Dr. Dräger & Thielmann PartG Geographen

2014-2020 Interregional Cooperation Programme
under the European Territorial Cooperation Objective

(INTERREG EUROPE)

Strategic Environmental Assessment
Environmental Report

for

GEIE GECOTTI

INTERREG IVC

„Les Arcuriales", Entrée D, 5e étage

45d, rue de Tournai

59000 LILLE - FRANCE

2014-2020 Interregional Cooperation Programme
under the European Territorial Cooperation Objective
(INTERREG EUROPE)

Strategic Environmental Assessment
Environmental Report

Prepared by:

Dr. Dräger & Thielmann PartG
Marburger Straße 7
D-60487 Frankfurt am Main
Tel: 069 – 70792026
Mail: stefan.draeger@iesy.net

December 2013

Table of Content

List of abbreviations:

CBD	Convention on Biological Diversity
CLIM	EEA Climate Indicators
CO_2	Carbon dioxide
COSME	Programme for competitiveness of Enterprises and SMEs 2014-2020
CPR	Common Provisions Regulation
CSI	Core Set of Indicators (of EEA)
EC	European Communities
EEA	European Environment Agency
ENER	EEA Energy Indicators
ERDF	European Regional Development Fund
ESI	European Structural and Investment Funds (ESI Funds)
ESPON	European Spatial Observation Network
ETC	European Territorial Cooperation
ETC/BD	European Territorial Cooperation Biodiversity
EU	European Union
GDP	Gross Domestic Product
GHG	Greenhouse Gas
G&J	Growth and Jobs
ICUN	International Union for Conservation of Nature
IP	Investment Priority
IPTS	Institute for Prospective Technological Studies
NECD	National Emission Ceiling Directive
NH_3	Ammonia
NOx	Nitrogen Oxides
PA	Priority Axis
R&I	Research and Innovation
PM	Particulate Matter
RTD&I	Research, Technological Development and Innovation
SCI	Site of Community Importance
SEA	Strategic Environmental Assessment
SEBI	Streamlining European Biodiversity Indicators
SME	Small and Medium-Sized Enterprise
SO	Specific Objective
SOER	"State and Outlook of the European environment" report
TO	Thematic Objective

NON-TECHNICAL SUMMARY

Pursuant to the Directive 2001/42/EC adopted by the European Parliament and European Council, a Strategic Environmental Assessment (SEA) is required for the development and amendment of certain plans and programmes including those programmes which influence other plans and programmes (Art. 3 and Annex II SEA-Directive). Accordingly the assessment of the effects on the environment of the Interregional Cooperation Programme 2014-2020 (hereinafter: Programme) is obligatory. The Environmental Report is based on the final draft Programme, version dated 19 November 2013, and has been drafted alongside the development of the Programme. Changes in the revised draft programme dated 20 December 2013 are considered in the Environmental Report.

The Programme

The area of INTERREG EUROPE covers the entire territory of the European Union (EU-28) plus the partner countries Norway and Switzerland. Nevertheless, the assessment is limited to the immediate area of the European Union. In the period 2014-2020 INTERREG EUROPE will be co-financed by the European Regional Development Fund (ERDF) with a budget of € 359 million.[1] The formal time frame for the Programme covers the years 2014 till 2020. Adding 2 more years for the finalisation of funded projects, the period considered in the assessment is 2014 till 2022.

As an implementation instrument of the EU cohesion policy, INTERREG EUROPE contributes to the overall aim of the cohesion policy namely to reduce existing disparities between EU member states and regions in terms of their social and economic development and environmental protection in consideration of their specific territorial and societal conditions and potentials. The cohesion policy by itself supports the objectives of the Europe 2020 strategy (COM(2010) 2020). It can be stated that Europe 2020 presents the overall 'strategic anchor' for INTERREG EUROPE.

The Programme is directly linked to a number of EU policy documents which are developed in order to support the objectives of Europe 2020; it also shows linkages to several EU Directives and Strategies. Beside EU policies and programmes, the Programme has also relations to regional policies and programmes which development and implementation will be supported. It can be stated that the Programme forms a kind of interregional facilitating mechanism to enhance the contributions to EU goals and policies by improving operational capacities in the regions. Thus, it receives more an indirect rather than a direct competence for these contributions.

The Programme covers 4 Priority Axes (PAs) which are based on Thematic Objectives listed in Article 9 of the Common Provisions Regulation (CPR). Within the PAs, 6 Investment Priorities (IP, as prescribed by Article 5 of ERDF Regulation (proposal)) were selected and further focussed in 6 Specific Objectives (SO), i.e. one Specific Objective per each selected Investment Priority:

[1] INTERREG EUROPE 2014-2020 Cooperation Programme final draft, p. 4

Thematic Objective 1: Strengthening research, technological development and innovation
Priority Axis 1: **Research, Technological Development and Innovation (RTD&I)**
Investment Priority 1(a): Enhancing research and innovation (R&I) infrastructure and capacities to develop R&I excellence and promoting centres of competence, in particular those of European interest.
Specific Objective 1.1: **Improve the implementation of regional development policies and programmes, in particular programmes for Investment for Growth and Jobs and, where relevant, ETC programmes, in the field of research and innovation infrastructure and capacities.**
Investment Priority 1(b): Promoting business investment in innovation and research, and developing links and synergies between enterprises, R&D centres and higher education, in particular product and service development, technology transfer, social innovation, eco-innovation, cultural and creative industries, public service applications, demand stimulation, networking, clusters and open innovation through smart specialisation and supporting technological and applied research, pilot lines, early product validation actions, advanced manufacturing capabilities and first production, in particular in Key Enabling Technologies and diffusion of general purpose technologies.
Specific Objective 1.2: **Improve the implementation of regional development policies and programmes, in particular programmes for Investment for Growth and Jobs and, where relevant, ETC programmes, that support the delivery of innovation by actors in regional innovation chains in areas of "smart specialisation" and innovation opportunity.**

Thematic Objective 3: Enhancing the competitiveness of SMEs
Priority Axis 2: **Competitiveness of Small and Medium-Sized Enterprises**
Investment Priority 3(d): Supporting the capacity of SMEs to engage in growth in regional, national and international markets, and in innovation processes;
Specific Objective 2.1: **Improve the implementation of regional development policies and programmes, in particular programmes for Investment for Growth and Jobs and, where relevant, ETC programmes, supporting SMEs in all stages of their life cycle to develop and achieve growth and engage in innovation.**

Thematic Objective 4: Supporting the shift towards a low-carbon economy in all sectors
Priority Axis 3: **Low Carbon Economy**
Investment Priority 4(e): Promoting low-carbon strategies for all types of territories, in particular for urban areas, including the promotion of sustainable multi-modal urban mobility and mitigation relevant adaptation measures.
Specific Objective 3.1:

Improve the implementation of regional development policies and programmes, in particular programmes for Investment for Growth and Jobs and, where relevant, ETC programmes, addressing the transition to a low-carbon economy.

Thematic Objective 6: Protecting the environment and promoting resource efficiency
Priority Axis 4: **Environment and Resource Efficiency**
Investment Priority 6(c): Conserving, protecting, promoting and developing natural and cultural heritage
Specific Objective 4.1: **Improve the implementation of regional development policies and programmes, in particular Investment for Growth and Jobs and, where relevant, ETC programmes, in the field of the protection and development of natural and cultural heritage.**
Investment Priority 6(g): Supporting industrial transition towards a resource-efficient economy, promoting green growth, eco-innovation and environmental performance management in the public and private sectors.
Specific Objective 4.2: **Improve the implementation of regional development policies and programmes, in particular programmes for Investment for Growth and Jobs and, where relevant, ETC programmes, aimed at increasing resource-efficiency, green growth and eco-innovation and environmental performance management.**

The individual SOs form the 'corridors' for the expected results and type of actions to be supported. The planned interventions aim on the facilitation of "policy learning and capitalisation of regional policy good practices on a continuous basis" as well as on the support of "interregional cooperation between regional actors, dedicated to policy learning and transfer of good practices". Both tracks focus on improvements of the implementation and monitoring of regional programmes for Investment in Growth and Jobs as well as ETC, where relevant. [2]

Status of the environment and Existing Environmental Problems

According to the territorial scope of the Programme the environmental objectives and indicators relate to the EU policies. Existing environmental problems were defined. Europe faces challenges particularly referring to:

- Air pollution: Though in the past decades the air pollution has declined, especially in urban areas exceedances of air quality standard occur. This damages the health of a significant proportion of Europe's population
- Biodiversity: Europe is not on the track to meet its objective "*to halt the loss of biodiversity*". In terrestrial as well as in marine ecosystems the trend is still decreasing.
- Soil: Unsustainable use and management of land causes soil degradation.
- Water: During the last 25 years significant progress in the quality of European waters can be stated. However, more than 50 % of the surface water bodies in Europe are less than good ecological status or potential. 25 % of the groundwater (by area) was stated poor chemical standards. Regarding the objective "*To achieve good ecological and chemical status of water bodies*" as well as concerning water exploitation and the

[2] INTERREG EUROPE 2014-2020 Cooperation Programme revised final draft, p. 11

objective "T*o achieve good quantitative status of water bodies"* the EU is attested a "mixed progress" by remaining overall problem and stable trend.

- Global Climate: The world is not on the track, to meet its objective "*to limit increases to below 2° C globally*". Europe is close to reach its 20 % GHG-reduction target.

Regarding the objective "To decouple resource use from economic growth, to move to a recycling society", European Union shows a mixed progress across the member states. The overall problem remains with positive development (increasing trend).

Waste generation is still increasing. According the objective "*to substantially reduce waste generation*" Europe is not on the track with negative developments (increasing trend).

Contrary, "Waste management (recycling)" shows a positive trend. Regarding "S*everal recycling targets for different specific waste streams*" Europe is on the track and shows a positive development.

Assessment of possible environmental effects

The assessment of possible environmental effects is divided into two main parts: 1) the strategic approach and 2) the expected results of the individual Specific Objectives. Except the zero alternative, i.e. non-implementation of the Programme, no alternative is defined and assessed.

The assessment of the strategic approach covers the Operative Objectives, the Priority Axes and Specific Objectives, the mutual linkages of the Priority Axes, the consideration of 'sustainable development' as a horizontal principle, the indicators as well as implementation needs which are required because of the strategic approach.

The assessment reveals that due to the nature of the INTERREG EUROPE only highly indirect effects and contributions can be realised by the Programme. The impact chains from the programme's interventions to direct environmental effects of projects are quite long. In general, the strategic approach offers a potential for positive effects. This refers to the two Priority Axes with a clear focus on environmental issues (PA 3 - low-carbon economy and PA 4 - environment and resource efficiency) first of all. By tackling those topics several other environmental issues are considered which are directly or indirectly linked to these overarching issues. With 50 % of the available funds (excluding the funds for Technical Assistance), a substantial share of the total funds are earmarked for these two PAs. Priority Axes 1 (Research, Technological Development and Innovation (RTD&I)) and 2 (competitiveness of SMEs) show a less obvious potential. Nevertheless by linking their implementation with environmental issues the likely indirect effects could be strengthened.

Mutual consideration of solutions in RTD&I, SME promotion, low-carbon economy and protection of natural and cultural heritage helps to increase the positive contributions to environmental protection and resource efficiency. The potential of strengthening the positive contributions to environmental protection and resource efficiency by making use of those internal interrelations is not systemically exploited by the Programme.

Some of the defined output indicators contribute potential negatively because their achievement might cause extended travelling across Europe. The formulation of the critical indicators should be revised in order to strengthen the efforts to make use of exchange and communication modes with less potential negative impacts on air, climate and resource consumption.

'Sustainable development' is included in the Programme as a horizontal principle. The consideration in the implementation of the different PAs is formulated. Following the stipulations of the Common Provisions Regulation (CPR), sustainable development is also incorporated in the Programme as a horizontal principle. This provides the obligation to consider environmental issues also in the realisation of PAs 1 and 2. However, the consideration could be forced more strictly regarding PAs 1 and 2.

The character and the management of this Europe-wide Programme require extensive travelling of regional partners, representatives of member states, and programme management. Emission of greenhouse gases, air pollution and noise are the most significant issues of transport. It is the ultimate purpose of the Programme to promote the interregional exchange and to provide capacity development by interregional cooperation activities. Therefore, it is not possible to consider actual principle alternatives. Instead, it is recommended to focus more on other means of exchange and types of cooperation and to minimise the number of meetings, visits and events in order to mitigate the environmental impacts.

The assessment of the expected results of each Specific Objective shows a twofold picture.

The impacts on the environment as well as the contribution of the expected results of SO 1.1, SO 1.2 and SO 2.1 to the EU environmental objectives are very limited. The results aim to improve framework conditions and exchange processes. Both of course can show environmental effects in the long run. However, direct or even indirect links of first order can not be stated. Positive indirect effects might be expected if the supported measures are linked with needs of environmental protection issues. But these positive effects cannot be seen as granted.

The situation concerning SO 3.1, SO 4.1 and SO 4.2 is different. For all expected results of these SOs positive indirect effects can be stated. Though even for these Specific Objectives most of the actions to be supported refer to improvement of programming, exchange of experiences and practices, a successful realisation of the proposed results finally can generate positive impacts on the environmental issues related to the individual focus (low-carbon economy, protection and development of natural and cultural heritage as well as resource efficiency, green growth and eco-innovation and environmental management).

Regarding expected result 2 of SO 3.1, attention must be paid to the fact that the generation of energy by particular renewable sources can cause negative impacts on other environmental issues. Increasingly, conflicts between climate protection aims and protection of natural assets and biodiversity aims can be stated in the last years. Support of energy generation by renewable sources has to take those conflicts into account and find an acceptable balance between the conflicting interests. Although the effects of the Programme are highly indirect and problems will actually appear quite distant on the impact chain, it seems necessary to put those possible effects on the agenda in an early stage of the impact chain.

Due to the wide range of potential (indirect) contributions to EU environmental objectives and potential effects on environmental issues the indirect cumulative effect of the Programme is notable. A successful implementation of the Programme establishes mechanisms and builds capacities with positive influences on realising environmental protection more effectively in the future via improved regional policies and programmes.

By promotion of low-carbon economy and environment and resource efficiency the Programme tackles two areas which might generate a number of potential indirect synergetic effects. The mitigation of GHG emissions and the reduction of the consumption of natural resources for energy generation and (industrial) production support also the protection of other environmental media as air, water, soil, biodiversity and landscape. Human health and human well-being is positively influenced by less polluted air, particularly in urban areas, but also by better quality of waters and landscape.

Concerning the potential effects of the Programme as a whole on the environment and contributions to the EU environmental objectives and general EU environmental policy, the Programme is differentiated into two parts: PAs 1 and 2 show little, highly indirect effects and contributions, PAs 3 and 4 can realise also indirect effects and contributions but due to their explicit focus on environmental issues more effectively. The risk of negative effects and contributions is very limited. Only connected to the promotion of specific renewable energy sources potential negative effects have to be considered, e.g. in case of promotion of wind power plants, hydro power plants or biomass power plants.

But even more important for the effect and contribution for the Programme as a whole than the individual PAs are the character and type of interventions planned. The improvement of framework conditions and mechanisms for more effective implementation of regional programmes, policy learning and exchange of interregional experiences expands the scope of (positive) effects. Knowledge and capacities generally open opportunities for an effective consideration and integration of environmental issues in programming and implementation of regional programmes.

Recommendations

Most of the recommendations for increasing the potential of positive effects aim on implementation structures of the Programme. The stricter consideration of the horizontal principle 'sustainable development' as well as mutually linking the different Priority Axes could support the generation of positive effects regarding Priority Axes dealing with RTD&I and competitiveness of SMEs. For both, a pronounced orientation on eco-innovations, green procurement and circular flow economy can improve their contributions to EU environmental objectives and the EU environmental policy.

The given recommendations based on the draft Programme dated 19.11.2013; in the revised draft Programme (11.12.2013) the recommendations are partly considered already.

Monitoring

The highly indirectness of potential environmental effects of the INTERREG EUROPE Programme due to its nature does not allow the identification of measures to monitor possible impacts on the environment by projects funded by this Programme. Thus, the monitoring must aim to ensure that no adverse effects to the EU environmental objectives and the EU environmental policy are supported by INTERREG EUROPE, even if the direct impacts will occur in the long run only. It is proposed to safeguard the consideration of clear environmental criteria in project application manuals of the Programme. Furthermore, the project applications and reports have to cover expected and actually initiated environmental effects even if indirect only. A regular assessment of expected and initialised effects by projects supported by INTERREG EUROPE has to be done in order to avoid incompatibility of the Programme's implementation orientation with the EU environmental objectives and general environmental policy.

1 INTRODUCTION

1.1 Purpose of the Strategic Environmental Assessment

Pursuant to the Directive 2001/42/EC (hereinafter: SEA-Directive) adopted by the European Parliament and European Council, a Strategic Environmental Assessment (SEA) is required for the development and amendment of certain plans and programmes including those programmes which influence other plans and programmes (Art. 3 and Annex II SEA-Directive). Accordingly the assessment of the impacts on the environment of the Interregional Cooperation Programme 2014-2020 (hereinafter: Programme) is obligatory. Annex II of the SEA Directive stipulates the criteria for the assessment of potential environmental impacts.

Purpose of the SEA is the consideration of effects on the environment caused by the implementation of the INTERREG EUROPE. The SEA comprises the development of the environmental report on the effects as well as consultations of relevant authorities and the public. The findings and recommendations of the environmental report and of the consultations will be considered in the finalisation and approval of the programme.

The overall European strategy "Europe 2020 - a strategy for smart, sustainable and inclusive growth (COM(2010) 2020)" requires that all instruments at EU-level contribute to this overarching strategy. By this, the strengthening of a sustainable and ecological-sound economic development is imposed as a commitment to all actors. The assessment has to verify how far INTERREG EUROPE supports the environmental objectives of the European Union and does not counteract environmental targets and objectives as stated in relevant strategies as the *Roadmap to resource efficient Europe (resource efficiency roadmap)* (COM(2011) 571), the *Roadmap for moving to a competitive to low carbon economy (low carbon roadmap)* (COM(2011) 112), the *Water Framework Directive (WFD)* (Directive 2000/60/EC), or the *EU Biodiversity Strategy to 2020* (COM(2011) 24). The present SEA is being carried out alongside the development of the Programme in order to identify and assess likely significant environmental effects of the Programme, and of any reasonable alternatives, during the preparation stage and before it is adopted.

