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Croazia

Strategic Environmental Assessment of Italy – Croatia

Cross-Border Cooperation Programme

Non-technical summary of the Environmental report

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1. SCOPE OF THE DOCUMENT

The Strategic Environmental Assessment (SEA) aims at promoting sustainable development through evaluation to ensure that environmental issues are included in advance in plans or programmes.

This is a non-technical summary of the Environmental Report (ER) of the CBC (Cross Border Cooperation) Programme Italy-Croatia 2014-2020, in compliance with Directive 42/2001/EC (the ‘SEA Directive’). It is designed to present the SEA findings in a clear and simple format that can be seen and understood by the widest possible audience.

2. PRESENTATION OF THE ITALY-CROATIA PROGRAMME

The Italy – Croatia Operational Programme (hereinafter OP) is a cross border cooperation Programme between Italy and Croatia, co-financed by the European Regional Development Fund (ERDF). The Programme contributes to the European cohesion policy, which pursues harmonious development across the Union by strengthening economic, social and territorial cohesion in order to stimulate growth.



The focus of the Programme is the exchange of knowledge and experiences, to develop and implement pilot actions, to test the feasibility of new policies, products and services and to support investments.

The strategy of the Programme addresses the following thematic objectives (TO):

- TO 1 - Strengthening research, technological development and innovation,
- TO 5 - Promoting climate change adaptation, risk prevention and management,
- TO 6 – Preserving and protecting the environment and promoting resource efficiency,
- TO 7 – Promoting sustainable transport and removing bottlenecks in key network infrastructures.

To each TO correspond one or more of the following Investment Priorities (IP):

- **IP 1b:** Promoting business investment in innovation and research and developing links and synergies between enterprises, R&D centres and higher education (...)
- **IP 5a:** Supporting investment for adaptation to climate change, including ecosystem-based approaches

- **IP 5b:** Promoting investment to address specific risks, ensuring disaster resilience and developing disaster management systems
- **IP 6c:** Conserving, protecting, promoting and developing natural and cultural heritage
- **IP 6d:** Protecting and restoring biodiversity and soil and promoting ecosystem services, including through Natura 2000, and green infrastructure
- **IP 6f:** Promoting innovative technologies to improve environmental protection and resource efficiency in the waste sector, water sector and with regard to soil, or to reduce air pollution
- **IP 7c:** Developing and improving environment-friendly (including low-noise) and low-carbon transport systems including [...] [...] inland waterways and maritime transport, ports, multimodal links and airport infrastructure, in order to promote sustainable regional and local mobility

The Programme has been structured into five Priority Axes (PA) and nine Specific Objectives (SOs) as shown in the table below.

Thematic Objective	Priority Axis		Specific Objectives		Investment priority
	PA	PA Name	SO	SO Description	
TO1	PA 1	Blue Innovation	SO1.1	Enhance the framework conditions for innovation through cooperation of the system players mainly in the sectors of the blue economy	IP 1b
TO5	PA 2	Safety and resilience	SO2.1	Implementing of climate change monitoring or planning of adaptation measures	IP 5a
			SO2.2	Safeguard the Programme area from natural and man-made disaster	IP 5b
TO6	PA 3	Environment and cultural heritage	SO3.1	Make natural and cultural heritage a leverage for economic and territorial development	IP 6c
			SO3.2	Contribute to protect and restore biodiversity in the Adriatic Basin	IP 6d
			SO3.3	Improve the environmental quality conditions of the Adriatic Basin by use of sustainable and innovative technologies and approaches	IP 6f
TO7	PA 4	Maritime Transport	SO4.1	Improve the quality, safety and environmental sustainability of marine and coastal transport services and nodes by promoting multimodality in the Programme area	IP 7c
\	PA5	Technical Assistance	SO5.1	To assure efficiency and effectiveness in the management and implementation of the cooperation Programme	\
			SO5.2	To assure the support to applicants and beneficiaries and to strengthen the involvement of relevant partners in the Programme implementation	\

The PA5 is entirely devoted to technical assistance, supporting implementation of the Programme. It has not been considered in the evaluation of environmental effects.

