, the EC Strategy Paper on the ENPI/CBC 2007-2013 and the Implementing rules of the CBC Programmes financed within the Framework of the legal basis of the ENPI. The Programme is in conformity with the European Neighbourhood Policy and the EU-Russia Strategic Partnership with its four Common Spaces. The framework outdraws economical, social and ecological development actions. The spirit of the framework is that the most important issue is to develop cross-border cooperation and the other aims are equal. The main objective of the Karelia ENPI CBC Programme is to increase wellbeing in the programme area through cross-border cooperation. To achieve this goal the objective is to strengthen strategic guidance of programme implementation and to pursue concrete cross-border results and visible impacts on strategically important fields of activities.

Preparation of the programme has based on this joint main objective. Only one strategic path has been prepared to programme so the comparing is made between the chosen strategy and the 0-strategy.

The 0-strategy intends that the programme isn't implemented. Accordingly, the possibility to increase the wellbeing on the programme area trough cross-border cooperation wouldn't come true. Even though the programme preparation hasn't been based on the Sustainable Development Strategy the sustainable development has been taken into account on the preparation as a horizontal principle. In practise this intends that the objective is to take the principles of the sustainable development into account within all of the sectors and all of the calls for proposals. Probably the premises of the implemented sectors aren't in all cases environment-friendly. Taking into account also on these sectors the principles of the sustainable development can the state of the environment be influenced at least by preventing the negative impacts.

Comparing the chosen strategy to 0-strategy it can stated that chosen strategy is better both from the perspective of the programme area and the environment. The strategy gives an opportunity to prevent the threats and to build up the positive opportunities.

4.3. Appraisal of the programme elements

At this stage of the programme development, the exact locations, nature and impacts of actions cannot be identified, as this depends on specific projects that will be implemented. On the programme document some sectors are introduced. They are not necessarily all implemented within the programme and it is possible that some other sectors will be implemented as well. The Monitoring Committee of the programme will make the decisions later. However, the appraisal is based on the sectors mentioned on the programme document.

Impacts such as biodiversity, population, human health, fauna, flora, soil, water, air climatic factors, material assets and cultural heritage has been taken into account when appraising the programme elements. The effects include secondary, cumulative, synergistic, short, medium and long-term, permanent and temporary and positive and negative effects.

PROGRAMME ELEMENT AND ELEMENT DESCRIPTION	POTENTIAL IMPACT	MITIGATION OF NEGATIVE IMPACTS
Priority 1: Economic Development		
Pre-conditions for cross-border economic cooperation *Transport and logistics, border crossings*	Increased traffic has negative effects on nature and on climate. Secondary effects also on human health, fauna and flora.	Fostering environment-friendly transportation methods and reasonable logistics, for example fosterinf rail traffic and cross-border public transportation.

Forest and wood *Combining forestry and the sustainable use of the forests*	Prolific forestry causes loss of biodiversity. Pulp and paper industry threatens watercourses. Forestry threatens the natural use of forests (for example picking berries and fungi as well as hunting) and the possibilities of nature tourism and its development.	Fostering environment-friendly technology and sustainable use of forests preserves biodiversity.
Tourism *To increase tourism and to develop industry through cross-border cooperation while taking into account the sustainable development*	Increased number of tourists in the nature strains the nature. Nature values are in danger to be destroyed. Nature tourism can save areas from forestry or other industrial use – recreational use of nature doesn't have as many negative impacts as industrial use.	Fostering environmental awareness and sustainable tourism.
Energy and energy management *Use of local fuels and increasing of energy-efficiency*	Of the local fuels peat has negative impacts for example on biodiversity, landscape, climatic factors and human health. Peat is slowly renewable energy. Local bioenergy (especially woodchips and pellets) is better than fossil fuels both for human health and for climate. Use of bioenergy reduces sulphur and greenhouse gas emissions. Utilization of the wood wastes and residues reduces waste on forestry. Use of local fuels reduces need for imported fossil energy. Energy-efficiency decreases use of energy which reduces emissions when less energy production is needed.	Favouring bioenergy over peat (and over fossil energy) Fostering environment-friendly and efficient technology on energy consumption.
Stone and extractive industry	Negative impacts on landscapes, groundwater and soil, temporarily increases amount of dust and noise. Creates waste and uses material assets.	Use of environment-friendly technology. Recycling of the soil and stone reduces the need for unrenewable materials.

Building industry	Possibility to increase energy- and eco-efficiency. Demand for material assets. May have negative impacts on landscapes and biodiversity as well as on cultural environment.	Efficient planning needed.
Priority 2: Quality of life		
Environment technology *Promotion of environment technology especially on waste management and on water supply and sewerage*	Improves the state of the environment as well as the human health. In the long run the state of the watercourses will be improved, diseases which are caused by the bad quality of drinking water will be decreased and biodiversity will be preserved when quality of watercourses will be improved As a short-term impact availability of the pure drinking water decreases the risk of getting diseases As a permanent impact pure drinking water is available And waste water is treated effectively	
Planning systems and service structures supporting cross border cooperation	Preventing destructive environmental impacts by environment-friendly planning. Sharing the best practices decreases the environmental load.	
Attitudinal education and youth	Increases environmental awareness	
Health and wellbeing	Positive impact on human health	
Culture	Positive impact on cultural heritage	

National park cooperation	Increases biodiversity May increase tourism which may cause littering and other negative impacts on nature.	Fostering sustainable tourism.
Civic organisation cooperation	May increase environmental awareness. May have positive impact on human health.	