The following documents have been used as technical references during the preparation of the Environment Report:

- Guidance document on ex-ante evaluation (January 2013) - Annex 1: Ex-ante evaluation and the Strategic Environmental Assessment
- Implementation of Directive 2001/42 on the assessment of the effects of certain plans and programmes on the environment (2004)
- Leitfaden zur Strategischen Umweltprüfung (German Federal Environmental Agency) (2009)

The Environmental Report is based on the final draft Programme 2014-2020, version dated 19 November 2013. Amendments of the Programme in the revised draft version dated 20 December 2013 are considered in the Environmental Report.

1.2 The SEA-process

Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (SEA Directive)

Article 1

Objectives

The objective of this Directive is to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programs with a view to promoting sustainable development, by ensuring that, in accordance with this Directive, an environmental assessment is carried out of certain plans and programs which are likely to have significant effects on the environment.

The SEA is a key policy instrument to mainstream environmental considerations into plans, programmes and strategies. SEA was introduced in the EU in 2001, since the Sea-Directive is in force. The main objective of SEA is to ensure that the environmental implications of decisions are taken into account before the decisions are finally made. Consultation of competent authorities and the general public is an integral part of the SEA procedure:

- The scoping stage is mandatory under the SEA. In this stage the content and the scope of the environmental report will be defined. The scoping procedure includes the consultation of relevant authorities.
- Next stage is the preparation of the environmental report. The environmental report is detailing the likely significant environmental effects and reasonable alternatives. Issues that should be considered are listed in Annex I of the SEA Directive.
- The environmental report must be accessible for the public as base for the consultations with the public and the authorities with environmental responsibilities.
- The report on environmental effects and the results of consultations shall be considered before the programme is adopted.
- Once the programme and the environmental report are adopted, the authorities with environmental responsibilities and the public shall be informed and the relevant information made available to them.
- In order to determine any unforeseen adverse effects as early as possible, it is necessary to ensure that the significant environmental effects of the programme are monitored.[3]

For the SEA of the Cooperation Programme 2014-2020, a scoping note presenting a proposal on the extent and level of detailing of the assessment was sent to authorities with environmental responsibilities in the members states of INTERREG EUROPE (EU-28 + Norway + Switzerland) on the 05th November 2013 asking for comments and suggestions. The received comments and suggestions were taken into account while developing the environmental report.

Together with the final draft Programme, the Environmental Report is subject of the public consultation proposed from 10 January 2014 till 21 March 2014.

After the public consultation, a consultation report will be drafted presenting the received comments and their consideration.

[3] http://ec.europa.eu/environment/eia/sea-legalcontext.htm (21.11.2013)

1.3 Assessment frame

The assessment of potential significant impacts on the environment refers to the Cooperation Programme of INTERREG EUROPE 2014-2020. Areas of the assessment are the general strategic approach, defined Investment Priorities (IPs) respectively Specific Objectives (SOs) and related expected results and types of actions to be supported as well as the defined indicators.

According to the provision in the Programme the territory of the INTERREG EUROPE includes the entire area of the European Union (EU-28) plus the partner states Norway and Switzerland. Significant impacts beyond the borders of this territory cannot be expected related to most environmental issues. Exceptions are global climate and partly resource efficiency (see EU (2011) EU Resource Efficiency Perspectives in a Global Context; pp. 26). However, the "Presentation of actual effective objectives for environmental protection" (chapter 3.1) and "Characteristics of the environment, status of the environment in case of non-implementation of the programme and existing environmental problems" (chapter 4) are limited to the immediate area of the European Union.

The formal time frame for the Programme covers the years 2014 till 2020. Adding 2 more years for the finalisation of funded projects, the period considered in the assessment is 2014 till 2022.

2 THE 2014-2020 INTERREGIONAL COOPERATION PROGRAMME (INTERREG EUROPE)

2.1 Relations to other relevant programmes and strategies

INTERREG EUROPE promotes "exchange of experience on thematic objectives among partners throughout the Union on the identification and dissemination of good practice with a view to its transfer principally to operational programmes under the Investment for Growth and Jobs goal but also, where relevant, to programmes under European Territorial Cooperation (ETC) goal."[4] This will be done via the support and facilitation of policy learning, sharing of knowledge and transfer of good practices between regional and local authorities and other actors of regional relevance.[5]

As an instrument of the implementation of the EU cohesion policy, INTERREG EUROPE contributes to the overall aim of the cohesion policy namely to reduce existing disparities between EU member states and regions in terms of their social and economic development and environmental protection in consideration of their specific territorial and societal conditions and potentials.

The cohesion policy supports the objectives of the Europe 2020 strategy (COM(2010) 2020)

- smart growth: developing an economy based on knowledge and innovation,
- sustainable growth: promoting a more resource efficient, greener and more competitive economy,
- inclusive growth: fostering a high-employment economy delivering social and territorial cohesion.

[4] European Commission (2011): ETC regulation (proposal), Art. 2(3)(a)

[5] INTERREG EUROPE 2014-2020 Cooperation Programme revised final draft, p. 4

Europe 2020 thus presents the overall 'strategic anchor' for INTERREG EUROPE.

The Programme is directly linked to a number of EU policy documents which are developed in order to support the objectives of Europe 2020. This includes

- the Territorial Agenda of the European Union 2020 - Towards an Inclusive, Smart and Sustainable Europe of Diverse Regions (May 2011)
- Horizon 2020 - Framework Programme for Research and Innovation 2014-2020 (COM(2011) 809)
- Programme for the Competitiveness of Enterprises and SMEs 2014 – 2020 (COSME) (COM (2011) 834)
- the Roadmap for moving to a competitive low carbon economy in 2050 (COM(2011)112)
- the Roadmap to a Resource Efficient Europe (COM(2011) 572)
- Programme for the Environment and Climate Action (LIFE Programme) for the period 2014-2020 (PE-COS 70/13, 16103/13 ADD1)
- the Eco-innovation Action Plan (Eco-AP) (COM(2011) 899)

Furthermore, the Programme shows linkages to several EU Directives and Strategies.

Beside EU policies and programmes, the Programme has also relations to regional policies and programmes which development and implementation will be supported. It can be stated that the Programme forms a kind of interregional facilitating mechanism to enhance the contributions to EU goals and policies by improving operational capacities in the regions. Thus, it shows more an indirect rather than a direct competence for these contributions.

The Programme covers the entire area of the EU (EU-28) plus Norway and Switzerland. It will be co-financed by the European Regional Development Fund (ERDF) with a budget of € 359 million for the period 2014-2020[6].

2.2 Concise presentation of the Programme's strategic approach[7]

The mission statement describes the immediate relation of the Programme to Europe 2020:

> "The programme will contribute to smart, sustainable and inclusive growth in Europe by supporting (and facilitating) knowledge sharing and good practice transfer among actors of regional relevance to improve regional/Cohesion policy."

The intended contribution of the Programme is based on the main territorial needs and challenges of the INTERREG EUROPE region. It is also based on the experiences of interregional cooperation in the frame of previous programmes.

Connected to defined objectives for interregional cooperation[8], the mission statement leads to the overall objective of this Programme which reads:

> "To improve the implementation of policies and programmes for regional development, in particular of programmes under the Investment for Growth and Jobs goal and, where relevant, of programmes under the ETC goal, by promoting exchange of experience and policy learning among actors of regional relevance."

To break it down to realisation two operational objectives are defined:

---

[6] INTERREG EUROPE 2014-2020 Cooperation Programme revised final draft, p. 4

[7] The Scoping Note based on the Programme version of September 2013; the in the meantime, the Programme was further developed showing also reformulations of Specific Objectives, expected result as well as actions to be supported. The changes are considered in the Environmental Report.

[8] European Commission (2011): ETC regulation (proposal),Art. 2

"1. To facilitate ongoing EU-wide policy learning and capitalisation of practices among actors of regional relevance in order to strengthen regional policies, and in particular the implementation of programmes for Investment for Growth and Jobs and where relevant ETC.

2. To support exchange of experience and sharing of practices among actors of regional relevance with the aim to integrate the learning from the cooperation into regional policies, in particular through their programmes for Investment for Growth and Jobs and where relevant ETC."[9]

The Programme covers 4 Thematic Objectives (TO 1, TO 3, TO 4, and TO 6 as prescribed by Article 9 of the Common Provisions Regulation (CPR)) which form the base for the identified Priority Axes (PA). Within the PAs, 6 Investment Priorities (IP, as prescribed by Article 5 of ERDF Regulation (proposal)) were selected and further focussed in 6 Specific Objectives (SO), i.e. one Specific Objective per each selected Investment Priority. The individual SOs form the 'corridors' for the expected results and type of actions to be supported.

The following listing reflects the current set of strategic stipulations of the Programme as presented in the final draft Programme, Section 2:

Thematic Objective 1: Strengthening research, technological development and innovation
Priority Axis 1: **Research, Technological Development and Innovation**
Investment Priority 1(a): Enhancing research and innovation (R&I) infrastructure and capacities to develop R&I excellence and promoting centres of competence, in particular those of European interest.
Specific Objective 1.1: **Improve the implementation of regional development policies and programmes, in particular programmes for Investment for Growth and Jobs and, where relevant, ETC programmes, in the field of research and innovation infrastructure and capacities.**
Expected Results: - The main change sought is an improved implementation of regional development policies and programmes, in particular programmes for Growth and Jobs (G&J), and where relevant ETC, in the field of regional infrastructures for research and innovation and capacities to develop research and innovation excellence. - To achieve innovation-driven growth, regional authorities and other actors of regional relevance must strengthen their innovation 'enablers': the infrastructures and capacities needed for research and innovation to flourish in sectors with strong innovation potential. Many EU regions identify these key sectors in Regional Innovation Strategies for Smart Specialisation. - Regional policies for innovation infrastructure and capacities must target such issues as the availability of research and competence centres and ICT infrastructures, ensuring the education system provides the qualifications needed in innovative sectors and public facilities for funding and supporting R&I activity. - The programme will support exchange of experiences and sharing of practices between actors of regional relevance with the specific aim to prepare the integration of the lessons learnt into regional policies and actions for innovation infrastructure and capacities - in particular through G&J or ETC programmes, but also other programmes of regions involved. - The programme will facilitate policy learning and capitalisation by making relevant practices and results from Interregional Cooperation Projects and other experiences widely available and usable for regional actors involved in innovation support in G&J, ETC and other programmes.

[9] INTERREG EUROPE 2014-2020 Cooperation Programme revised final draft, p. 11

- This interregional sharing of practices and policy learning will improve capacities (skills, knowledge) of individuals and organisations involved and prepare the implementation of the lessons learnt. This will result in a better implementation of (G&J and ETC) programmes and policies in the field of research and innovation infrastructures in the regions involved.

Types of actions to be supported:

Interregional Cooperation Projects (from here on 'projects'): The objective of the projects is to improve the implementation of the policies of participating regions by supporting exchange of experiences and sharing of practices between actors of regional relevance with the specific aim to prepare the integration of the lessons learnt into regional policies and actions. Through the projects, INTERREG EUROPE intends to improve primarily the implementation of the programmes for Investment for Growth and Jobs (G&J) of the participating regions, and, where relevant, the implementation of programmes for European Territorial Cooperation (ETC). However, also the implementation of other regional programmes and policies in the field of innovation infrastructures and capacities can be improved as a result of the cooperation.

Interregional Cooperation Projects as a general rule have two phases:

- Phase 1 is dedicated to the exchange of policy experience and to preparing the implementation of lessons learnt. By the end of this phase each partner region shall produce an Action Plan for the integration of lessons learnt from the cooperation in their regional policies and/or (Growth and Jobs, ETC) programmes. The Action Plans shall identify the measures to be integrated and their timeframe, work steps, responsible actors, costs (if any) and funding sources. The partners shall actively involve relevant regional stakeholders in all activities.
- Phase 2 is dedicated to the monitoring by each partner region of the implementation of their Action Plan by the responsible actors in their territory. The actual implementation of these actions is not funded by INTERREG EUROPE. This monitoring primarily takes place within the context of in each region. However, the interregional partnership may decide to organise joint activities in this monitoring phase to continue their policy learning process. In duly justified cases, phase 2 may also include pilot actions to test certain parts of the Action Plan in practice.

Policy Learning Platform ('Platform') on Research, Technological Development and Innovation: It covers both specific objectives of Priority 1 combined. This platform will be a 'knowledge resource centre' to support ongoing EU-wide regional policy learning in the field of research, technological development and innovation, mainly with regard to the implementation of the Growth and Jobs and where relevant, ETC goals. The Platform aims to:

- Contribute to EU wide capacity building by supporting networking and exchange of experience among relevant actors related to Investment for Growth and Jobs and ETC programmes.
- Exploit the results of Interregional Cooperation Projects and make them available to a wider audience of regional policy actors across Europe.

The Platform offers activities and services for the whole community of regional policy actors and stakeholders, in particular those involved in Growth and Jobs and ETC programmes across Europe.

Investment Priority 1(b):
Promoting business investment in innovation and research, and developing links and synergies between enterprises, R&D centres and higher education, in particular product and service development, technology transfer, social innovation, eco-innovation, cultural and creative industries, public service applications, demand stimulation, networking, clusters and open innovation through smart specialisation and supporting technological and applied research, pilot lines, early product validation actions, advanced manufacturing capabilities and first production, in particular in Key Enabling Technologies and diffusion of general purpose technologies.

Specific Objective 1.2:
Improve the implementation of regional development policies and programmes, in particular programmes for Investment for Growth and Jobs and, where relevant, ETC programmes, that support the delivery of innovation by actors in regional innovation chains in areas of "smart specialisation" and innovation opportunity.

Expected Results:

- The main change sought is an improved implementation of regional policies and programmes, in particular for Investment for Growth and Jobs (G&J) and where relevant ETC, that provide support to the actual delivery of innovation in regional innovation chains by measures related to i.e. development of research-driven clusters, support to triple-helix cooperation and to business activities in innovation.
- Regional authorities and their innovation partners need to facilitate cooperation and joint initiatives of the enterprises, R&D centres and higher education actors in their key regional areas of smart specialisation and innovation opportunity.
- Creating effective ecosystems of innovation can improve technology transfer and the emergence and economic exploitation of new R&D results. Regions must develop and cultivate research-driven clusters in their main sectors of innovation potential to increase innovation-driven growth. Finally regional actors can also devise policies to trigger consumption of innovation, for instance through public procurement of innovation.
- The programme will support the exchange of experience among actors of regional relevance from across Europe in this field to prepare the integration of lessons learnt in the regional programmes for Growth and Jobs, ETC or other relevant regional programmes. The programme will also facilitate policy learning and capitalisation by making relevant practices and results from Interregional Cooperation Projects and other experiences widely available and usable for regional actors involved in innovation support in G&J, ETC and other programmes.
- This interregional sharing of practices and policy learning will improve capacities (skills, knowledge) of the involved individuals and organisations and plan the implementation of the lessons learnt. This results a better implementation of (G&J and ETC) programmes and policies in the field of innovation delivery in the regions involved.

Types of actions to be supported:

Interregional Cooperation Projects (from here on 'projects'): The objective of the projects is to improve the implementation of the policies of participating regions by supporting exchange of experiences and sharing of practices between actors of regional relevance with the specific aim to prepare the integration of the lessons learnt into regional policies and actions. Through the projects, INTERREG EUROPE intends to improve primarily the implementation of the programmes for Investment for Growth and Jobs (G&J) of the participating regions, and where relevant the implementation of programmes for European Territorial Cooperation (ETC). However, also the implementation of other regional programmes and policies in support of innovation delivery can be improved as a result of the cooperation.

Interregional Cooperation Projects as a general rule have two phases:

- Phase 1 is dedicated to the exchange of policy experience and to preparing the implementation of lessons learnt. By the end of this phase each partner region shall produce an Action Plan for the integration of lessons learnt from the cooperation in their regional policies and/or (Growth and Jobs, ETC) programmes. The Action Plans shall identify the measures to be integrated and their timeframe, work steps, responsible actors, costs (if any) and funding sources. The partners shall actively involve relevant regional stakeholders in all activities.
- Phase 2 is dedicated to the monitoring by each partner region of the implementation of their Action Plan by the responsible actors in their territory. The actual implementation of these actions is not funded by INTERREG EUROPE. This monitoring primarily takes place within the context of in each region. However, the interregional partnership may decide to organise joint activities in this monitoring phase to continue their policy learning process. In duly justified cases, phase 2 may also include pilot actions to test certain parts of the Action Plan in practice.

Policy Learning Platform ('Platform') on Research, Technological Development and Innovation: It covers both specific objectives of Priority 1 combined. This platform will be a 'knowledge resource centre' to support ongoing EU-wide regional policy learning in the field of research, technological development and innovation, mainly with regard to the implementation of the Growth and Jobs and where relevant, ETC goals. The Platform aims to

- Contribute to EU wide capacity building by supporting networking and exchange of experience among

relevant actors related to Investment for Growth and Jobs and ETC programmes.

- Exploit the results of Interregional Cooperation Projects and make them available to a wider audience of regional policy actors across Europe.

The Platform offers activities and services for the whole community of regional policy actors and stakeholders, in particular those involved in Growth and Jobs and ETC programmes across Europe.

Thematic Objective 3:
Enhancing the competitiveness of SMEs

Priority Axis 2:
Competitiveness of Small and Medium-Sized Enterprises

Investment Priority 3(d):
Supporting the capacity of SMEs to engage in growth in regional, national and international markets, and in innovation processes;

Specific Objective 2.1:
Improve the implementation of regional development policies and programmes, in particular programmes for Investment for Growth and Jobs and, where relevant, ETC programmes, supporting SMEs in all stages of their life cycle to develop and achieve growth and engage in innovation.