Budget Allocation - the overall Programme budget amounts to EUR **236.890.847** including European Regional Development Fund (ERDF) (EUR 201.357.220) and national contributions (EUR 35.533.626). ERDF fund breakdown by PA is reported in the following table:

Axis 1	Axis 2	Axis 3	Axis 4	Axis 5
12%	25.5%	35%	21.5%	6%

3. METHODOLOGY OF THE ASSESSMENT

The assessment follows the SEA Directive methodological prescriptions. First of all, the analyses are referred to the Italy-Croatia Programme area. In the assessment procedure, the relevant environmental objectives and related indicators identified during a preliminary scoping phase have been used. They represent the basis for the description of the environment's state and its development trends in the Programme's area as well as for the assessment of likely significant effects of the Programme on the environment.

The Programme's potential effects on the environment were assessed through a qualitative approach. Significant issues relate to climate change and associated risks, inland and marine ecosystems, water quality and supply, soil quality and use, air quality, natural/cultural heritage and landscape, technological risks, health and sanitary risks and nuisances, energy and waste management have been addressed.

Eventually, OP cumulative effects on the environmental issues have been detailed, highlighting interdependencies and effect-chains.

4. KEY ENVIRONMENTAL ISSUES IN THE COOPERATION AREA

The cross border area has diverse marine, coastal and inland ecosystems. The quality of the different environmental primary components is not satisfying in the CBC area: in fact, even though the territory is characterized by numerous natural resources (Natural Protected areas, Natura 2000 Sites, Marine Protected

areas), high biodiversity, good-quality of bathing water and cultural/heritage sites and hotspots also under the UNESCO convention, human activities affect negatively the situation or the trend of many environmental components. Consequently phenomenon such as flood events, coastal erosion, inland and maritime biodiversity loss and air pollution already represent critical issues of the CBC area. A synthesis of the state and trend of main environmental issues in the CBC area is presented in the following table.

Indicator	State	Trends	Synthetic description
<i>Climate changes adaptation and risks</i>			
GHG emission	☺	➡	The effort at international and national level for the GHG reduction have contrasted, also in the CBC area, the past rising trend of emission. The trend of GHG emission has been reduced in 2012 relative to 1990 of ~14% for Italy and ~18% for Croatia.
Risk of desertification	☺	➡	Risk of desertification, in terms of “sensitivity to desertification index” varies mainly between low to medium in the CBC area. The most vulnerable area results the central and southern region of Italian side.
Flood events	☹	↘	Mainly due to morphological reason, floods and landslides represent a criticality more in the Italian side than in the Croatian one
Coastal erosion	☹	↘	Coastal erosion is particularly strong in the Italian side of the CBC area, whereas Croatian coastlines are more subject to karst processes that mechanical weathering.
<i>Inland water quality and supply</i>			
Population connected to public water supply system	☺	↗	The situation related to water supply in the two Countries involved in the CBC Programme is rather uniform, with a connection ratio around the 80% in both sides.
Population connected to public sewage system	☺	↗	In Italy, even if with difference between regions, the majority of population (~85%) is connected to sewage systems, while in Croatia this is true only for the 27% of inhabitants.
Inland water quality	☺	↗	The ecological status is good or higher for the 29% of Italian water bodies. Not uniform information are available for the Croatian side, according to the Water Framework Directive.
<i>Inland biodiversity and ecosystem</i>			
Nationally designated protected areas	☺	➡	The area interested by the CBC Programme hosts numerous Natural Protected areas, mainly National Parks
Natura 2000 network	☺	↗	The Natura 2000 Network has been recently implemented with the inclusion of the new Croatian sites.
Species conservation	☺	↘	Richness of wild species is particularly pronounced in the area. In the CBC area there is the highest percentage in Europe of threatened amphibian and reptile species.
Natural and semi-natural ecosystems	☹	↘	Sites in the CBC area belong to the Mediterranean and to the Continental Biogeographic regions.
<i>Marine ecosystem and natural resources</i>			