4.4. Mitigation of Negative Impacts

Although the priorities and actions in the Karelia ENPI CBC programme have a wide potential to achieve positive environmental impact, there are number of ways in which projects could produce some kind of negative impacts – for example projects aiming at increasing of tourism cannot be considered entirely environment-friendly. In this respect it is important to pay attention to mitigation of the negative aspects and the possibilities for negative impacts.

In general, when reviewing the need for mitigation, options for consideration include avoiding projects completely in areas that are the most sensitive environmentally, remedying or compensating for negative impacts of projects by imposing conditions on the funding being granted to prevent or minimise impacts and enhancing positive impacts.

Considering the priority one, economic development, there is a risk that development and competitiveness and the environmental protection is thought to be conflicting with each other – economic development and protection of environment can't come true at the same time. Accordingly, the programme must convey a clear message that positive environmental impact is a key element of the programme's strategy. The impacts can be mitigated by including on a theme causing also negative environmental impacts, for example forestry or a tourism, a section concerning on the sustainable development – so that for example if a theme aiming at increasing tourism on the programme area is funded and implemented the possible negative impacts of increasing tourism should be taken into consideration already when defining the theme and one or more projects or part of projects should concentrate for example on sustainable tourism instead of for example solely on marketing.

The premises of the Priority 2 are environment-friendly. The greatest threat could, accordingly, be loosing the opportunities for improving the state of the environment so that the present situation remains in force.

Public consultation and dialogues between projects, local people and authorities can provide a forum for local people to express opinions. People need to feel that they are being listened and their concerns are being included. This is the main idea in Aarhus Convention and EU's dissemination politics as well. Many misunderstandings within projects may be due to poor communication, poor management and cultural differences.

4.5. Monitoring the environmental impacts

Under the SEA directive, there is a requirement to establish a monitoring programme to measure environmental effectiveness. The following environmental indicators can be used to inform the impacts in addressing environmental effectiveness of programme:

When choosing the indicators the experiences of monitoring the previous programmes have been taken into account. Thus, the indicators have been chosen so that they would give a clear overall picture of the programme's environmental effectiveness. Detailed indicators are not considered to be relevant.

- Number of projects and thematic calls having positive influence on environment and sustainable development.

- The percentual proportion (in euros) of projects and thematic calls having positive influence on environment and sustainable development.
- Number of projects and thematic calls fostering environmental technology.

- Number of projects and thematic calls fostering environmental awareness.

Question to the evaluation:

- Have the programme activities increased the involvement of sustainable principles in cross-border cooperation? In which way?

- Question to the evaluation: Have the programme activities aimed at preventing /reducing the climate change? In which way?

Some kind of impact assessment follow up programme for monitoring ecological sustainability during the programme period is needed. The progress of the programme is checked by the Monitoring Committee every year. It would be an efficient tool to evaluate that the programme maintains its economic, social and environmental objectives. If the unsustainable development or new environmental risks arise during the programme period the yearly checking will allow room for improvement.

If a project possibly has negative environmental impacts an environmental assessment is required in all cases.

5. Summary

The purpose of the strategic environmental assessment is to ensure that environmental impacts are assessed and duly considered during the preparation and approval of authorities' plans and programmes. It focuses on the improvement of information availability, and provides more opportunities for public participation in planning to promote more sustainable development. The aim is to guarantee that environmental consequences of certain plans and programmes are identified and assessed during their preparation and before their adoption.

From the wide list of Environmental Policies, Strategies and Programmes the most centered international and local ones are concerned. Also the state of environmental legislation and administration both in Finland and in Russia is shortly described.

The Karelia ENPI CBC programme continues the work of the previous Interreg III A Karelia and Euregio Karelia Neighbourhood programme. The programme area comprises of three regions in Finland, Kainuu, Northern Karelia and Oulu region and of the Republic of Karelia. The nature in the programme area is diversified and vulnerable.

Considering the state and the future of the environment on the programme area there are challenges especially on the waste management, on the water maintenance and on the caring of the boundary waters. The loss of the biodiversity is a serious concern to be taken into account.

The main objective of the Karelia ENPI CBC programme is to increase the wellbeing of the programme area trough cross-border cooperation. The programme is divided into two priorities, priority 1 being Economic Development and priority 2 Quality of Life. The actions implemented on the priorities depend on the decisions of the Monitoring Committee – which themes shall be open for call for proposals and what kind of projects will be approved to be implemented. On the appraisal of the programme elements the indicative themes are assessed.

At this stage of the programme development, the exact locations, nature and impacts of actions cannot be identified, as this depends on specific projects that will be implemented. On the programme document some sectors are introduced within the two priorities. The environmental assessment is based on the sectors mentioned on the programme document.

Impacts such as biodiversity, population, human health, fauna, flora, soil, water, air climatic factors, material assets and cultural heritage has been taken into account when appraising the programme elements. The effects include secondary, cumulative, synergistic, short, medium and long-term, permanent and temporary and positive and negative effects. On the grounds of the assessment it can't be stated that certain sectors would be evidently better than the others. However, directing of the sector can influence a lot on environmental impacts, for example shall the energy sector concentrate on peat or bioenergy, and that should be taken into account in the programme implementation.

Sustainable development is a significant horizontal principle of the programme. The programme isn't based on the Sustainable Development Strategy but the principles of the sustainable development has and will be taken into account on the programme and its implementation. The risk is, though, that economic development is considered to conflict with the environmental protection and that the economic development and competitiveness wins the battle. Accordingly, the programme must convey a clear message that positive environmental impact is a key element of the programme's strategy.

Monitoring of the environmental impacts within the programme implementation is vital and some kind of progress report should be represented to the Monitoring Committee yearly.