Expected Results:

- The main change sought is an improved implementation of regional policies and programmes, in particular programmes for Growth and Jobs and ETC, that support the creation, development and growth of small and medium sized enterprises.
- The potential for enterprises to create new or use existing market opportunities begins with the presence of entrepreneurial skills. Regional policies therefore need to actively support entrepreneurship development and capacity building as a building block for business creation and growth.
- It is equally crucial that regional authorities and business support actors respond adequately to the key challenges that obstruct businesses on their path to growth, such as access to finance (e.g. through facilities for start-up capital or guarantees) and knowledge and to international markets. Certain priority target groups of entrepreneurship policies (e.g. young people, migrants or female entrepreneurs) may also require specific support.
- A transparent and dependable business climate is crucial for all economic actors. Regional procedures can be made more business-friendly, e.g. related to public procurement or e-invoicing.
- The programme will support exchange of experiences and sharing of practices between actors of regional relevance with the aim to prepare the integration of the lessons learnt in regional policies and actions for SME and entrepreneurship support
- The programme will facilitate policy learning and capitalisation by making relevant practices and results from interregional cooperation and other experiences widely available and usable for regional actors involved in innovation support in G&J, ETC and other programmes.
- This interregional sharing of practices and policy learning will improve capacities (skills, knowledge) of individuals and organisations involved and prepare the implementation of the lessons learnt. This results in a better implementation of G&J or ETC programmes, but also other programmes and policies of regions involved.

Types of actions to be supported:

Interregional Cooperation Projects (from here on 'projects'): The objective of the Projects is to improve the implementation of the policies of participating regions by supporting exchange of experiences and sharing of practices between actors of regional relevance with the specific aim to prepare the integration of the lessons learnt into regional policies and actions. Through the projects, INTERREG EUROPE intends to improve primarily the implementation of the programmes for Investment for Growth and Jobs (G&J) of the participating regions, and where relevant the implementation of programmes for European

Territorial Cooperation (ETC). However, also the implementation of other regional programmes and policies in the field SME and entrepreneurship support can be improved as a result of the cooperation.

Interregional Cooperation Projects as a general rule have two phases:

- Phase 1 is dedicated to the exchange of policy experience and to preparing the implementation of lessons learnt. By the end of this phase each partner region shall produce an Action Plan for the integration of lessons learnt from the cooperation in their regional policies and/or (Growth and Jobs, ETC) programmes. The Action Plans shall identify the measures to be integrated and their timeframe, work steps, responsible actors, costs (if any) and funding sources. The partners shall actively involve relevant regional stakeholders in all activities.
- Phase 2 is dedicated to the monitoring by each partner region of the implementation of their Action Plan by the responsible actors in their territory. The actual implementation of these actions is not funded by INTERREG EUROPE. This monitoring primarily takes place within the context of in each region. However, the interregional partnership may decide to organise joint activities in this monitoring phase to continue their policy learning process. In duly justified cases, phase 2 may also include pilot actions to test certain parts of the Action Plan in practice.

Policy Learning Platform ('Platform') on competitiveness of small and medium-sized enterprises and entrepreneurship: This platform will be a 'knowledge resource centre' to support ongoing EU-wide regional policy learning in the field of SME and entrepreneurship policies, mainly with regard to the implementation of the Growth and Jobs and where relevant, ETC goals. The Platform aims to:

- Contribute to EU wide capacity building by supporting networking and exchange of experience among relevant actors related to Investment for Growth and Jobs and ETC programmes.
- Exploit the results of Interregional Cooperation Projects and make them available to a wider audience of regional policy actors across Europe.

The Platform offers activities and services for the whole community of regional policy actors and stakeholders, in particular those involved in Growth and Jobs and ETC programmes across Europe.

Thematic Objective 4:
Supporting the shift towards a low-carbon economy in all sectors

Priority Axis 3:
Low Carbon Economy

Investment Priority 4(e):
Promoting low-carbon strategies for all types of territories, in particular for urban areas, including the promotion of sustainable multi-modal urban mobility and mitigation relevant adaptation measures.

Specific Objective 3.1:
Improve the implementation of regional development policies and programmes, in particular programmes for Investment for Growth and Jobs and, where relevant, ETC programmes, addressing the transition to a low-carbon economy.

Expected Results:

- The main change sought is an improved implementation of regional development policies and programmes, in particular the programmes for investment and Growth and Jobs and ETC, in support of the transition to a low-carbon economy.
- Regional policies and interventions in this field include support actions and investments to increase levels of energy efficiency, including in public buildings and the housing sector. They also aim at raising the share of energy from renewable sources in the overall energy mix, by encouraging and facili-

tating production and distribution of renewables *(while preventing possible adverse effects on biodiversity, landscape or water)*[10]. Another key field of action is reduction of the emissions of greenhouse gasses by businesses and households from energy consumption, mobility and other sources.

- Integrated regional low-carbon strategies are needed to identify the most promising areas of action, mobilise stakeholders, facilitate and channel public and private investments and increase the awareness of inhabitants, business and other actors of the need for and opportunities of using low-carbon alternatives. Regional authorities can also facilitate the development of low-carbon innovations and speed up their application through green public procurement, regional pilots and investment schemes.
- The programme will support exchange of experiences and sharing of practices between actors of regional relevance with the specific aim to prepare the integration of the lessons learnt into regional policies and actions. And the programme will facilitate policy learning and capitalisation by making relevant practices and results from Interregional Cooperation Projects and other experiences widely available and usable for regional policy actors.
- This interregional sharing of practices and policy learning will improve capacities (skills, knowledge) of individuals and organisations involved and plan the implementation of lessons learnt. This results a better implementation of (G&J and ETC) programmes and policies for the low-carbon economy.

Types of actions to be supported:

Interregional Cooperation Projects (from here on 'projects'): The objective of the projects is to improve the implementation of the policies of participating regions by supporting exchange of experiences and sharing of practices between actors of regional relevance with the specific aim to prepare the integration of the lessons learnt into regional policies and actions. Through the projects, INTERREG EUROPE intends to improve primarily the implementation of the programmes for Investment for Growth and Jobs (G&J) of the participating regions, and where relevant the implementation of programmes for European Territorial Cooperation (ETC). However, also the implementation of other regional programmes and policies in the field the low-carbon economy can be improved as a result of the cooperation.

Interregional Cooperation Projects as a general rule have two phases:

- Phase 1 is dedicated to the exchange of policy experience and to preparing the implementation of lessons learnt. By the end of this phase each partner region shall produce an Action Plan for the integration of lessons learnt from the cooperation in their regional policies and/or (Growth and Jobs, ETC) programmes. The Action Plans shall identify the measures to be integrated and their timeframe, work steps, responsible actors, costs (if any) and funding sources. The partners shall actively involve relevant regional stakeholders in all activities.
- Phase 2 is dedicated to the monitoring by each partner region of the implementation of their Action Plan by the responsible actors in their territory. The actual implementation of these actions is not funded by INTERREG EUROPE. This monitoring primarily takes place within the context of in each region. However, the interregional partnership may decide to organise joint activities in this monitoring phase to continue their policy learning process. In duly justified cases, phase 2 may also include pilot actions to test certain parts of the Action Plan in practice.

Policy Learning Platform ('Platform') on the transition to a low-carbon economy: This platform will be a 'knowledge resource centre' to support ongoing EU-wide regional policy learning in the field of the low-carbon economy, mainly with regard to the implementation of the Growth and Jobs and where relevant, ETC goals. The Platform aims to:

- Contribute to EU wide capacity building by supporting networking and exchange of experience among relevant actors related to Investment for Growth and Jobs and ETC programmes.
- Exploit the results of Interregional Cooperation Projects and make them available to a wider audience of regional policy actors across Europe.

The Platform offers activities and services for the whole community of regional policy actors and stake-

[10] Text in italic added as consequence of recommendations provided by the SEA experts (see also chapter 6).

holders, in particular those involved in Growth and Jobs and ETC programmes across Europe.

Thematic Objective 6:
Protecting the environment and promoting resource efficiency

Priority Axis 4:
Environment and Resource Efficiency

Investment Priority 6(c):
Conserving, protecting, promoting and developing natural and cultural heritage

Specific Objective 4.1:
Improve the implementation of regional development policies and programmes, in particular Investment for Growth and Jobs and, where relevant, ETC programmes, in the field of the protection and development of natural and cultural heritage.

Expected Results:

- The main change sought is an improved implementation of regional development policies and programmes, in particular for Investment in Growth and Jobs and ETC, dealing with protecting, promoting and developing natural heritage, biodiversity and ecosystems as well as supporting cultural heritage.
- Regional actors need to protect ecosystems and vulnerable landscapes and prevent biodiversity loss and soil degradation in their territories to prevent (further) degradation of these natural assets. Sustainable management and exploitation of the natural environment can also foster sustainable regional development based on so-called eco-system services (e.g. pollination for agriculture, or natural flood retention areas) and natural quality (e.g. tourism, regional attractiveness). A similar logic applies to the preservation and exploitation of regional cultural heritage.
- Regional actors in management of natural and cultural heritage must define coordinated, place-based strategies and actions that balance measures of preservation with sustainable exploitation of these assets. This can include improvement of biodiversity protection schemes, sustainable use of NATURA 2000 or other protected areas, increase knowledge and sensitisation of actors.
- The programme supports exchange of experiences and sharing of practices between actors of regional relevance with the aim to prepare the integration of lessons learnt into regional policies and actions. And the programme will facilitate policy learning and capitalisation by making relevant practices and results from Interregional Cooperation Projects and other experiences widely available and usable for regional policy actors.
- This interregional sharing of practices and policy learning will improve capacities (skills, knowledge) of individuals and organisations involved and plan the implementation of lessons learnt. This results a better implementation of (G&J and ETC) programmes and policies for natural and cultural heritage.

Types of actions to be supported:

Interregional Cooperation Projects (from here on 'projects'): The objective of the projects is to improve the implementation of the policies of participating regions by supporting exchange of experiences and sharing of practices between actors of regional relevance with the specific aim to prepare the integration of the lessons learnt into regional policies and actions. Through the projects, INTERREG EUROPE intends to improve primarily the implementation of the programmes for Investment for Growth and Jobs (G&J) of the participating regions, and where relevant the implementation of programmes for European Territorial Cooperation (ETC). However, also the implementation of other regional programmes and policies related to supporting the protection and development of natural and cultural heritage can be improved as a result of the cooperation.

Interregional Cooperation Projects as a general rule have two phases:

- Phase 1 is dedicated to the exchange of policy experience and to preparing the implementation of lessons learnt. By the end of this phase each partner region shall produce an Action Plan for the integration of lessons learnt from the cooperation in their regional policies and/or (G&J, ETC) pro-

grammes. The Action Plans shall identify the measures to be integrated and their timeframe, work steps, responsible actors, costs (if any) and funding sources. The partners shall actively involve relevant regional stakeholders in all activities.

- Phase 2 is dedicated to the monitoring by each partner region of the implementation of their Action Plan by the responsible actors in their territory. The actual implementation of these actions is not funded by INTERREG EUROPE. This monitoring primarily takes place within the context of in each region. However, the interregional partnership may decide to organise joint activities in this monitoring phase to continue their policy learning process. In duly justified cases, phase 2 may also include pilot actions to test certain parts of the Action Plan in practice.

Policy Learning Platform ('Platform') on Environment and resource efficiency, addressing both specific objectives of Priority Axis 4 combined: This platform will be a 'knowledge resource centre' to support ongoing EU-wide regional policy learning in the field of environment and resource efficiency, mainly with regard to the implementation of the Growth and Jobs and where relevant, ETC goals. The Platform aims to:

- Contribute to EU wide capacity building by supporting networking and exchange of experience among relevant actors related to Growth and Jobs and ETC programmes.
- Exploit the results of Interregional Cooperation Projects and make them available to a wider audience of regional policy actors across Europe.

The Platform offers activities and services for the whole community of regional policy actors and stakeholders, in particular those involved in G&J and ETC programmes across Europe.

Investment Priority 6(g):
Supporting industrial transition towards a resource-efficient economy, promoting green growth, eco-innovation and environmental performance management in the public and private sectors.

Specific Objective 4.2:
Improve the implementation of regional development policies and programmes, in particular programmes for Investment for Growth and Jobs and, where relevant, ETC programmes, aimed at increasing resource-efficiency, green growth and eco-innovation and environmental performance management.

Expected Results:

- The main change sought is an improved implementation of regional development policies and programmes, in particular for Growth and Jobs and ETC, that support the regional transition to a resource efficient economy based on green growth and eco-innovation and improve environmental performance management.
- Natural resources like metals, minerals, fuels and timber but also water, land and clean air are becoming scarcer. Making use of these resources in an efficient and conscious manner is essential to achieve sustainable growth in Europe and also brings major economic opportunities.
- Regional actors can capacitate businesses to pursue green growth and eco-innovation to develop new products and services, reduce inputs, minimise waste and improve management of resource stocks. And they can lead in the introduction of new green products and services, for instance by means of green procurement.
- They can also create awareness and provide incentives to businesses and households to provoke change in consumption patterns and reduce waste and emissions of pollutants to air, soil and water. And regional authorities can invest in further improving (the governance of) waste management, water treatment and recycling.
- The programme will support exchange of experiences and sharing of practices between actors of regional relevance, intended to prepare the integration of the lessons learnt into regional policies and actions. And the programme will facilitate policy learning and capitalisation by making relevant practices and results from Interregional Cooperation Projects and other experiences widely available for regional policy actors.
- This interregional sharing of practices and policy learning will improve capacities (skills, knowledge) of

individuals and organisations involved and prepare the implementation of the lessons learnt, resulting in a better implementation of (G&J and ETC) programmes and policies for resource efficiency, green growth and environmental performance management.
Types of actions to be supported: **Interregional Cooperation Projects** (from here on 'projects'): The objective of the projects is to improve the implementation of the policies of participating regions by supporting exchange of experiences and sharing of practices between actors of regional relevance with the specific aim to prepare the integration of the lessons learnt into regional policies and actions. Through the projects, INTERREG EUROPE intends to improve primarily the implementation of the programmes for Investment for Growth and Jobs (G&J) of the participating regions, and where relevant the implementation of programmes for European Territorial Cooperation (ETC). However, also the implementation of other regional programmes and policies in the field resource efficient economy can be improved as a result of the cooperation. Interregional Cooperation Projects as a general have two phases: • Phase 1 is dedicated to the exchange of policy experience and to preparing the implementation of lessons learnt. By the end of this phase each partner region shall produce an Action Plan for the integration of lessons learnt from the cooperation in their regional policies and/or (Growth and Jobs, ETC) programmes. The Action Plans shall identify the measures to be integrated and their timeframe, work steps, responsible actors, costs (if any) and funding sources. The partners shall actively involve relevant regional stakeholders in all activities. • Phase 2 is dedicated to the monitoring by each partner region of the implementation of their Action Plan by the responsible actors in their territory. The actual implementation of these actions is not funded by INTERREG EUROPE. This monitoring primarily takes place within the context of in each region. However, the interregional partnership may decide to organise joint activities in this monitoring phase to continue their policy learning process. In duly justified cases, phase 2 may also include pilot actions to test certain parts of the Action Plan in practice. **Policy Learning Platform** ('Platform') on Environment and resource efficiency addressing both specific objectives of Priority Axis 4 combined. This platform will be a 'knowledge resource centre' to support ongoing EU-wide regional policy learning in the field of resource efficiency, mainly with regard to the implementation of the Growth and Jobs and where relevant, ETC goals. The Platform aims to: • Contribute to EU wide capacity building by supporting networking and exchange of experience among relevant actors related to Investment for Growth and Jobs and ETC programmes. • Exploit the results of Interregional Cooperation Projects and make them available to a wider audience of regional policy actors across Europe. The Platform offers activities and services for the whole community of regional policy actors and stakeholders, in particular those involved in G&J and ETC programmes across Europe.

2.3 Foreseen actions to be supported under the Investment Priorities

The defined type of interventions form a particularity of this Programme: Across all SOs the actions to be supported are the same in their nature, differentiated only by the individual thematic orientation of "their" respective Specific Objective. This reflects the strategic orientation on the defined operative objectives of the Programme (see chapter 2.2 above). The planned interventions aim on the facilitation of "policy learning and capitalisation of regional policy good practices on a continuous basis" as well as on the support of "interregional cooperation between regional actors, dedicated to policy learning and transfer of good practices". Both tracks focus on improvements of the implementation and monitoring of regional programmes for Investment in Growth and Jobs as well as ETC, where relevant.