Marine protected areas	😊	➡	The area interested by the CBC Programme hosts numerous Marine Protected areas.
Pollution sources	😞	➡	Marine areas along Adriatic coasts are facing major environmental problem such as urban effluents and solid wastes, oily effluents, coastal eutrophication and coastal urbanisation.
Bathing water quality	😊	↗	The quality of bathing water shows fewer problems in Croatia than along the Italian coasts. In both sides bathing water quality is mostly excellent.
Catches	😞	➡	Fishing represent a pressure in Adriatic Sea for marine ecosystem. The number of catches is quite elevate, even if it is not possible detect a clear trend for the past years, it is characterize by the taking of few taxa.
<i>Soil quality and land use</i>			
Artificial soils and surfaces	😞	➡	Soil and landscape quality in the cooperation area is threatened by soil sealing. Most partners have realised the importance of greenbelts and are now setting limits for urban development, which is one of the main factors in soil sealing
Contaminated sites	😞	➡	Soil and landscape quality in the cooperation area is threatened by contamination, from both agricultural practices and industry, in particular in Italy. Most partners favour soil decontamination, using brownfields in new development projects.
<i>Technological risks</i>			
Accidents	😊	↘	Only a few major accidents occurred in the cooperation area in the last twenty years. Transport, especially the maritime one, is the most represented category.
Associated damages	😊	?	No damages to property, crops, and livestock are reported for both countries.
<i>Air quality and health</i>			
Particulate matter emissions	😞	➡	Risks related to particulate matter emission are clearly affecting the whole territory. Particulate matter is mainly produced by traffic pollution, particularly from diesel engines. Emissions tend to be concentrated in urban areas and along major roads.
Other air pollutant emissions	😞	↘	Risks related to exposure to ozone are clearly affecting the whole territory. Trends are towards a decrease in atmospheric pollution and better monitoring of emissions. However hot spots still remain, dispersed over the

			cooperation area, especially related to transport emissions in urban centres and highly populated territories. Air pollutant mobility is high and therefore the problem has to be tackled at all scales: local, national and global
Exposure to pollutants in urban areas			Air quality is a critical problem especially in urban areas where the levels of population and transport density are highest especially in Italy
<i>Landscape and cultural heritage</i>			
Landscape			Italy and Croatia both also have a high level of landscape fragmentation, due in many built-up coastal areas along the Adriatic coast. Landscape qualities often come off worse in regional decision-making. Cultural and natural heritage landscape values have to face several threats from urbanisation, infrastructure development, agricultural production, as well as habitat creation and restoration projects.
Protected sites			CBC regions of both countries entail outstanding heritage sites and hotspots, also under the UNESCO convention
<i>Energy</i>			
Energy consumption			Energy consumption has increased in Italy from 1990 but its trend shows a decrease from 2005. In Croatia there is a reduction in consumption in the last decades.
Renewable energy			The renewable energy production shows a remarkable increase from 2003 in Italy and Croatia, at rate even higher than the European average.
<i>Waste management</i>			
Waste production			Constantly increasing municipal waste volume is a lasting issue in both countries, even though it is tending to stabilise.
Landfill deposit			In both countries only part of the municipal waste volume ends up being recovered while the rest is landfilled
Recycling			In Italy the separate collection rates of municipal waste are increasing in the whole country and for all waste fractions. Croatia has low data quality on this issue. Indeed, recycling of municipal waste only started in 2007 and the recycling rate is still low.

5. ENVIRONMENTAL PROTECTION OBJECTIVES AND EXTERNAL COHERENCE

The selection of the environmental objectives relevant for the CBC Programme has been based on the External Coherence Analysis performed in Chapter 4 of the ER. This analysis has allowed pointing out the environmental priorities for the cooperation area, in accordance to the main international, European, and national level. The environmental objectives selected have been aggregated by environmental theme. The list of objectives is illustrated in the table below.

General environmental objectives have been furtherly split into specific objectives. These have been taken in to consideration during the assessment of environmental effects.

On the basis of the Context Analysis and to the Coherence Analysis carried out in the Environmental Report (chapter 3 and 4 respectively) the Environmental Objectives related to two Environmental issues (climate change and associate risks and marine ecosystem) have been considered of primary importance in the cooperation area. This priority has been considered in the OP environmental effects analysis.