This intervention approach is also reflected in the concrete activities to be supported. The list of potential activities per intervention track is the same across all SOs. Differences appear in the specific orientation of some actions according to the nature of the Investment Priority:

Activities of the Interregional Cooperation Projects can include (non-exhaustive):

- Elaboration of Action Plans (mandatory)
- Studies and analysis:
  - (SO 1.1) of regional innovation infrastructure policies
  - (SO 1.2) policy related analysis and studies e.g. on stimulation of regional triple helix cooperation
  - (SO 2.1) on SME and entrepreneurship support policies
  - (SO 3.1) related to regional low-carbon strategies
  - (SO 4.1) on natural and cultural heritage policies
  - (SO 4.2) on regional policies linked to resource efficiency, eco-innovation and environmental performance management
- Meetings and activities with the local stakeholder group
- Interregional study visits:
  - (SO 1.1) exchange visits to study R&I support facilities and policies
  - (SO 1.2) e.g. to learn about cluster management in partner regions
  - (SO 2.1) e.g. to learn about partner regions' support facilities and entrepreneurship policies
  - (SO 3.1) to learn about partner regions' facilities and programmes linked to i.a. renewable energy generation, energy efficiency and sustainable mobility
  - (SO 4.1) exchange visits to study partners' natural and cultural heritage interventions
  - (SO 4.2) to learn about partners partner regions' policies for a resource efficient regional economy
- Interregional seminars and events for exchange and capacity building
  - (SO 1.1) on innovation infrastructures
  - (SO 1.2) on innovation delivery
  - (SO 2.1) on SME and entrepreneurship support
  - (SO 3.1) on the low-carbon economy
  - (SO 4.1) on natural and heritage policies
  - (SO 4.2) on resource efficiency
- Communication and dissemination of project results
- Monitoring and analysis of Action Plan results (phase 2 only)
- Pilot actions (phase 2 only)

Activities and services of the Policy Learning Platform can include (non-exhaustive):

- Follow as far as possible the developments in G&J and ETC programmes around Europe on topics
  - (SO 1.1) related to Research, Technological Development and Innovation (RTD&I) to identify possible interesting experiences

(SO 1.2) related to Research, Technological Development and Innovation (RTD&I) to identify possible interesting experiences

(SO 2.1) related to the competitiveness of SMEs and entrepreneurship to identify possible interesting experiences

(SO 3.1) related to the Priority 3 theme of the low- carbon economy to identify possible interesting experiences

(SO 4.1) related to Environment and resource efficiency to identify possible interesting experiences

(SO 4.2) related to environment and resource efficiency to identify possible interesting experiences

- (SO 1.1 and SO 1.2 only): Maintain a close collaboration with the Smart Specialisation Platform[11] to share information and ensure complementarity of activities
- Analyse and benchmark the content of Projects in Priority Axis 1 (*respectively Priority Axis 2, Priority Axis 3 and Priority Axis 4*) and other priorities, if relevant
- Write thematic productions such as newsletters, studies, policy recommendations related to regional RTD&I challenges

  (SO 1.1) related to regional RTD&I challenges

  (SO 1.2) related to regional RTD&I challenges

  (SO 2.1) related to entrepreneurship and SME

  (SO 3.1) related to regional low- carbon economy issues

  (SO 4.1) related to environment and resource efficiency

  (SO 4.2) related to resource efficiency
- Organise thematic events and meetings for the community of actors and stakeholders involved in programmes for Investment for Growth and Jobs and ETC in the field of Priority 1 (*respectively Priority Axis 2, Priority Axis 3 and Priority Axis 4*) (with other Platforms where there are strong thematic synergies).
- Organise and facilitate peer reviews between European regions in support of policy improvement and capacity building
- Advise Projects in Priority Axis 1 (respectively Priority Axis 2, Priority Axis 3 and Priority Axis 4) when relevant
- Advise INTERREG EUROPE programme bodies on the programme's strategic orientation (e.g. recommendations for thematic calls for proposals)

  (SO 1.1) on RTD&I

  (SO 1.2) on RTD&I

  (SO 2.1) on competitiveness of SMEs and entrepreneurship

  (SO 3.1) on the transition to the low- carbon economy

  (SO 4.1) on environment and resource efficiency

  (SO 4.2) on resource efficiency

[11] This complementary platform is operated by the Institute for Prospective Technological Studies (Seville, ES) and is dedicated to the exchange of experience on how to prepare smart specialisation strategies (process and methodology related issues). The Policy Learning Platform will complement the work of the IPTS by focusing on the content related issues.
(see INTERREG EUROPE 2014-2020 Cooperation Programme revised final draft, p. 20)

- Assess and advise on the relevance of possible pilot actions proposed by Projects in their phase 2
- Provide and moderate on-line collaborative tools for knowledge sharing and policy learning
- Answer requests for information from individual actors and stakeholders involved in Growth and Jobs and ETC programmes in the field of Priority Axis 1 (*respectively Priority Axis 2, Priority Axis 3 and Priority Axis 4*)

2.3 Horizontal principles

Beside the Priority Axes, Investment Priorities and Specific Objectives, three horizontal principles are incorporated into the Programme: Sustainable development, equal opportunities and non-discrimination as well as equality between men and women. These horizontal principles follow Articles 7 and 8 of the Common Provisions Regulation (CPR) which is obligatory for programmes co-funded by structural funds.

According to the understanding of 'sustainable development' of the EU as described in Article 8 of CPR, it is exclusively focussing on environmental protection, climate protection and resource efficiency.

3 ENVIRONMENTAL OBJECTIVES

3.1 Presentation of actual effective objectives for environmental protection

In the following table, the most relevant current objectives with related indicators are listed. The selected indicators focus on the "Core Set of Indicators (CSI)". Partly, other indicators are stated if they fit to the environmental objective or if an appropriate CSI-indicator is lacking. An overview of the environmental policy targets and objectives 2010-2050 can be found in the EEA report "Towards a green economy in Europe" of 2013.

Table 1: Relevant environmental issues, EU environmental objectives and targets, and related indicators

Environmental Issues	Environmental Objectives and Targets	**Indicators** Source: European Environment Agency - Indicators and fact sheets about Europe's environment - Website on 1.Nov.2013
Population, Human Health	**Thematic Strategy on Air Pollution (COM(2005) 446):** Compared with the situation in 2000, the Strategy sets specific long term objectives (for 2020): • 47 % reduction in loss of life expectancy as a result of exposure to particulate matter; • 10 % reduction in acute mortalities from exposure to ozone. To achieve these objectives, • SO_2 emissions will need to decrease by 82 %, • NOx emissions by 60 %, • volatile organic compounds (VOCs) by 51 %, • ammonia by 27 %, • primary $PM_{2.5}$ (particles emitted directly into the air) by 59 % compared with the year 2000.	Exceedance of air quality limit values in urban areas (CSI 004) - Assessment published Oct 2013
Biodiversity, Fauna, Flora	**Our life insurance, our natural capital: An EU biodiversity strategy to 2020 (COM(2011) 24):** 2050 vision By 2050, European Union biodiversity and the ecosystem services it provides — its natural capital — are protected, valued and appropriately restored for biodiversity's intrinsic value and for their essential contribution to human wellbeing and economic prosperity, and so that catastrophic changes caused by the loss of biodiversity are avoided.	Land take (CSI 014/LSI 001) - Assessment published Jun 2013 Species diversity (CSI 009) - Assessment published Nov 2005 Designated areas (CSI 008) - Assessment published Mar 2009 Exposure of ecosystems to acidification, eutrophication and ozone (CSI 005) - Assessment pub-

Environmental Issues	Environmental Objectives and Targets	Indicators Source: European Environment Agency - Indicators and fact sheets about Europe's environment - Website on 1.Nov.2013
	2020 headline target Halting the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restoring them in so far as feasible, while stepping up the EU contribution to averting global biodiversity loss. Target 1: Fully implement the Birds and Habitats Directive Target 2: Maintain and restore ecosystems and their services Target 3: Increase the contribution of agriculture and forestry to maintain and enhancing biodiversity Target 4: Ensure the sustainable use of fisheries resources Target 5: Combat invasive alien species Target 6: Help avert global biodiversity loss **Roadmap to a Resource Efficient Europe (COM(2011) 571):** By 2020 natural capital and ecosystem services will be properly valued and accounted for by public authorities and businesses. By 2020 the loss of biodiversity in the EU and the degradation of ecosystem services will be halted and, as far as feasible, biodiversity will be restored.	lished Nov 2012
Soil	**Roadmap to a Resource Efficient Europe (COM(2011) 571):** By 2020, EU policies take into account their direct and indirect impact on land use in the EU and globally, and the rate of land take is on track with an aim to achieve no net land take by 2050; soil erosion is reduced and the soil organic matter increased, with remedial work on contaminated sites well underway. **Thematic Strategy for Soil Protection (COM(2006) 231)** The overall objective is protection and sustainable use of soil, based on the following guiding principles: (1) Preventing further soil degradation and preserving its functions: – when soil is used and its functions are exploited, action has to be taken on soil use and management patterns, and	Soil erosion (CLIM 028) - Assessment published Nov 2012 Soil organic carbon (CLIM 027) - Assessment published Nov 2012 Progress in management of contaminated sites (CSI 015/LSI 003) - Assessment published Aug 2007 Exposure of ecosystems to acidification, eutrophi-cation and ozone (CSI 005) - Assessment pub-lished Nov 2012

Environmental Issues	Environmental Objectives and Targets	Indicators Source: European Environment Agency - Indicators and fact sheets about Europe's environment - Website on 1.Nov.2013
	– when soil acts as a sink/receptor of the effects of human activities or environmental phenomena, action has to be taken at source. (2) Restoring degraded soils to a level of functionality consistent at least with current and intended use, thus also considering the cost implications of the restoration of soil.	
Landscape	**Roadmap to a Resource Efficient Europe (COM(2011) 571):** By 2020, EU policies take into account their direct and indirect impact on land use in the EU and globally, and the rate of land take is on track with an aim to achieve no net land take by 2050; soil erosion is reduced and the soil organic matter increased, with remedial work on contaminated sites well underway. **European Landscape Convention (2000) (European Treaty Series - No. 176)** Article 3 – Aims The aims of this Convention are to promote landscape protection, management and planning, and to organise European co-operation on landscape issues.	Land take (CSI 014/LSI 001) - Assessment published Feb 2011 Fragmentation of natural and semi-natural areas (SEBI 013) - Assessment published May 2010
Water	**Roadmap to a Resource Efficient Europe (COM(2011) 571):** By 2020, all WFD River Basin Management Plans (RBMPs) have long been implemented. Good status – quality, quantity and use - of waters was attained in all EU river basins in 2015. The impacts of droughts and floods are minimised, with adapted crops, increased water retention in soils and efficient irrigation. Alternative water supply options are only relied upon when all cheaper savings opportunities are taken. Water abstraction should stay below 20% of available renewable water resources. By 2020, good environmental status of all EU marine waters is achieved, and by 2015 fishing is within maximum sustainable yields. **The EU Water Framework Directive - integrated river basin management for Europe (Directive 2000/60/EC):**	Use of freshwater resources (CSI 018) - Assessment published Dec 2010 Urban waste water treatment (CSI 024) - Assessment published Jan 2013 Bathing water quality (CSI 022) - Assessment published Oct 2012 Oxygen consuming substances in rivers (CSI 019) - Assessment published Oct 2012 Nutrients in freshwater (CSI 020) - Assessment published Oct 2012 Nutrients in transitional, coastal and marine waters (CSI 021) - Assessment published Mar 2013 Chlorophyll in transitional, coastal and marine

Environmental Issues	Environmental Objectives and Targets	Indicators Source: European Environment Agency - Indicators and fact sheets about Europe's environment - Website on 1.Nov.2013
	All surface and groundwater bodies in river basins achieve 'good status' by 2015. **Marine Strategy Framework Directive (Directive 2008/56/EC):** 'Good environmental status' is achieved or maintained in the marine environment by 2020.	waters (CSI 023) - Assessment published Mar 2013 Status of marine fish stocks (CSI 032) - Assessment published Sep 2011
Air	**Roadmap to a Resource Efficient Europe (COM(2011) 571):** By 2020, the EU's interim air quality standards will have been met, including in urban hot spots, and those standards will have been updated and additional measures defined to further close the gap to the ultimate goal of achieving levels of air quality that do not cause significant impacts on health and the environment. **Thematic Strategy on Air Pollution (2005) (COM(2011) 571):** Compared with the situation in 2000, the Strategy sets specific long term objectives (for 2020): • 47 % reduction in loss of life expectancy as a result of exposure to particulate matter; • 10 % reduction in acute mortalities from exposure to ozone. • 43 % reduction in areas or ecosystems exposed to eutrophication. • reduction in excess acid deposition of 74 % and 39 % in forest areas and surface freshwater areas respectively; To achieve these objectives, • SO_2 emissions will need to decrease by 82 %, • NOx emissions by 60%, • volatile organic compounds (VOCs) by 51 %, • ammonia by 27 %, • and primary $PM_{2.5}$ (particles emitted directly into the air) by 59 % compared with the year 2000.	Exposure of ecosystems to acidification, eutrophication and ozone (CSI 005) - Assessment published Nov 2012 Exceedance of air quality limit values in urban areas (CSI 004) - Assessment published Oct 2013 Emissions of primary particulate matter and secondary particulate matter precursors (CSI 003/APE 009) - Assessment published Dec 2012 Emissions of ozone precursors (CSI 002/APE 008) - Assessment published Dec 2012 Emissions of acidifying substances (CSI 001/APE 007) - Assessment published Dec 2012
Global Climate	**Greenhouse Gas Emission** **"20-20-20 targets" Europe 2020 strategy (COM(2010) 2020)** Reduce emissions to 20 % below 1990 levels by 2020	Greenhouse gas emission trends (CSI 010/CLIM 050) - Assessment published May 2013

Environmental Issues	Environmental Objectives and Targets	Indicators Source: European Environment Agency - Indicators and fact sheets about Europe's environment - Website on 1.Nov.2013
	A Roadmap for moving to a competitive low carbon economy in 2050 (COM(2011) 571): Milestones: 40 % by 2030, 60 % by 2040 and to 80 % by 2050 below 1990	
	Renewable Energy **Directive 2009/28/EC** Increase renewable energy to at least 20 % of final energy consumption by 2020	Share of renewable energy in final energy consumption (ENER 028) - Assessment published Mar 2013
	Energy Efficiency **Energy efficiency action plan (COM(2006)545), '20-20-20' targets Europe 2020 strategy (COM(2010) 2020), Energy Efficiency Directive (Directive 2012/27/EU):** Reduce consumption of primary energy by 20 % compared to energy consumption projections for 2020 **Directive on the energy performance of buildings (Directive 2010/31/EU):** All new buildings occupied and owned by public authorities are 'nearly zero-energy' buildings by 2019 All new buildings are 'nearly zero-energy' buildings by 2020	Progress on energy efficiency in Europe (ENER 037) - Assessment published Mar 2013
	Transport **Roadmap to a Resource Efficient Europe (COM(2011) 571):** Milestone: By 2020 overall efficiency in the transport sector will deliver greater value with optimal use of resources like raw materials, energy, and land, and reduced impacts on climate change, air pollution, noise, health, accidents, biodiversity and ecosystem degradation. Transport will use less and cleaner energy, better exploit a modern infrastructure and reduce its negative impact on the environment and key natural assets like water, land and ecosystems. There will be on average a 1% yearly reduction, beginning in 2012, in transport GHG emis-	Use of cleaner and alternative fuels (CSI 037) - Assessment published Sep 2010 Freight transport demand (CSI 036) - Assessment published Jan 2011 Passenger transport demand (CSI 035) - Assessment published Jan 2011

Environmental Issues	Environmental Objectives and Targets	Indicators Source: European Environment Agency - Indicators and fact sheets about Europe's environment - Website on 1.Nov.2013
	sions. **WHITE PAPER - Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system (COM(2011) 144):** Reduce CO_2 emissions from the transport sector by 20 % compared to 2008 levels by 2030 Reduce CO_2 emissions from the transport sector by 60 % compared to 1990 levels by 2050	
	Adaptation to Climate Change **An EU Strategy on adaptation to climate change (COM(2013) 216):** The overall aim of the EU Adaptation Strategy is to contribute to a more climate-resilient Europe. This means enhancing the preparedness and capacity to respond to the impacts of climate change at local, regional, national and EU levels, developing a coherent approach and improving coordination.	--
Material Assets, Cultural Heritage including Architectural and Archaeological Heritage	**Treaty of Lisbon (2007):** Article 3.3. "(…) The Union shall respect its rich cultural and linguistic diversity, and shall ensure that Europe's cultural heritage is safeguarded and enhanced". **European Convention on the Protection of the Archaeological Heritage (Revised),** Valetta, 16.I.1992 Article 1 The aim of this (revised) Convention is to protect the archaeological heritage as a source of the European collective memory and as an instrument for historical and scientific study. To this end shall be considered to be elements of the archaeological heritage all remains and objects and any other traces of mankind from past epochs: • the preservation and study of which help to retrace the history of mankind and its relation with the natural environment; • for which excavations or discoveries and other methods of research into mankind and the related environment are the main sources of information; and	--

Environmental Issues	Environmental Objectives and Targets	Indicators Source: European Environment Agency - Indicators and fact sheets about Europe's environment - Website on 1.Nov.2013
	• which are located in any area within the jurisdiction of the Parties. The archaeological heritage shall include structures, constructions, groups of buildings, developed sites, moveable objects, monuments of other kinds as well as their context, whether situated on land or under water.	
Sustainable consumption and production (resource efficiency)	**Roadmap to a Resource Efficient Europe (COM(2011) 571):** By 2020, market and policy incentives that reward business investments in efficiency are in place. These incentives have stimulated new innovations in resource efficient production methods that are widely used. All companies, and their investors, can measure and benchmark their lifecycle resource efficiency. Economic growth and wellbeing is decoupled from resource inputs and come primarily from increases in the value of products and associated services. By 2020, waste is managed as a resource. Waste generated per capita is in absolute decline. Recycling and re-use of waste are economically attractive options for public and private actors due to widespread separate collection and the development of functional markets for secondary raw materials. More materials, including materials having a significant impact on the environment and critical raw materials, are recycled. Waste legislation is fully implemented. Illegal shipments of waste have been eradicated. Energy recovery is limited to non recyclable materials, landfilling is virtually eliminated and high quality recycling is ensured.	Ecological Footprint of European countries (SEBI 023) - Assessment published May 2010 Waste electrical and electronic equipment (waste 003) - Assessment published Jun 2013 Generation and recycling of packaging waste (CSI 017/waste 002) - Assessment published Nov 2012 Municipal waste generation (CSI 016/waste 001) - Assessment published Dec 2011

3.2 Presentation how far and in which way these objectives and policies were considered in the preparation of the Programme

Two out of the four defined PAs aim explicitly on important environmental objectives and policies of the EU: PA 3 - Low-carbon economy and PA 4 - Environment and resource efficiency. By tackling those topics several other environmental issues are considered which are directly or indirectly linked to these overarching issues. With 50 % of the available funds (excluding the funds for Technical Assistance), a substantial share of the total funds are earmarked for these two PAs.

Following the stipulations of Article 8 of the Common Provisions Regulation (CPR), sustainable development is also incorporated in the Programme as a horizontal principle. This provides the obligation to consider environmental issues also in the realisation of PAs 1 and 2.

Following recommendations provided by the SEA experts in the scope of the SEA process, several elements of a more obvious consideration of environmental objectives and policies were incorporated into the Programme.

4 CHARACTERISTICS OF THE ENVIRONMENT, STATUS OF THE ENVIRONMENT IN CASE OF NON-IMPLEMENTATION OF THE PROGRAMME AND EXISTING ENVIRONMENTAL PROBLEMS

4.1 Characteristics of the environment in Europe

Table 2 presents the actual state of the environmental issues, on basis of the chosen indicators and the indicator-linked "key messages" of the EEA. The key messages summarize the main findings of the indicator-based data and fact sheets about Europe's environment. On the EEA-Website they are resumed in a most comprehensive and concise form, so that they are reported verbatim.[12]

The indicators and key messages are presented to state Europe's environment. Due the level of abstraction and the highly indirect effects on the environment of the Programme in every respect it is not possible to measure effects of the Programme using the indicators.

Table 2: Present state of environmental issues in the EU according to defined indicators

Indicators *(Assessment published in Year)*	**Key Messages** Source: EEA Website 21.11.2013
Population, Human Health	
Exceedance of air quality limit values in urban areas (CSI 004) *(2013)*	**Particulate Matter (PM_{10})** In the period 2001-2011, 20-44 % of the urban population in EU-27 was potentially exposed to ambient concentrations of particulate matter (PM_{10}) in excess of the EU limit value set for the protection of human health (50 microgram/m^3 daily mean not to be exceeded more than 35 days a calendar year) **Nitrogen dioxide (NO_2)** In the period 2001-2011, 5-23 % of the urban population in EU-27 was potentially exposed to ambient nitrogen dioxide (NO_2) concentrations above the EU limit value set for the protection of human health (40 microgram NO_2/m^3 annual mean). There was a slight downwards trend over the period. **Ozone (O_3)** In the period 2001-2011, 14-65 % of the urban population in EU-27 was exposed to am-

[12] EEA Website 20.11.2013 (http://www.eea.europa.eu/data-and-maps/indicators/#c5=&c7=all&c0=10&b_start=0)

Indicators *(Assessment published in Year)*	**Key Messages** Source: EEA Website 21.11.2013
	bient ozone concentrations exceeding the EU target value set for the protection of human health (120 microgram O_3/m^3 daily maximum 8-hourly average, not to be exceeded more than 25 times a calendar year, averaged over three years and to be achieved where possible by 2010). The 65 % of the urban population exposed to ambient ozone concentrations over the EU target value was recorded in 2003, which was the record year. There was no discernible trend over the period. **Sulphur dioxide (SO_2)** In the period 2001-2011, the fraction of the urban population in EU-27 that is potentially exposed to ambient concentrations of sulphur dioxide in excess of the EU limit value set for the protection of human health (125 microgram SO_2/m^3 daily mean not to be exceeded more than three days a year), decreased to less than 1 %, and as such the EU limit value set is close to being met everywhere in the urban background.
Biodiversity, Fauna, Flora	
Designated areas (CSI 008) *(2009)*	The designation of protected areas is a cornerstone for the conservation of biodiversity worldwide, from genes to species, habitats and ecosystems. In June 2006, the Executive Secretary of the Convention on Biological Diversity (CBD) re-affirmed the role of protected areas as cornerstones of biodiversity conservation, but also highlighted that many are "beset with managerial and financial difficulties that impede their effective management". • At the European level, there has been an increase in the total area of nationally-designated protected areas over time, indicating a positive commitment by European countries to biodiversity conservation. The total area of nationally designated sites in 39 European countries was around 100 million hectares in 2008. • There has also been an increase in the total area of Natura 2000 sites over the past two years with 52 million hectares designated as Special Protected Areas and 65 million as Sites of Community Importance (SCI). • At least 45 % of SCIs surface is also covered by one national designation. • The level of sufficiency in designating Natura 2000 sites for the Habitats Directive is high for most EU-27 countries (21 countries have sufficiency above 80%) and the new Member States are doing well. In addition to quantitative signals it is important to also keep in mind the crucial need to have a qualitative view on the efficiency of the network of designated areas. • Marine areas are not yet represented as Natura 2000 sites as the phase of proposals is still going on. • There are increasing pressures on biodiversity outside of protected areas and an assessment of the effectiveness of designated sites in protecting and conserving biodiversity is needed in a broader scale and with the climate change perspective. • Assessments of conservation status of species and habitats of Community interest are available and will help to get this qualitative view.
Species diversity (CSI 009) *(2005)*	Butterfly and bird species occurring in different habitat types across Europe show population declines of between -2% and -37% since the early 1970s. Similar trends can be observed in the land-cover change for related habitats between 1990 and 2000, especially for heaths and scrubs as well as mires, bogs and fens, which are specific wetland habitats. The European Grassland Butterfly Indicator shows that since 1990 till 2011 butterfly populations have declined by almost 50 %, indicating a dramatic loss of grassland biodiversity. This also means the situation has not improved since the first version of the indicator published in 2005. *EEA (2013): The European Grassland Butterfly Indicator: 1990–2011*
Exposure of ecosystems to acidification, eutrophication and ozone (CSI 005) *(2012)*	**Eutrophication** The magnitude of the risk of ecosystem eutrophication and its geographical coverage has diminished only slightly over the years. The predictions for 2010 and 2020 indicate that the risk is still widespread over Europe. This is in conflict with the EU's long-term objective of not exceeding critical loads of airborne acidifying and eutrophying substances in sensitive ecosystem areas (National Emission Ceilings Directive, 6th Environmental Action Programme, Thematic Strategy on Air Pollution). **Acidification** The situation has considerably improved and it is predicted to improve further. The interim environmental objective for 2010 (National Emission Ceilings Directive) will most likely not be met completely. However, the European ecosystem areas where the critical load will be exceeded are predicted to have declined by more than 80 % in 2010 with 1990 as a base year. By 2020, it is expected that the risk of ecosystem acidification will only be an issue at some hot spots, in particular at the border area between the Nether-

Indicators *(Assessment published in Year)*	**Key Messages** Source: EEA Website 21.11.2013
	lands and Germany. **Ozone (O_3)** Most vegetation and agricultural crops are exposed to ozone levels exceeding the long term objective given in the EU Air Quality Directive. A significant fraction is also exposed to levels above the 2010 target value defined in the Directive. Concentrations in 2009 were on the average lower than in 2008. The effect-related accumulated concentrations, addressing exposure of crops to ozone over several summer months, shows large year-to-year variations. Over the period 1996-2009 there is a tendency to increased exposure, although this development has not proven to be statistically significant.
Land take (CSI 014/LSI 001) *(2013)*	Land take by the expansion of residential areas and construction sites is the main cause of the increase in the coverage of urban land at the European level. Agricultural zones and, to a lesser extent, forests and semi-natural and natural areas, are disappearing in favour of the development of artificial surfaces. This affects biodiversity since it decreases habitats, the living space of a number of species, and fragments the landscapes that support and connect them. The annual land take in European countries assessed by 2006 Corine land cover project (EEA-39 except Greece) was approximately 108 000 ha/year in 2000-2006. In 21 countries covered by both periods (1990-2000 and 2000-2006) the annual land take decreased by 9 % in the later period. The composition of land taken areas changed, too. More arable land and permanent crops and less pastures and mosaic farmland were taken by artificial development then in 1990-2000. Identified trends are expected to change little when next assessment for 2006-2012 becomes available in 2014.
Soil	
Soil erosion (CLIM 028) *(2012)*	• 105 million ha, or 16 % of Europe's total land area (excluding Russia) were estimated to be affected by water erosion in the 1990s. • Some 42 million ha of land were estimated to be affected by wind erosion, of which around 1 million ha were categorised as being severely affected. • Increased variations in rainfall pattern and intensity will make soils more susceptible to water erosion, with off-site effects of soil erosion increasing. • Increased aridity will make finer-textured soils more vulnerable to wind erosion, especially if accompanied by a decrease in soil organic matter levels. • Reliable quantitative projections for soil erosion are not available. • A recent new model of soil erosion by water has estimated the surface area affected in the EU-27 at 130 million ha. Almost 20 % is subjected to soil loss in excess of 10 tons/ha/year.
Soil organic carbon (CLIM 027) *(2012)*	Soil carbon stocks in the EU-27 are around 75 billion tonnes of carbon; around 50 % of which is located in Ireland, Finland, Sweden and the United Kingdom (because of the large area of peatlands in these countries). The largest emissions of CO_2 from soils are due to conversion (drainage) of organic soils, and amount to 20–40 tonnes of CO_2 per hectare per year. The most effective option to manage soil carbon in order to mitigate climate change is to preserve existing stocks in soils, and especially the large stocks in peat and other soils with a high content of organic carbon. On average, soils in Europe are most likely to be accumulating carbon. Soils under grassland and forests are a carbon sink (estimated up to 80 million tonnes of carbon per year) whereas soils under arable land are a smaller carbon source (estimated from 10–40 million tonnes of carbon per year). The effects of climate change on soil organic carbon and soil respiration are complex, and depend on distinct climatic and biotic drivers. However, they lack rigorous supporting datasets. Climate change is expected to have an impact on soil carbon in the long term, but changes in the short term will more likely be driven by land management practices and land use change.
Progress in management of contaminated sites (CSI 015/LSI 003) *(2007)*	Soil contamination requiring clean up is present at approximately 250,000 sites in the EEA member countries, according to recent estimates. And this number is expected to grow. Potentially polluting activities are estimated to have occurred at nearly 3 million sites (including the 250,000 sites already mentioned) and investigation is needed to establish whether remediation is required. If current investigation trends continue, the number of sites needing remediation will increase by 50% by 2025. By contrast, more than 80,000 sites have been cleaned up in the last 30 years in the countries where data on remediation is available. Although the range of polluting activities (and their relative importance as localised sources of soil contamination) may vary considerably across Europe, industrial and commercial activities as well as the treatment and disposal of waste are reported to be the most important sources. National reports indicate that heavy metals and mineral oil are the most frequent soil contaminants at investigated sites, while mineral oil and chlorinated hydrocarbons are the most frequent contaminants found in groundwater. A considerable share of remediation expenditure, about 35 % on

Indicators *(Assessment published in Year)*	**Key Messages** Source: EEA Website 21.11.2013
	average, comes from public budgets. Although considerable efforts have been made already, it will take decades to clean up a legacy of contamination.
Exposure of ecosystems to acidification, eutrophication and ozone (CSI 005) *(2012)*	See "Biodiversity, Fauna, Flora"
Landscape	
Land take (CSI 014/LSI 001) *(2011)*	See "Biodiversity, Fauna, Flora"
Fragmentation of natural and semi-natural areas (SEBI 013) *(2010)*	European ecosystems are literally cut to pieces by urban sprawl together with a rapidly expanding transport network. The increase of mixed natural landscape patterns due to the spread of artificial and agricultural areas into what used to be core natural and semi-natural landscapes is more significant in south-western Europe. Fragmentation is in many places caused by forest harvesting and has a dynamic and cyclic nature but in South-Western Europe, losses towards agricultural and artificial surfaces are more frequent. In the period 1990 - 2000 the connectivity for forest species was stable in approximately half of Europe's territory and increasing or decreasing slightly for another 40 %. The decrease was significant in about 5 % of provinces spread in Denmark, France, the Iberian Peninsula, Ireland and Lithuania.
Water	
Use of freshwater resources (CSI 018) *(2010)*	Over the last 10-17 years the Water Exploitation Index (WEI) decreased in 24 EEA countries, as a result of water saving and water efficiency measures. Total water abstraction decreased about 12 %, but one fifth of Europe's population still lives in water-stressed countries (approx. 113 million inhabitants).
Urban waste water treatment (CSI 024) *(2013)*	Wastewater treatment in all parts of Europe has improved during the last 15-20 years. The percentage of the population connected to wastewater treatment in the Southern, South-Eastern and Eastern Europe has increased over the last ten years. Latest values of population connected to wastewater treatment in the Southern countries are comparable to the values of Central and Northern countries, whereas the values of Eastern and South-Eastern Europe are still relatively low compared to Central and Northern Europe.
Bathing water quality (CSI 022) *(2012)*	• The quality of water at designated bathing waters in Europe (coastal and inland) has improved significantly since 1990. • Compliance with mandatory values in EU coastal bathing waters increased from just below 80 % in 1990 to 93.1 % in 2011. Compliance with guide values likewise rose from over 68 % to 80.1 % in 2011. • Compliance with mandatory values in EU inland bathing waters increased from over 52 % in 1990 to 89.9 % in 2011. Similarly, the rate of compliance with guide values moved from over 36 % in 1990 to 70.4 % in 2011.
Oxygen consuming substances in rivers (CSI 019) *(2012)*	Concentrations of BOD and total ammonium have decreased in European rivers in the period 1992 to 2010, mainly due to general improvement in wastewater treatment.
Nutrients in freshwater (CSI 020) *(2012)*	• Average nitrate concentrations in European groundwaters increased from 1992 to 1998, but have declined again since 2004. • The average nitrate concentration in European rivers decreased by approximately 11% between 1992 and 2010 (from 2.5 to 2.2 mg/l N), reflecting the effect of measures to reduce agricultural inputs of nitrate as well as improvement in wastewater treatment. • Average orthophosphate concentrations in European rivers have decreased markedly over the last two decades, being more than halved between 1992 and 2010 (54% decrease). Also average lake phosphorus concentration decreased over the period 1992-2010 (by 31 %), the major part of the decrease occurring in the beginning of the period, but is still ongoing. The decrease in phosphorus concentrations reflects both improvement in wastewater treatment and reduction in phosphorus in detergents. • Overall, reductions in the levels of freshwater nutrients over the last two decades primarily reflect improvements in wastewater treatment. Emissions from agriculture continue to be a significant source.

Indicators *(Assessment published in Year)*	**Key Messages** Source: EEA Website 21.11.2013
Nutrients in transitional, coastal and marine waters (CSI 021) *(2013)*	• In 2010, the highest concentrations of oxidized nitrogen were found in the Baltic Sea, in the Gulf of Riga and Kiel Bay, and in Belgian, Dutch and German coastal waters in the Greater North Sea. Reported stations in the Northern Spanish and Croatian coastal waters also showed high concentration levels. The highest orthophosphate concentrations were found in the Baltic Sea, in the Gulf of Riga and Kiel Bay, and in Irish, Belgian, Dutch and German coastal waters in the Greater North Sea. Coastal stations along Northern Spain and Southern France also showed high concentration levels. • Between 1985 and 2010, overall nutrient concentrations have been either stable or decreasing in stations reported to the EEA in the Greater North Sea, Celtic Seas and in the Baltic Sea. However, this decrease has been more pronounced for nitrogen. Assessments for the overall Mediterranean and Black Sea regions were not possible, data only being available for stations in France and Croatia. • For oxidized nitrogen concentrations, 14% of all the reported stations showed decreasing trends, whereas only 2% showed increasing trends. Decreases were most evident in the Baltic Sea (coastal waters of Germany, Denmark, Sweden and Finland, and open waters) and in southern part of the coast of the Greater North Sea. Increasing trends were mainly found in Croatian coastal stations. • For orthophosphate concentrations, 10% of all the reported stations showed a decrease. This was most evident in coastal and open water stations in the Greater North Sea, and in coastal stations in the Baltic Sea. Increasing orthophosphate trends, observed in 6% of the reported stations, were mainly detected in Irish, Danish and Finnish coastal waters (Gulf of Finland and Gulf of Bothnia) and in open waters of the Baltic Proper.
Chlorophyll in transitional, coastal and marine waters (CSI 023) *(2013)*	• In 2010, the highest summer chlorophyll-a concentrations were observed in coastal areas and estuaries where nutrient concentrations are also generally high (see CSI 021 Nutrients in transitional, coastal and marine waters). These include the Gulf of Riga, Gulf of Gdansk, Gulf of Finland and along the German coast in the Baltic Sea, coastal areas in Belgium and The Netherlands in the Greater North Sea and in few locations along the coast of Ireland and France in the Celtic Seas and Bay of Biscay, respectively. High chlorophyll concentrations were also observed along the Gulf of Lions and in Montenegro coastal waters in the Mediterranean Sea, and along Romanian coastal waters in the Black Sea. Low summer chlorophyll concentrations were mainly observed in the Kattegat and open sea stations in the Greater North Sea, and in open sea stations in southern Baltic Sea. • 1985 to 2010, decreasing chlorophyll concentrations (showed in 8 % of all the stations in the European seas reported to the EEA) were predominantly found along the southern coast of the Greater North Sea, along the Finnish coast in the Bothnian Bay in the Baltic Sea and in a few stations in the Western Mediterranean Sea and Adriatic Sea. In the Black Sea, it was not possible to make an overall assessment due to the lack of time series data. Increasing concentrations (observed in 5 % of the reported stations) were generally observed in coastal locations in the Northern Baltic Sea but also in the open sea stations outside the north of the Celtic Seas. Most stations (87 %) however showed no changes over time.
Status of marine fish stocks (CSI 032) *(2011)*	Most of the EU commercial catch is currently taken from stocks that are assessed. There is, however, a clear trend from North to South: almost all catches in the North come from assessed stocks, whereas in the South this only happens for around half of the catch. Of the assessed commercial stocks in the NE Atlantic, about one third is outside safe biological limits. In the Mediterranean, about half of the assessed stocks are fished outside safe biological limits. In the Black Sea no stocks are assessed.
Air	
Exceedance of air quality limit values in urban areas (CSI 004) *(2013)*	See "Population, Human Health"
Exposure of ecosystems to acidification, eutrophication and ozone (CSI 005) *(2012)*	See "Biodiversity, Fauna, Flora"
Emissions of primary particulate matter and secon-	• Total emissions of primary sub-10µm particulate matter (PM_{10}) have reduced by 26 % across the EEA-32 region between 1990 and 2010, driven by a 28 % reduction in emissions of the fine particulate matter ($PM_{2.5}$) fraction. Emissions of particulates be-