Environmental issues	Topic	General environmental objectives	Specific environmental objectives	
Climate change and associate risks	GHG emission	Reduce GHG emissions	Reduce GHG emissions from industry	
			Reduce GHG emissions from agriculture	
			Reduce GHG emissions from other sectors	
	Adaptation	Reduce flooding risks	Reduce flooding risks	Reduce population exposed to risks of flooding
				Improve the management of area at risks of flooding
				Prevent or minimize damage caused by flooding
		Reduce risks linked to coastal erosion	Reduce risks linked to coastal erosion	Reduce population exposed to risks of coastal erosion
				Improve the management of area at risks of coastal erosion
				Prevent or minimize damage caused by coastal erosion
				Promote adaptation in key vulnerable sectors such as tourism
		Reduce risks of desertification	Reduce risks of desertification	Promote nature-based solution for climate change challenges
Promote adaptation in key vulnerable sectors such as agriculture				

Environmental issues	Topic	General environmental objectives	Specific environmental objectives
Air quality	Air pollution	Improve air quality	Obtain levels of air quality that do not give rise to significant negative impacts on, and risks to human health
			Obtain levels of air quality that do not give rise to significant negative impacts on, and risks to environment
			Promote sustainable mobility
Water quality and supply	Water quality	Improve or maintain underground, surface and bathing water quality	Reduce nitrate and organic matter pollution from agricultural land
			Control and prevent the pollution of water by industry
	Water use	Reduce pressures on fresh water	Reduce pollution from sewage treatment
			Monitoring of water resources
Inland Ecosystem	Inland biodiversity	Protect and preserve the diversity of species	Establish cross border ecological network to conserve ecosystem
			Halt the loss of biodiversity
			Integrate biodiversity conservation into economic and other sectorial policies
	Inland Natural resources	Restore degraded ecosystems and their associated services	Halt the degradation of ecosystem
			Reduce light pollution
Marine Ecosystem	Marine Biodiversity	Protect and preserve the diversity of species	Promote a sustainable use of Marine Resources
	Marine Natural resources	Improve or maintain coastal water quality	Ensure a good environmental and ecological status of the marine and coastal environment
			Good environmental and ecological status of the marine and coastal environment by 2020
		Reduce the pressures on natural resources	Prevent further deterioration, protect and improve the state of the coasts and terrestrial and wetland ecosystems that depend directly on aquatic ecosystems.
Soil quality and management	Soil quality	Remediate contaminated soils and lands	Preserve the soil function
			Protect the soil while using it sustainably, through the prevention of further degradation
			Restore degraded soils

Environmental issues	Topic	General environmental objectives	Specific environmental objectives
	Soil management	Improve efficiency in soil and land management	Promote a sustainable management of land
Technological risks	Risks prevention	Prevent technological risks	-
Health and Sanitary risks and nuisances	Human health protection	Reduce chemical pollution and its effect on health	Reduce the rate of water related diseases
		Decrease noise pollution	-
		Reduce electromagnetic pollution	-
Natural and cultural heritage and Landscape	Landscape and cultural heritage	Preserve landscape and cultural heritage	Applied a joined approach to conservation of biodiversity and landscapes into an integrated framework
			Promote the protection, management and planning of landscape
			Promotes the conservation of several tangible and intangible significant sites
			Promote the protection of Archaeological sites
			Promote a sustainable tourism, based on protection and conservation of cultural heritage
Energy	Renewable	Promote renewable energies	Promote use of solar energy
			Promote use of wind energy
			Promote the use of hydro-energy
	Efficiency	Improve energy efficiency	Improve energy efficiency in public sector Improve energy efficiency in private sector
Waste management	Production	Reduce the production of waste	Improvement of waste management by reducing waste flows to the sea
	Recycling	Promote recycling and reuse	-

In addition, the external coherence between the OP and the relevant programmes implemented in the cooperation area and falling under similar development objectives has been checked. The analysis specially took into account the EU Strategy for the Adriatic and Ionian Region (EUSAIR)

and the EU Marine Strategy. The analysis concluded to the high coherence of the OP with the other programmes and plans currently in force in the cooperation area.