Indicators *(Assessment published in Year)*	**Key Messages** Source: EEA Website 21.11.2013
dary particulate matter precursors (CSI 003/APE 009) *(2012)*	tween 2.5 and 10 µm have reduced by 21 % over the same period; the difference of this trend to that of $PM_{2.5}$ is due to significantly increased emissions in the 2.5 to 10 µm fraction from 'Road transport' and 'Agriculture' (of 50% and 15 % respectively) since 1990. • Of this reduction in PM_{10} emissions, 39 % has taken place in the 'Energy Production and Distribution' sector due to factors including the fuel-switching from coal to natural gas for electricity generation and improvements in the performance of pollution abatement equipment installed at industrial facilities.
Emissions of ozone precursors (CSI 002/APE 008) *(2012)*	• Emissions of the main ground-level ozone precursor pollutants have decreased across the EEA-32 region between 1990 and 2010; nitrogen oxides (NO_X) by 42 %, non-methane volatile organic compounds (NMVOC) by 53 %, carbon monoxide (CO) by 61 %, and methane (CH_4) by 32 %. • This decrease has been achieved mainly as a result of the introduction of catalytic converters for vehicles, which has significantly reduced emissions of NO_X and CO from the road transport sector, the main source of ozone precursor emissions. • The EU-27 as a whole has not met its 2010 target to reduce emissions of NO_X, one of the two ozone precursors (NO_X and NMVOC) for which emission limits exist under the EU's NEC Directive (NECD). Whilst total NMVOC emissions in the EU-27 were below the NECD limit in 2010, a number of individual Member States did not meet their ceilings for one or both of these two pollutants. • Of the three non-EU countries having emission ceilings for 2010 set under the UNECE/CLRTAP Gothenburg protocol (Liechtenstein, Norway and Switzerland), all reported NMVOC emissions in 2010 that were lower than their respective ceilings, however Liechtenstein and Norway reported NO_X emissions higher than their ceiling for 2010.
Emissions of acidifying substances (CSI 001/APE 007) *(2012)*	• Emissions of the acidifying pollutants, nitrogen oxides (NO_X), sulphur oxides (SO_X) and ammonia (NH_3), have decreased significantly in most of the individual EEA member countries between 1990 and 2010. Emissions of SO_X have decreased by 75 %, NO_X by 42 % and NH_3 emissions by 28 % since 1990 within the EEA-32. • Data reported under the NECD indicates that the EU-27 as a whole has met its overall target to reduce emissions of SO_X and NH_3 as specified by the EU's National Emissions Ceiling Directive (NECD). However twelve individual Member States, and the EU as whole, reported emissions in the 2010 above their NECD 2010 emission ceilings for NO_X, although the twelve Member States joining the EU in 2004/7 reported combined emissions below their collective NECD ceiling. Three EU-27 member states also reported 2010 NH_3 emissions above the levels of their NECD ceilings, neither of which are in the group of twelve new EU member states. • Of the three non-EU countries having emission ceilings for 2010 under the UNECE/CLRTAP Gothenburg protocol (Liechtenstein, Norway and Switzerland), both Liechtenstein and Norway reported NO_X emissions in 2010 that were substantially higher than their respective 2010 ceilings. Liechtenstein also reported 2010 NH_3 emissions above the level of their Gothenburg protocol 2010 ceiling.
Global Climate	
Greenhouse Gas Emission	
Greenhouse gas emission trends (CSI 010/CLIM 050) *(2013)*	In 2011, EU-27 greenhouse gas emissions decreased by 3.3 % compared to 2010. This was mainly due to the milder winter of 2011 in many countries, leading to lower heating demand from the residential and commercial sectors. In general, emissions from natural gas combustion fell, while emissions resulting from solid fuel consumption increased due to higher coal consumption in 2011 compared to 2010 levels. This decrease in emissions continues the overall decreasing trend since 2004, with the exception of 2010, when emissions temporarily increased due to increased economic growth in many countries coupled with a colder winter. With respect to 1990 levels, EU-27 emissions have decreased by 18.4 %. At a sectoral level, emissions decreased in all main emitting sectors except transport and production and consumption of fluorinated gases (F-gases), where they increased considerably in percentage terms. CO_2 emissions from public electricity and heat production decreased by 15.9% compared to 1990. In the EU-15, 2011 GHG emissions decreased by 4.2 % compared to 2010 – a decrease of 159.6 Mt CO_2-eq in absolute values. This implies that EU-15 greenhouse gas emissions were approximately 14.7 % below the 1990 level in 2011 or 14.9 % below the base-year level. CO_2 emissions from public electricity and heat production are also decreased by 9.3% with respect to 1990. The European Union remains well on track to achieve its

Indicators *(Assessment published in Year)*	**Key Messages** Source: EEA Website 21.11.2013
	Kyoto Protocol target (an 8 % reduction of its greenhouse gas emissions compared to base-year level, to be achieved during the period from 2008 to 2012). A detailed assessment of progress towards Kyoto targets and 2020 targets in Europe is provided in the EEA's 2012 report on greenhouse gas emission trends and projections and will be updated in October 2013.
Renewable Energy	
Share of renewable energy in final energy consumption (ENER 028) *(2013)*	The share of renewable energy in final energy consumption in the EU-27 reached 12.5 % in 2010 representing 60% of the Europe 2020 target (20 %). Renewable energies represented in 2010, 14.3 % of total final heat consumption, 19.6 % of electricity consumption and 4.7 % of transport fuels consumption.
Energy Efficiency	
Progress on energy efficiency in Europe (ENER 037) *(2013)*	Over the period 1990-2010, energy efficiency increased by 20 % in EU-27 countries at an annual average rate of 1.1 %/year, driven by improvements in the industrial sector (1.7 %/year) and households (1.6 %/year).
Transport	
Use of cleaner and alternative fuels (CSI 037) *(2010)*	• Many Member States have introduced incentives to promote low and zero sulphur fuels towards the objective of reducing the sulphur content of fuels to a maximum of 50 ppm by 2005 and to a maximum of 10 ppm by 2009. Although the target for 2005 has been achieved, the penetration of zero sulphur fuels in view of the 2009 target is still rather low. A reduction in the sulphur content of petrol and diesel fuels is expected to have a large impact on exhaust emissions as it will enable the introduction of more sophisticated after-treatment systems. • The penetration of biofuels is also low. The share of biofuels in the EU-27 in 2005 was about 1 %, i.e. half of the 2 % target. However, this share has increased rapidly to 3.4 % in 2008, in view of the 5.75 % objective for 2010.
Freight transport demand (CSI 036) *(2011)*	Over the past decade freight transport volume has grown rapidly and has generally been coupled with growth in GDP. This is particularly striking in recent years when there has been a surge in freight transport activity. Consequently the objective of decoupling GDP and freight transport growth has not been achieved. Closer inspection reveals large regional differences, with the EU-12 Member States showing much faster growth since 2000 in the freight transport sector, compared to the EU-15. This is mainly a result of these countries starting from a relatively low transport level and then experiencing a shift towards high value production and service industries, which has resulted in strong transport growth. For the first time in the 13 years displayed, freight transport demand in the EEA-32 experienced a year-on-year decline in 2008. This is in sharp contrast to the long-term trend; freight transport demand has grown by over two-fifths since 1995 and by nearly one-fifth in the period 2003-2008 alone. In 2008, decoupling between freight transport volume and GDP was observed for the first time in five years. However, this is likely to be due to the impact of the economic recession, and will not necessarily continue in the future. Aside from this, the recent trend is for positive coupling between GDP and freight transport demand. Within the European Union, the EU-12 has experienced growth in freight demand over three times that of the EU-15 in the period 1998-2008, and demand within the EU-12 continued to grow in 2008 despite the general downturn.
Passenger transport demand (CSI 035) *(2011)*	Between 2007 and 2008 passenger transport demand in the EEA-32 declined, for the first time in the 13 years displayed, most likely due to the impacts of the global economic recession. However, this does little to change the long-term trend; overall passenger transport demand has grown by over a fifth since 1995. There is continued evidence to suggest a decoupling between passenger transport demand and GDP in the EEA-32. However, latest estimates for air passenger transport within the EU-27 indicate that demand has been growing at a much faster rate than any other mode of passenger transport.
Adaptation to Climate Change	
--	--
Material Assets, Cultural Heritage including Architectural and Archaeological Heritage	
--	--

Indicators *(Assessment published in Year)*	**Key Messages** Source: EEA Website 21.11.2013
Sustainable consumption and production (resource efficiency)	
Ecological Footprint of European countries (SEBI 023) *(2010)*	The Ecological Footprint for pan-Europe(1) has been increasing almost constantly since 1961, while Europe's biocapacity(2) has decreased. This results in an ever larger deficit, with negative consequences for the environment within and outside Europe. (1) For this analysis, data from all European countries were used, except for nations that were excluded because of insufficient population (Cyprus, Iceland, Liechtenstein, Luxembourg and Malta) and nations for which data are lacking (Andorra, Monaco, San Marino). (2) The capacity of ecosystems to produce useful biological materials and to absorb waste materials generated by humans, using current management schemes and extraction technologies.
Waste electrical and electronic equipment (waste 003) *(2013)*	Data indicates that while reuse and recycling of the collected waste electrical and electronic equipment (WEEE) seems to be on track in the majority of the EU and EFTA member countries, the collection of the WEEE has shown varying but generally improving results. It appears that the amounts of WEEE that are collected, are largely reused (either as a whole appliance or components) or recycled although there is still room for improvement in some countries. However, more attention should be given to the improvement of collection systems. The level of collection is still very low in many countries, especially when compared to the amount put on the market.
Generation and recycling of packaging waste (CSI 017/waste 002) *(2012)*	The generation of packaging waste per capita in EU is growing, although there are signs of slowing down or stabilizing in the trend. In 2008 generation of packaging waste was reduced, albeit a high level of 163,5 kg/capita in the EU-27. However, it is difficult to attribute this change either to effective waste prevention (decoupling of waste from GDP) or to the reduction of GDP due to economic downturn (no decoupling). This slowing down rate could also be attributed to the change of packaging materials, as the largest increase occurs for paper and plastics. The recycling schemes and economic instruments appear to be quite effective for this waste stream. In 2008, recycling covered 61% of the packaging waste, exceeding the 55 % target for 2008 defined in the Packaging and Packaging Waste Directive. However, in many countries there is still room for improvement.
Municipal waste generation (CSI 016/waste 001) *(2011)*	One of the most important objectives of the EU policy is to decouple waste generation from economic growth. Data shows that Municipal Solid Waste (MSW) generation in the EU-27 has been stabilising after around 520 kg/capita since 2000, despite the continuous economic growth until 2008. The effect of the recent economic crisis can be a reason of the further reductions in 2008-2009.

4.2 Existing environmental problems and trends of the environmental development

An extensive assessment of the European environment was performed by the European Environment Agency (EEA) in 2010 and published in "*The State and Outlook of the European Environment Report (SOER)*" as the EEA flagship assessment. The detailed findings can be found on the EEA's website (www.eea.europa.eu/soer), an overview on the results of the synthesis in table 3 below.

The following text provides a brief and concise review of the state and development of the environmental issues that are relevant for the INTERREG EUROPE Programme.

Air Quality and Human Health

Air pollution is a major environmental risk to human health and also harms the environment. In Europe, emissions of many air pollutants have declined over the past decades, resulting in improved air quality across the region. But air pollutant concentrations are still too high, and air quality problems persist. A significant proportion of Europe's population live in areas, especially urban areas, where exceedances of air quality standards occur.[13]

[13] EEA Website 19.11.2013

As the actual report on air quality in EU states, the main air pollutants in Europe declined in the considered period 2002–2011. But nonetheless, particulate matter, organic pollutants and ozone are still Europe's most problematic pollutants in terms of harm to human health. Thus the report stresses: "Particulate Matter (PM) and Ozone (O_3) pollution are particularly associated with serious health risks, and exposure to high levels of organic pollutants, in particular PAHs (PAHs: a type of carcinogenic substances) is a growing health concern in Europe." [14]

Air pollution also damages our environment.

Acidification was substantially reduced between 1990 and 2010 in Europe's sensitive ecosystem areas that were subjected to acid deposition of excess sulphur and nitrogen compounds.

Eutrophication, an environmental problem caused by the input of excessive nutrients into ecosystems, saw less progress. The area of sensitive ecosystems affected by excessive atmospheric nitrogen diminished only slightly between 1990 and 2010.

Crop damage is caused by exposure to high ozone concentrations. Most agricultural crops are exposed to ozone levels that exceed the EU long-term objective intended to protect vegetation. This notably includes a significant proportion of agricultural areas, particularly in southern, central and eastern Europe.

Source: EEA Website 13.11.2013 http://www.eea.europa.eu/themes/air/intro

Negative impacts of air pollution on ecosystems are damage to vegetation by ozone, eutrophication and acidification: "As SO_2 emissions have fallen, ammonia (NH_3) emitted from agricultural activities, and nitrogen oxides (NO_X - a family of gases that includes nitrogen dioxide - NO_2 and nitrogen oxide - NO) emitted from combustion processes have become the predominant acidifying and eutrophying air pollutants."[15]

Thus the EU is related to *"Air quality in urban areas (PM and O_3)"* and *"Pressure on ecosystems (from air pollution, e.g. eutrophication)"* not on the track to meeting environmental targets and objectives.[16]

Biodiversity, Fauna, Flora

"From the depths of oceans to the highest summits, from icy waters to baking deserts, life flourishes in every corner of our planet. We are currently witnessing a steady loss of biodiversity, with profound consequences for the natural world and for human well-being." [17]

The EU missed its objective "To halt the loss of biodiversity by 2010 – and beyond" and all respective efforts are still insufficient. For example: although the total area of nationally designated protected areas and Natura 2000 areas increased, the loss of biodiversity is not stopped yet and the EU failed to achieve its 2010 biodiversity target. The Trend is still negative.

Europe is not on the track to meet the objective "*To halt the loss of biodiversity"*, terrestrial as well as marine with negative development (decreasing trend).

Regarding the objective "*To achieve favourable conservation status, set up Natura 2000 network*", the progress is different across the EU, but the overall problem remains with stable trend.[18]

[14] EEA 2013: Air quality in Europe - 2013 report, p.9

[15] dito, p.8

[16] EEA 2010: The European Environment, State and Outlook, p.19 Synthesis; EEA 2013: Towards a green economy in Europe, p.6

[17] EEA Website 19.11.2013

[18] EEA 2010: The European Environment, State and Outlook, Synthesis, p.18

Where does Europe stand in 2010 with biodiversity?

Species faced with the risk of extinction

Up to 25% of European animal species, including mammals, amphibians, reptiles, birds and butterflies face the risk of extinction and are therefore included in the EU Regional Red List by IUCN.

Poor conservation status

62% of the habitats and 52% of the species covered by the EU Habitats Directive are considered to be in an unfavourable conservation status (EEA-ETC/BD, 2009).

Natura 2000 site designation - nearly completed

Designation of Natura 2000 terrestrial sites in Europe is nearly completed. Much more effort is needed for the marine sites (EEA-ETC/BD, 2010).

Source: EEA Website 13.11.2013 http://www.eea.europa.eu/themes/biodiversity/where-we-stand/where-does-europe-stand-in-2010

Soil

Soil is one of the planet's invaluable resources but continues to be degraded in Europe. Together, the mineral particles, water, air, organic matter, and living organisms that constitute soil perform key functions which underpin our society.[19] "The unsustainable use and management of land is leading to increased soil degradation and the loss of a key resource that is fundamental to life on the planet."[20]

Despite its importance for our society, and unlike air and water, there is no EU legislation specifically targeting the protection of soil.[21]

EU is not on the track to achieve the objective "*To prevent further soil degradation and preserve its functions"*. The development is also stated negative (increasing trend).[22]

Landscape

Europe is one of the most intensively used continents on the globe, with the highest share of land used for settlement, production systems (including agriculture and forestry) and infrastructure (up to 80%).[23] Annually, more than 1,000 km² are subject to land take for housing, industry, roads or recreation.[24]

Urban sprawl seemed to be slowing. Artificial land cover, such as roads and buildings, increased 2.3 % per year between 1990 and 2000, but this rate fell to 1.5 % between 2000 and 2006.[25]

Water

Water quality is closely linked to human health and biodiversity. Furthermore it is in manifold ways essential for human life.

The *European Water Framework Directive (WFD) (2000/60/EC)* aims to protect "water" by an integrated, all-embracing 'ecosystem-based approach'. Water ecosystems shall be protected equally in terms of water quality, water quantity, and their role as habitats. The achievement of these objectives are supported by the *Blueprint to safeguard Europe's water resources (SWD(2012) 382)* which propose packages to improve management and knowledge of water protection.

---

[19] EEA Website 19.11.2013

[20] EEA 2012: The State of Soil in Europe, p.4

[21] Ditto, p.4

[22] EEA 2010: The European Environment, State and outlook, Synthesis, p.18

[23] EEA Website 18.11.2013

[24] European Commission 2011: Roadmap to resource efficient Europe (COM(2011) 571), p.15

[25] EEA Website 18.11.2013

"During the last 25 years, significant progress has been made in numerous European waters in reducing the pollution This progress includes improved wastewater treatment, reduced volumes of industrial effluents, reduced use of fertilizers, reduced or banned phosphate content in detergents, as well as reduced atmospheric emissions".[26]

Nevertheless, more than 50 % of the surface water bodies in Europe are in less than good ecological status or potential. Concerning ecological status and pressures in freshwater the worst areas of Europe are in Central and North-Western Europe. For coastal and transitional waters, the Baltic Sea and Greater North Sea regions are the worst.[27]

Poor chemical status for groundwater, by area, was stated for 25 % across Europe. Referring to rivers, lakes, and transitional and coastal waters, poor chemical status does not exceed 10 % in whole Europe. Admittedly the chemical status of many of Europe's surface waters - ranging between one third of the lakes and more than half of transitional waters – remains unknown.[28]

Regarding the objective "*To achieve good ecological and chemical status of water bodies*" as well as concerning water exploitation and the objective "T*o achieve good quantitative status of water bodies"* the EU is attested a "mixed progress" by remaining overall problem and stable trend.[29]

Global Climate

"Climate change is happening now: Temperatures are rising, rainfall patterns are shifting, glaciers and snow are melting, and the global mean sea level is rising. We expect that these changes will continue, and that extreme weather events resulting in hazards such as floods and droughts will become more frequent and intense."[30]

The world is not on the track, meeting the objective "*to limit increases to below 2°C globally*". The development is negative (increasing trend).[31]

The main sources of man-made GHGs are:

- burning of fossil fuels (coal, oil and gas) in electricity generation, transport, industry and households (CO_2);
- agriculture (CH_4) and land-use changes like deforestation (CO_2);
- land filling of waste (CH_4);
- use of industrial fluorinated gases.[32]

The actual EEA-report "*Trends and projections in Europe 2013 - Tracking progress towards Europe's climate and energy targets until 2020*" summarizes the latest findings respective Europe's climate and energy targets:[33]

- Progress towards 2008–2012 Kyoto targets:
  EU is on the track towards its 8 % reduction target. Total average emissions of the EU-15 in the 2008–2012 period have declined by 12.2 % compared to base year levels.
- Individual Greenhouse Gas targets of the EU countries:

---

[26] EEA 2012: European waters - assessment of status and pressures, p.8

[27] EEA Website 18.11.2013

[28] dito

[29] EEA 2010: The European Environment State and outlook, Synthesis; p.19
EEA 2013: "Towards a green economy in Europe", p.6

[30] EEA Website 18.11.2013

[31] EEA 2010: The European Environment State and outlook, Synthesis; p.18

[32] EEA Website 18.11.2013

[33] EEA 2013: Trends and projections in Europe 2013 - Tracking progress towards Europe's climate and energy targets until 2020, p.10-11

Almost all European countries with an individual GHG limitation or reduction target under the KP (26 EU Member States, Iceland, Liechtenstein, Norway and Switzerland) are on track towards achieving their respective targets.