6. MAIN ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Analysis of the environmental effects has three main steps. Firstly, environmental objectives in the area were matched with the proposed Specific Objectives (SOs) and actions planned by the Cross Border Cooperation (CBC) Programme. SOs with potential positive or negative effects on an environmental objective were then identified. Secondly, SEA experts estimated the effect's intensity according to a scale of significance. Thirdly, the information was reorganised to assess the cumulative and cross-border effects of each action planned by the CBC Programme. Measures to mitigate possible negative effect or to orientate the Programme to sustainability have been proposed. Overall, the CP is expected to produce mainly positive effects on environments components, therefore the few negative effects assessed, are often based on a not clear definition of the action included in the SO. Consequently, the mitigation measures proposed aim to clarify the mechanisms of realization of the SO. Orientation measures aim to improve the environmental performance of the Programme.

A synthetic description of the assessed effects and of the proposed measures is presented below.

The following table shows the impacts of SOs ranked by environmental theme.

Priority Axis 1 – Blue Innovation

The **SO1.1** is devoted to enhance framework conditions for innovation by cooperation of research and business players in the sectors of the blue economy. The inclusion of blue-economy strategies produces positive effects on use of resources and on climate change. The magnitude of this effect has been estimated considering its not certain and reversible characteristic.

Action on eco-innovative tools and processes in the shipyard systems could have positive effect on marine water quality: this effect is localized and reversible, but probable and with a long time horizon. Action on aquaculture and fisheries, although based on innovation, produce “unknown” effects on marine biodiversity because it is not make explicit the respect of sustainability of techniques or processes

The development of marine and coastal tourism by mean of innovative services in the area would have effects of unknown sign: if the development corresponds to an increase of tourism fluxes, this could have negative effects on use of resource and on ecosystem; otherwise, if the actions are finalized to an improvement of tourism quality (as out of peak tourism) this could reduce the existing impact. These unknown effects are possibly balanced by the positive effects on marine resources associated to the sustaining to the blue economy.

Mitigation and Orientation Measures for Axis 1.

To enforce the non-significant positive effects eco-efficient projects have to be selected primarily (orientation measure).

Priority Axis 2 – Safety and resilience

The **SO2.1** supports investment for adaptation to climate change, including ecosystem-based approaches.

Possible actions concerning instruments for climate change adaptation on coastal areas are expected to have positive effects on risks associate to climate changes (floods and coastal erosion): these effects are very significant because direct and certain (they represent the aim of the SO) and with a wide spatial horizon.

A possible positive effect are expected on Cultural Heritage in reason of the possible reduction of risks of damage consequent to the efforts on risks management: this latter effect would be not significant because is indirect and not certain.

Actions on innovative energy service in public sector and on energy efficiency solution in public buildings, have positive significant effect on energy efficiency and, consequently, on reduction of GHG emissions.

Interactions with natural resources are expected; even if the investment priority includes ecosystem-based approach, the description of the possible action does not include elements for this. Restoration and preservation of natural resources is at the basis for an efficient adaptation; nevertheless, risks

management actions can produce in some case damage to ecosystem. For this reason, an unknown effect has been assessed at this stage of evaluation.

The **SO2.2** is focused on the risk management, through the development of disaster management systems. Possible actions aim to improve coordination, to raise awareness and to promote the reduction of environmental risks and the common management of the emergencies. Positive effects are expected on climate change risks. They are significant because probable and with a wide spatial horizon. All the actions here included have an immaterial nature, so that effects on other environmental issues cannot be identified at this stage.

Mitigation and Orientation Measures for Axis 2.

In climate change adaptation measures, an increment of resilience has to be promoted through actions finalized to habitat protection (orientation measure).

Priority Axis 3 – Environment and Cultural heritage

The **SO 3.1** aims to make natural and cultural heritage a leverage for economic and territorial development. Actions include the support to knowledge and development common strategies to promote the sustainable use of resources in economic sector, in particular tourism.

Cooperation strategies for preservation of cultural heritage would have positive significant (direct and spatially extended) effects on related objectives. Action in support of tourism could have controversial effect. Even if the focus of the SO is on natural and cultural heritage, an increment of tourism could have negative effects on environmental resources. Conservatively, negative not significant effects have been assessed on water use, CO₂ emission and on waste production. Considering the scope of the SO, no negative effects from tourism has been considered on biodiversity and ecosystems.

The **SO 3.2** is devoted to maintain and restore biodiversity in Adriatic Basin. It includes immaterial actions and pilots on monitoring and enhancement of knowledge, on coordination of planning and management and on sustainable fisheries. Positive very significant effects are expected on marine ecosystem. Action on Integrated Coastal Management could have positive effect on climate change

adaptation. From integrated management of the sea, coastal and rural environment and of cross-border natural resources are expected positive significant effects on inland eco system and positive not significant effect (because not certain) on Natural and Cultural heritage and Landscape.

The **SO3.3** aims to improve the environmental conditions of sea water by use of innovative technologies to reduce pollution. Positive effect on marine water are the scope itself of the SO: this will be very significant, being direct, probable and with a wide spatial and time horizon. Actions concerning information system on ecosystem and those aimed to reduce risk from alien species improve the positive effect on marine ecosystem.

Mitigation and Orientation Measures for Axis 3.

The SO3.1, promoting tourism, may cause possible negative effect on use of resources (GHG emission, water and waste production) and interference with protected habitat. Therefore it is necessary to consider the following mitigation measures:

Make explicit in the OP the instruments able to grant the sustainability of tourism increase. Ensure tourism sustainability (especially in natural areas) introducing project selection criteria and avoiding its promotion in protected habitat.

Moreover in the projects selection phase, sites/ areas where cultural/ natural heritage is very affected by climate change, adverse extreme natural events, presence of mass tourism, environmental degradation, have to be favoured (orientation measure).

Priority Axis 4 – Maritime transport

SO4.1 wants improve the quality, safety and environmental sustainability of marine and maritime transport services in the area. Actions are focused on improvement of multimodality, through promotion of connectivity between ports, regional airports and tourist areas. Effort on optimization of mobility would improve the sustainability of the sector, with positive effects on quality of marine water and marine ecosystems. In accordance with the investment priority (7c), actions will promote a sustainable mobility, which implies a better use of energy, with positive not significant effect (indirect, not probable) on energy efficiency and on GHG emissions.

Mitigation and Orientation Measures for Axis 4.

In the “promotion of short sea shipping and maritime transport services through piloting CB routes”, location in Natura 2000 sites should be avoided or, in alternative, an appropriate preventive incidence analysis should to be performed (mitigation measure).

Give priority (with adequate provisions on selection criteria) to interventions a low carbon impact (orientation measure).

7. POTENTIAL IMPACTS ON SITES UNDER NATURA 2000 LEGISLATION

Negative significant incidences are not expected from the CP Programme to Natura 2000 network. Nature and scope of the SOs and relative actions allow to exclude, at this stage negative interferences with Natura 2000 habitat and species. Therefore, in order to secure the objective of biodiversity preservation in 2000 Natura sites, it is suggested to introduce eco-conditionality criteria in the project selection. To go through the selection process, projects should demonstrate they have no significant effects on any Natura 2000 site. This is of peculiar importance in actions on tourism implementation (SO3.1).

In addition, the introduction of the following criteria could help to avoid disturbance to protected species (see also above):

- SO2.1: in climate change adaptation measure, promote the increment of resilience also through actions finalized to habitat protection;
- SO3.1: do not promote tourism in protected habitat, with peculiar attention to caves;
- SO4.1: in the “promotion of short sea shipping and maritime transport services through piloting CB routes”, avoid location with Natura 2000 sites or, in alternative, perform an appropriate preventive incidence analysis.

Under these conditions, the CBC Programme will not bring damage to habitats and species of Community interest for which conservation objectives have been set up and Natura 2000 sites created.