- The 20/20/20 objectives:
  - 20 % reduction of the EU's GHG emissions compared to 1990:
    The EU is therefore very close to reaching its 20 % reduction target, eight years ahead of 2020.
  - 20 % share of renewable energy in the EU's gross final energy consumption:
    Renewable energies contributed 13 % of gross final energy consumption in the EU-27 in 2011. The EU has therefore met its 10.8 % indicative target for 2011–2012 and is currently on track towards its target of 20 % of renewable energy consumption in 2020.
  - 20 % increase of the EU's energy efficiency:
  - EU Member States are moving towards the level of ambition required by the Energy Efficiency Directive. Their collective primary energy consumption in 2020 is expected to be close to the level required by the EU political objective of 1 483 Mtoe (million tonnes of oil equivalent) but will remain insufficient to achieve the 20 % energy efficiency target.

Transport

A third of all final energy consumption in the EEA member countries and more than a fifth of greenhouse gas emissions is caused by transport. Transport is in terms of energy consumption trends, the fastest growing sector. Transport is also responsible for air pollution as well as fragmentation of the landscape witch causes negative effects on biodiversity and noise.[34]

The annual energy consumption from transport rose continually between 1990 and 2007 in EEA member countries. Between 2007 and 2009, the total energy demand from transport fell by 4 %, due to the effects of the economic recession.[35]

Achieving Europe's targeted 60 % CO_2 reduction by 2050 compared with 1990 will require the consumption of oil in the transport sector to drop by around 70 %. The current 96 % oil dependence of the transport-sector is unsustainable.[36]

Adaptation to Climate Change

Adaptation is needed to protect people, buildings, infrastructure, businesses and ecosystems of consequences of climate change.

The "EU Strategy on adaptation to climate change" focuses on three key objectives: Promoting action by Member States; climate-proofing action at EU level; and better informed decision-making.[37] Indicators to measure successful and effective adaptations are not defined yet.

Material Assets, Cultural Heritage including Architectural and Archaeological Heritage

The EU does not have decision making power in the cultural heritage policy. However, culture and cultural heritage play a crucial role in at least four of the Europe 2020 flagship initiatives: innovation union, the digital agenda, an industrial policy for the globalisation era and an agenda for new skills and jobs.[38]

---

[34] EEA Website 17.11.2013

[35] dito

[36] dito

[37] European Commission 2013: An EU Strategy on adaptation to climate change COM(2013) 216 final

[38] European Commission Website 17.Nov 2013 http://ec.europa.eu/culture/our-policy-development/cultural-heritage_en.htm

Sustainable consumption and production (resource efficiency)

Transforming the economy onto a resource-efficient path is one of the key objectives of the European Union. On the way to a "green economy" in Europe it is necessary to rebuild the complex relationship between economy and ecology.

The "Roadmap to Resource Efficient Europe" comprises the most important aspects in order to decouple resource use from economic growth:

- Sustainable consumption and production
  - Improving products and changing consumption patterns
  - Boosting efficient production
- Turning Waste into a resource
- Supporting research and innovation
- To phase out environmentally harmful subsidies[39]

Regarding the objective "To decouple resource use from economic growth, to move to a recycling society", Europe shows a mixed progress across the EU, overall problem remains with positive development (increasing trend) [40].

Waste generation is still increasing. According the objective "To substantially reduce waste generation" Europe is not on the track with negative developments (increasing trend).[41]

In contrast "Waste management (recycling)" shows a positive trend. Regarding "*Several recycling targets for different specific waste streams*" Europe is on the track and shows a positive development.[42]

[39] European Commission 2011: Roadmap to resource efficient Europe (COM(2011) 571)

[40] EEA 2010: The European Environment State and outlook, Synthesis; p.18
EEA 2013: Towards a green economy in Europe, p.7

[41] EEA 2010: The European Environment State and outlook, Synthesis; EEA 2013, p.18

[42] dito

Table 3: Indicative summary table of progress towards meeting environmental targets or objectives, and highlights of related trends over the past 10 years

Environmental issue	EU-27 target/objective	EU-27 — on track?	EEA-38 — trend?
Climate change			
Global mean temperature change	To limit increases to below 2 °C globally (a)	⊠ (D)	↗
Greenhouse gas emissions	To reduce greenhouse gas emissions; by 20 % by 2020 (b)	☑ (E)	↘
Energy efficiency		☐ (E)	↗
Renewable energy sources	To increase energy consumption from renewables; by 20 % by 2020 (b)	☐ (E)	↗
Nature and biodiversity			
Pressure on ecosystems (from air pollution, e.g. eutrophication)	Not to exceed critical loads of eutrophying substances (c)	⊠	→
Conservation status (safeguard EU's most important habitats and species)	To achieve favourable conservation status, set up Natura 2000 network (d)	☐ (F)	→
Biodiversity (terrestrial and marine species and habitats)	To halt the loss of biodiversity (e) (f)	⊠ (terrestrial) ⊠ (marine)	↘ ↘
Soil degradation (soil erosion)	To prevent further soil degradation and preserve its functions (g)	⊠ (G)	↗
Natural resources and waste			
Decoupling (resource use from economic growth)	To decouple resource use from economic growth (h)	☐	↗
Waste generation	To substantially reduce waste generation (h)	⊠ (H)	↗
Waste management (recycling)	Several recycling targets for different specific waste streams	☑	↗
Water stress (water exploitation)	To achieve good quantitative status of water bodies (i)	☐ (I)	→

EEA 2010: The European Environment State and Outlook, Synthesis, p.18

Table 4: Indicative summary table of progress towards meeting environmental targets or objectives, and highlights of related trends over the past 10 years (cont.)

Environmental issue	EU-27 target/objective	EU-27 — on track?	EEA-38 — trend?
Environment and health			
Water quality (ecological and chemical status)	To achieve good ecological and chemical status of water bodies ([i]) ([j])	☐ ([i])	→
Water pollution (from point sources, and bathing water quality)	To comply with bathing water quality, urban wastewater treatment ([k]) ([l])	☑	↘
Transboundary air pollution (NO_x, NMVOC, SO_2, NH_3, primary particles)	To limit emissions of acidifying, eutrophying and ozone precursor pollutants ([c])	☐	↘
Air quality in urban areas (particulate matter and ozone)	To attain levels of air quality that do not give rise to negative health impacts ([m])	☒	→

Legend		
Positive developments	**Neutral developments**	**Negative developments**
↘ Decreasing trend	→ Stable	(↘) Decreasing trend
↗ Increasing trend		(↗) Increasing trend
☑ EU on track (some countries may not meet target)	☐ Mixed progress (but overall problem remains)	☒ EU not on track (some countries may meet target)

EEA 2010: The European Environment State and Outlook, Synthesis, p.19

5 EXPECTED SIGNIFICANT IMPACTS ON THE ENVIRONMENT (POSITIVE/ NEGATIVE)

5.1 Considered alternatives

Except the zero alternative, i.e. non-implementation of the Programme, no alternative is defined and assessed.

The strategic approach and the determined actions to be supported are quite broadly formulated. Improvement in the consideration of environmental issues is a question of addressing environmental orientation by more focussed formulations and guiding principles for the selection of projects and monitoring. Relevant proposals are part of the recommendations; an actual alternative to the approach and orientation of the Programme is not seen.

Shifts in spending the funds to the individual PAs can be seen as an alternative. The members of INTERREG EUROPE decided for an equal distribution of the available funds to each of the Axes (25 % of the funds excluding the funds for Technical Assistance (PA 5)). A re-shifting of more funds to PAs 3 and/or 4 could in principle increase particular positive effects. Purpose and nature of the Programme aim on the exchange, testing and spreading of good practises and policies. So it is less important to focussing on particular issues like reduction of GHG-emission or resource efficiency, it is more important to linking the different topics reflected by the PAs and to connect efforts related to genuine environmental topics like low-carbon and resource efficiency with RTD&I measures and competitiveness of SMEs and to mutually capitalise the achievements in favour of mainstreaming environmental protection.

5.2 Effects on the environment of the INTERREG EUROPE Programme

Prior to the description of the findings of the assessment it has to be stressed again, that INTERREG EUROPE will realise highly indirect effects and contributions only. The statements below have to be perceived in the light of this condition.

5.2.1 Assessment of the strategic approach

Operational objectives

The Programme bases on two operational objectives which describe the intervention logic of the Programme (see also chapter 2.2):

"1. To facilitate ongoing EU-wide policy learning and capitalisation of practices among actors of regional relevance in order to strengthen regional policies, and in particular the implementation of programmes for Investment for Growth and Jobs and where relevant ETC.

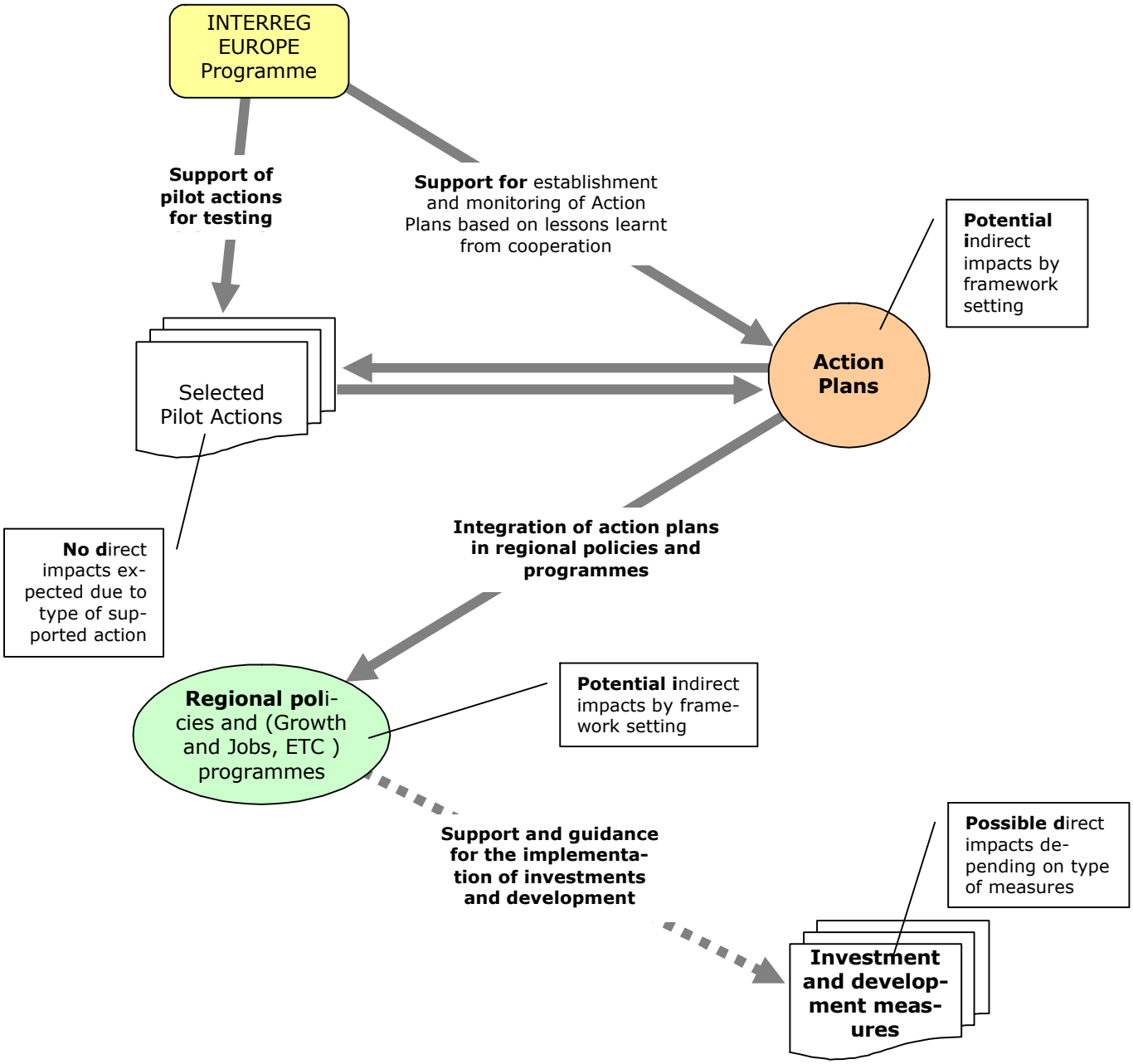
2. To support exchange of experience and sharing of practices among actors of regional relevance with the aim to integrate the learning from the cooperation into regional policies, in particular through their programmes for Investment for Growth and Jobs and where relevant ETC."

The implementation of the operational objectives is directly reflected in the defined types of actions to be supported which can be labelled as programme implementation tracks:

- Track 1: The support of Interregional Cooperation Projects by which regional partners work together and the implementation of policies will be improved primarily by the implementation of regional programmes.
- Track 2: The establishment of Policy Learning Platforms by which interregional exchange, benchmarking, organisation of thematic events, policy advice etc. will be strengthened.

For the first track (= **Interregional Cooperation Projects**) the impact chain is long and quite complex (see graphic 1). The immediate potential effects of the Programme itself are highly indirect because it provides support for an improved capitalization of lessons learned and their reflection in Action Plans. Though the Action Plans set the framework for certain investment and development measures, this framework will be incorporated into regional programmes and get effective via these regional programmes. The potential impacts of the regional programmes in which the action plans are incorporated, are still indirect but at this stage of the chain linked to possible direct impacts because these programmes provide the immediate framework for the realisation of investments.

Graphic 1: Impact chain of the Programme related to Interregional Cooperation Projects

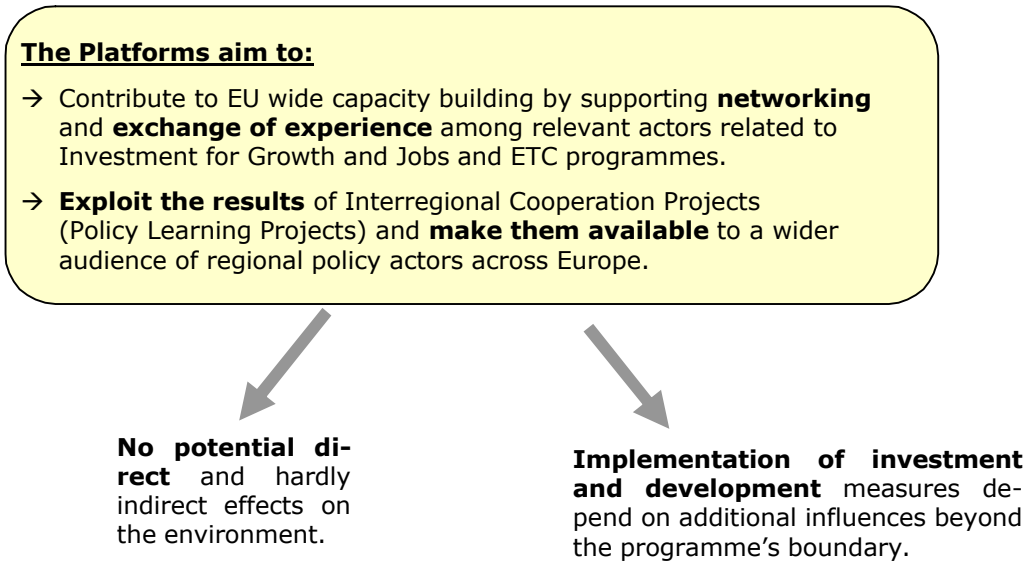


The assessment of the potential impacts caused by the proposed expected results has to respect this long impact chain as well as additional external influences on the formulation and finally realisation of projects based on the regional programmes. Therefore, *mainly general potential and contributions to achieve the EU environmental objectives and general EU environmental policy in the long run can be assessed.*

Possible direct effects might be realised by the support of pilot actions "to test certain parts of the Action Plan in practice"[43]. Nature and extent of possible direct impacts on the environment depend on the concrete actions which will be supported. According to INTERREG EUROPE, the pilot actions will cover the testing of tools, practices, methodologies and similar "soft" measures only. Additionally, the planned funding per pilot action is limited so that only small scale actions will be assisted by the Programme. Significant effects on the environment are not expected.

The second track (= **Policy Learning Platforms**) does not show potential direct and hardly indirect effects on the environment. Though regional (G&J and ETC) policies and programmes play an important role as addressees of the platforms it is not limited to these. The purpose of this track is not first of all to eventually support concrete measures at the ground. Thus, the realisation of concrete measures with possible direct impacts based on results of the Policy Learning Platforms depends on additional influences which are outside the programme's responsibility.

Graphic 2: Impact chain of the Programme related to Policy Learning Platforms



Priority Axes and Specific Objectives

INTEREG EUROPE has a strong focus on environmental protection. Two out of the four defined PAs explicitly deal with environmental issues and resource efficiency:

- PA 3 aiming at low-carbon economy and
- PA 4 aiming at environment and resource efficiency.

Interventions in the course of the related SOs (3.1, 4.1 and 4.2) will initiate and support the interregional exchange, promotion and mainstreaming of solutions for low-carbon economy (SO 3.1) as well of solutions for improved protection of natural and cultural heritage (SO 4.1) and increased resource efficiency (SO 4.2).