IMPACTS AND CROSS-BORDER EFFECTS ON THE ENVIRONMENT

Environmental issues	Environmental objectives	SO1.1	SO2.1	SO2.2	SO3.1	SO3.2	SO3.3	SO4.1
Climate change and associate risks	Reduce GHG emissions	+	+		-			n.s
	Reduce flooding risks		++	+				
	Reduce risks linked to coastal erosion		++	+		+		
	Reduce risks of desertification			+				
Air quality	Improve air quality	n.s						
Water quality and supply	Improve or maintain underground, surface and bathing water quality							
	Reduce pressures on fresh water	n.s.			n.s			
Inland ecosystem	Restore degraded ecosystems and their associated services		?			+		
	Protect and preserve the diversity of species		?					
Marine ecosystems	Improve or maintain costal water quality	+				++	++	+
	Protect and preserve the diversity of species					++	++	+
	Reduce the pressures on natural resources	+				++	++	+
Soil quality and use	Remediate contaminated soils and lands							
	Improve efficiency in soil and land management							
Technological risks	Prevent technological risks							
Health and Sanitary risks and nuisances	Reduce chemical pollution and its effect on health							
	Decrease noise pollution							
	Reduce electromagnetic pollution							
Natural and cultural heritage - Landscape	Preserve landscape and cultural heritage		n.s.		+	n.s.		
Energy	Promote renewable energies							
	Reduce Energy consumption and Improve energy efficiency	n.s.	+					n.s.
Waste management	Reduce the production of waste	n.s.			n.s			
	Promote recycling and reuse	n.s.						

Positive effects	Scale to measure the intensity of the effects	Negative effects
++	Very significant effects	--
+	Significant effects	-
?	Unknown effect ¹	?
n.s.	No significant effects	n.s.

¹ "?": some actions planned by the Programme could have indirect impacts difficult to estimate under the current methodologies of assessment.

8. MONITORING MEASURES

A monitoring system is integral to the SEA procedure. A description of monitoring measures must be included in the environmental report and monitoring measures also have to be made available when the decision is publicised.

The proposed monitoring system takes into account the environmental context as well as result, output and performance indicators. These are all able to monitor unexpected environmental effects from the Programme intervention during its implementation phase. Most of these indicators will be based on information already available in the monitoring system. Few data will be directly collected by surveying beneficiaries of the Programme.

All information collected at different levels will be included and analysed in an environmental report, periodically drafted by the monitoring team and made available for decision making to the JTS and Managing Authorities. Such a report should be discussed in monitoring committees, especially during the Programme mid-term review and decisions made regarding re-Programming or adjustment of the Strategy in order to reach a more satisfactory sustainable development of the area under the cooperation objective.

9. INFORMATION OF POTENTIAL ALTERNATIVES AND JUSTIFICATION OF THE PROGRAMME CHOICES

Directive 42/2001/CE in article 5(1) and article 9(1b) requires an analysis of the alternatives and a justification of choices made. The risk of significant negative effects means alternatives must be considered within the Programme to give decision makers the opportunity to select options which eliminate or reduce environmental impacts and which improve the global environmental footprint of the Programme.

During the SEA procedure, different alternative scenarios were considered (three different scenarios –A, B, C- have been built changing the allocation of resources, two more CO₂ emission scenarios have been built using the CO₂MPARE model and taking into consideration different actions to be

implemented by the Programme. One more scenario has been represented by the "zero-option). Analysis shows that the current strategy proposed (scenario "A") for public consultation must be considered as a good alternative compared to other Programme options discussed during the preparation phase, because it represents a compromise between the needs of the CBC area and the environmental performance of the Programme. It realistically try to answer to the needs of the cooperation area, producing at the same time good environmental performances.

10. CONCLUSION

The environmental assessment revealed that the Italy-Croatia CBC Programme has overall positive effects on environmental issues. The few negative effects assessed can be avoided with the mitigation measures proposed.

During the assessment of the environmental effects of the Programme, two main difficulties have been encountered in compiling the required information:

Difficulties encountered	How the difficulty has been faced
Data at Nuts 3 level from European statistics institutions (European Environmental Agency and Eurostat) were often lacking. Moreover the analysis was limited in many cases by the difference in quality, time period covered and scale of information provided by the four different national statistical systems	Information at Nuts 3 level has been collected for the whole cooperation area when available. Information at Nuts 2 level has been used when data provided by different national systems and different levels within the same statistical system were missing.
Different level of implementation of the European directives in the two Country involved, corresponding to a not uniform availability (for some environmental issues) of data.	Information with a cross-border format was considered first. Other national statistics were used, illustrating specific aspects or giving a clear picture on some issues. Because data from different statistical sources were aggregated, the indicators describing the cross-border environmental context must be considered as an approximation.

SEA procedure includes a consultation phase for environmental issues in which stakeholders and the generic public will be involved. Suggestions collected during consultations will be taken into account in the final Programme version.