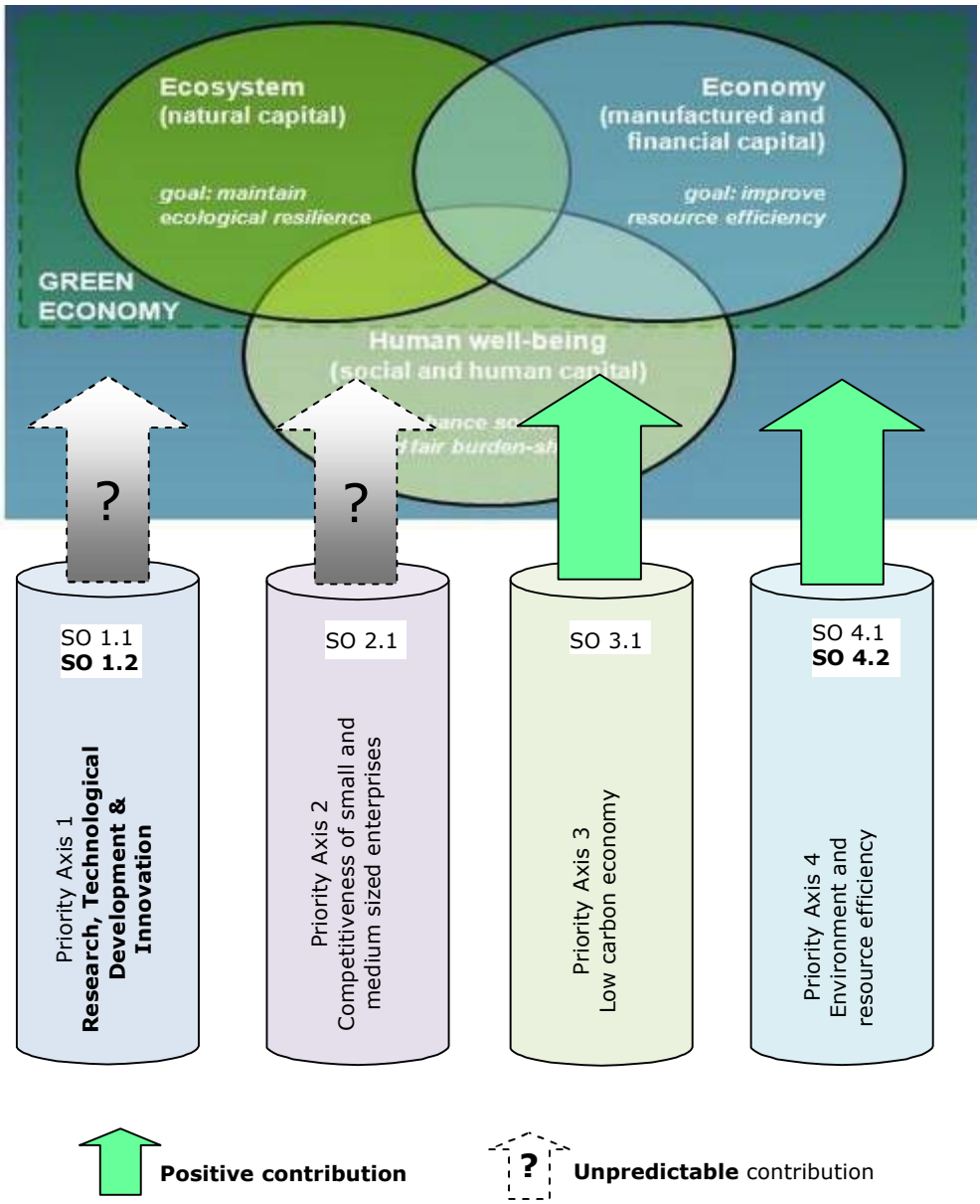
[43] INTERREG EUROPE 2014-2020 Cooperation Programme final draft, p. 19

As a whole, PA 3 (Low-carbon economy) contributes to important environmental objectives of the EU in the area of global climate protection. It supports the *Roadmap for moving to a competitive low-carbon economy in 2050*, relevance is given for all the sectoral perspectives of the roadmap. Furthermore, the 20-20-20 targets of *Europe 2020 strategy*, the *Directive on the promotion of the use of energy from renewable sources*, the *Energy efficiency action plan* and *Energy efficiency directive*, the *Directive on the energy performance of buildings*, the *Thematic strategy on air pollution*, or the *Roadmap to a single European transport area - towards a competitive and resource efficient transport system (white paper)* are supported.

PA 4 (Environment and resource efficiency) shows also clear positive linkages to defined EU environmental objectives. Above all the *Roadmap to a resource efficient Europe* is addressed by this PA. But also strategies concerning other environmental issues are supported as *EU biodiversity strategy to 2020*, the *Water framework directive*, the *Roadmap for moving to a competitive low-carbon economy in 2050*, the *Roadmap to a single European transport area - towards a competitive and resource efficient transport system (white paper)*.

Graphic 3: Contribution to 'Green Economy' as an overarching target of the European Union

Source:



The possible contributions of the PA 1 and PA 2 towards improved environmental protection and resource efficiency are less obvious.

Potentially a wide range of environmental objectives might be tackled by PA 1 (Research, Technological Development & Innovation (RTD&I)). Generally, the improvement of the implementation of programmes in the field of research and innovation capacities (SO 1.1) and in the field of delivery of innovation in regional innovation chains in areas of 'smart specialisation' and innovation opportunity (SO 1.2) comprise the opportunities to strengthen the capacities and approaches towards environmental protection and resource efficiency. The results of RTD&I can positively influence all environmental issues depending on the actual orientation. In the Programme no strict orientation of supported RTD&I on environmental protection or sustainable development is stated.

Via PA 2 (Competitiveness of Small and Medium Enterprises) new technologies and production processes can be rolled-out and promoted in business reality. This refers first of all to

- low-carbon economy ("The application of more advanced resource and energy efficient industrial processes and equipment, increased recycling, as well as abatement technologies for non-CO_2 emissions (e.g. nitrous oxide and methane), could make a major contribution ….")[44] and
- resource efficiency by focussing on sustainable consumption and production as well as on "turning waste into resource" as stated in the *Roadmap to a resource efficient Europe*. The mobilisation of SMEs on transforming the economy as required by this Roadmap ('Governance and Monitoring') can be supported by the Programme.

Despite the long impact chain and insecurity concerning influencing external factors, positive contributions to the set EU objectives on environmental protection and resource efficiency can be realised by the individual PAs of the Programme.

Internal interrelations

Between the SOs of the different PAs, particularly between PA 1 and 2 on the one hand and PA 3 and 4 on the other, supportive interrelations can be seen. Mutual consideration of solutions in RTD&I, SME promotion, low-carbon economy and protection of natural and cultural heritage helps to increase the positive contributions to environmental protection and resource efficiency. The wide-scaling of research solutions in the area of energy efficiency or renewable energy can be supported by integration in action plans and regional programmes. Solutions provided under SO 4.2 (resource efficiency, green growth, eco-innovation and environmental performance management) can support the promotion of SMEs (SO 2.1) as well as promote the further development by RTD&I activities.

In the Programme, those linkages between the various SOs are mentioned as a general possibility to apply synergies ("*Projects (…) can also have synergies with themes covered by other specific objectives of this Programme, for instance related to innovation in the field of low-carbon technology or resource efficiency.*")[45]. Although the linkages can be seen as an implicit result, the appearance of such internal effects seems to depend on incidental situations. The potential of strengthening the positive contributions to environmental protection and resource efficiency by making use of those internal interrelations is not finally exploited by the Programme.

[44] European Commission 2011: Roadmap for a competitive low-carbon economy, p. 8

[45] INTERREG EUROPE Programme revised final draft, p. 21 - statement introduced due to SEA recommendation

Horizontal principle "Sustainable development"

In section 8.1 of the Programme the consideration of the horizontal principle "sustainable development" is described.

PAs 3 and 4 reflect this principle by focussing on issues of sustainable development directly. PAs 1 and 2 provide opportunities to support this principle, e.g. by targeting projects on eco-innovations, green procurement and technologies, or circular flow economy.

Consequently the applicants for projects under PAs Axes 3 and 4 have to verify that their projects contribute to this principle; a non-consideration of this principle and the objective "to improving regional sustainable development policies" will cause rejection of the application.[46] In this respect, the programme takes a clear stand in promoting sustainable development and contributes to the EU environmental policy directly.

More crucial mechanisms are to ensure a consideration of sustainable development in projects under PAs 1 and 2. The Programme stipulates that

- "Project applicants under these Priority Axes will be invited to explain in their application how their project will comply with and possibly even strengthen sustainable development. However, no specific selection criteria are foreseen to favour the development of projects dealing with this issue."

and

- "The activities and thematic coverage of the Policy Learning Platform for Priorities 1 and 2 may address relevant regional policy experiences and practices related to the principle of sustainable development."[47]

Important EU strategies (e.g. *Europe 2020*) supported by more specific strategies of the EU (e.g. *Low-carbon Roadmap*, *Resource Efficiency Roadmap*, *Eco-innovation Action Plan*) focus on economic development, growth and jobs which are based on sustainability. The statements of the Programme related to PAs 1 and 2 are rather weak. The consideration of the horizontal principle is left to the applicants and their interests instead of being an important concern of the Programme.

INTERREG EUROPE should play a more active and target-oriented role in including sustainable development as a principle in the Programme's implementation. Based on recommendations provided in the course of the SEA process, essential conditions were added to this chapter 8.1 allowing a more effective consideration of sustainable development:

- *At the end of the project the partners will be asked to report how their project activities and outputs actually contributed to this horizontal principle. Based on the aggregated contributions reported by projects INTERREG EUROPE will be able to monitor and demonstrate how the Programme concretely contributed to sustainable development.*
- *The activities of INTERREG EUROPE are likely to generate a lot of travel which leads to related CO2 emissions. While these travels are an essential aspect of interregional cooperation activities, beneficiaries of the programme will be encouraged to use modes of interaction that do not require travelling when possible.*
- *The programme will explore the possibilities to support CO_2 compensation measures within the existing eligibility limits.*

These determinations opens the path at least to verify the consideration of the horizontal principle 'sustainable development' in the implementation of the various parts of the Programme, particularly concerning PAs 1and 2.

[46] INTERREG EUROPE 2014-2020 Cooperation Programme revised final draft, p. 72

[47] dito, p. 71

Implementation structures

A programme does not only generate possible environmental effects based on the achievement of its objectives and results, i.e. the implementation of co-financed measures. Possible effects can be caused by the way how a programme is implemented as well. At this high strategic level, effects caused by the foreseen implementation structures can show even more important effects than the measures supported by the programme.

The strategic approach of INTERREG EUROPE per se is based on interregional exchange in the various kinds. Quite a number of measure-related meetings like on-the-spot-visits, events, seminars, etc. are foreseen. Under Specific Objective 5.1 ("To maximise the effectiveness and efficiency of the management and implementation of the INTERREG EUROPE Programme") of Priority Axis 5 ("Technical Assistance") it is explicitly stated that the support of actors involved in Interregional Cooperative projects includes the provision of seminars as well as the "participating in project related meetings and events and performing 'on-the-spot visits' to projects to address project progress, outputs and results as well as obstacles in the implementation". As stated below, the number of events will also be applied as indicators for successful implementation of the individual Investment Priorities.

Additionally, the management structure of the Programme asks for regular meetings of the Programme's bodies as the Monitoring Commission or the Group of Auditors. The high number of members in INTERREG EUROPE and the large area covered by INTERREG EUROPE (EU-28 + Norway + Switzerland) cause extended travelling.

Both, the conduction of measures and the management of the Programme will generate direct negative impacts due to travels of regional partners, representatives of the INTERREG EUROPE members as well as members of the INTERREG EUROPE management. Emission of greenhouse gases, air pollution and noise are the most significant issues. Due to the area of the Programme, it can be expected that most travelling will be done by planes which show considerable contribution to CO_2-emissions and thus, the EU objective on mitigation of GHG emission will be endangered.

According to the output indicators of the PAs, a total of 112 events in the various Investments Priorities and 200 visits[48] of the representatives of the Joint Secretariat in projects and events are planned as a minimum, i.e. some 12 events per year and some 22 visits per year. Meetings and travelling of the Monitoring Committee (at least 14 meetings as stated in output indicator 4 of Technical Assistance) and of the Group of Auditors have to be added.

Additionally to impacts caused by travelling, the production of printed documents also shows impacts on resource consumption in principle. Most of the publications need to be printed in different languages, other documents need to be printed and distributed for the preparation and implementation of projects, events, management meetings and similar.

The possible impacts due to the implementation of the Programme (travelling, extended documentation) are genuine parts of the nature of INTERREG EUROPE. It is the ultimate purpose of the Programme to promote the interregional exchange and to provide capacity development by interregional cooperation activities. Therefore, it is not possible to consider principle alternatives if the INTERREG EUROPE as such will not be questioned. Instead, it is recommended to focus more on other means of exchange and types of cooperation and to minimise the number of meetings, visits and events in order to mitigate the environmental impacts.

Indicators

Indicators measure the achievement of set objectives. Depending on the matters to be measured, by the realisation of indicators effects on the environment can be negatively or positively caused.

[48] The former number of 400 visits was reduced to 200 visits in the revised draft version following a discussion of SEA's recommendation.

For each SOs the same common and specific output indicators are defined, textually adjusted to the individual orientation of the SOs. The achievement of three out of the four indicators does not show any particular environmental effects except according the general nature of the respective SO. Only the fourth indicator (No. of policy learning events) might cause direct effects because its fulfilment will generate negative impacts on the environment due to travelling:

- Indicator 4: Number of policy learning events in the field of (*SO 1.1 - SO 4.2*) organised by the Policy Learning Platforms (across all SOs: 112).

The output indicator 2 for PA 5 (Technical Assistance) shows potential for negative environmental effects:

- Indicator 2: Number of project visits and participation in project events by Joint Secretariat (*200* by 2022)[49] requires extended travelling with negative effects on air quality and global climate.

The realisation of the output indicator 4 for the Technical Assistance) can also generate potential negative effects but to a lesser extent than output indicator 2:

- Indicator 4: No. of Monitoring Committee meetings (14 by 20122) requires extended travelling due to the number of members and largeness of programme area with negative impacts on air quality and global climate.

The formulation of the critical indicators should be revised in order to strengthen the efforts to make use of exchange modes with less potential negative impacts on air, climate and resource consumption. By binding the measurement of successful implementation of parts of the Programme on those instruments which show obviously negative environmental effects the room and the motivation for applying more appropriate instruments are limited unnecessary.

5.2.2 Assessment of the individual Priority Axes

The potential contribution of the determinations of the individual PAs to the EU environmental objectives and general EU environmental policy are assessed by the expected results of each IP respectively each SO. Findings are presented in a short text and a summary table showing trends of potential contributions:

-	negative contributions
0	neutral or negligible (e.g. extreme indirect) contributions
+	positive contributions
(-) / (+)	negative (or positive) impacts are possible depending on the details of activities

Although the environmental issues are presented in parallel it has to be highlighted that complex interrelations exist between the individual issues.

5.2.2.1 Priority Axis 1: Research, Technological Development and Innovation

For PA 1, a share of 25 % of the available EU funds for INTERREG EUROPE 2014-2020 is allocated (excluding the means dedicated to Technical Assistance), i.e. € 84,441,610.

INVESTMENT PRIORITY 1(A): ENHANCING RESEARCH AND INNOVATION (R&I) INFRASTRUCTURE AND CAPABILITIES TO DEVELOP R&I EXCELLENCE AND PROMOTING CENTRES OF COMPETENCES, IN PARTICULAR THOSE OF EUROPEAN INTEREST

[49] Number of visits was cut by 50 % after problematization of GHG emissions by traveling by the SEA experts.

Specific Objective 1.1: Improve the implementation of regional development policies and programmes, in particular programmes for Investment for Growth and Jobs and, where relevant, ETC programmes, in the field of research and innovation infrastructure and capacities.

Table 5: Summary table of possible contributions of Specific Objective 1.1

Expected results	Environmental issues								
	Population, Human Health	Flora, Fauna, Biodiversity	Soil	Landscape	Water	Air	Global climate	Cultural heritage	Resource efficiency
1. The main change sought is an improved implementation of regional development policies and programmes, in particular programmes for Growth and Jobs (G&J), and where relevant ETC, in the field of regional infrastructures for research and innovation and capacities to develop research and innovation excellence.	**0**	**0**	**0**	**0**	**0**	**0**	**(+)**	**0**	**(+)**
2. To achieve innovation-driven growth, regional authorities and other actors of regional relevance must strengthen their innovation 'enablers': the infrastructures and capacities needed for research and innovation to flourish in sectors with strong innovation potential. Many EU regions identify these key sectors in Regional Innovation Strategies for Smart Specialisation.	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
3. Regional policies for innovation infrastructure and capacities must target such issues as the availability of research and competence centres and ICT infrastructures, ensuring the education system provides the qualifications needed in innovative sectors and public facilities for funding and supporting R&I activity.	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
4. The programme will support exchange of experiences and sharing of practices between actors of regional relevance with the specific aim to prepare the integration of the lessons learnt into regional policies and actions for innovation infrastructure and capacities - in particular through G&J or ETC programmes, but also other programmes of regions involved.	**(+)**	**(+)**	**(+)**	**0**	**(+)**	**(+)**	**(+)**	**0**	**(+)**
5. The programme will facilitate policy learning and capitalisation by making relevant practices and results from Interregional Cooperation Projects and other experiences widely available and usable for regional actors involved in innovation support in G&J, ETC and other programmes.	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
6. This interregional sharing of practices and policy learning will improve capacities (skills, knowledge) of individuals and organisations involved and prepare the implementation of the lessons learnt. This will result in a better implementation of (G&J and ETC) programmes and policies in the field of research and innovation infrastructures in the regions involved.	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

The effects of the expected results of SO 1.1 on the environment as well as the contribution to the environmental objectives are very limited. The results aim to improve framework conditions and exchange processes. Both of course can show environmental effects in the long run. However, direct or even indirect links of first order can not be stated.

Referring to expected result 1 and expected result 4 (see table 2 above), positive contributions can be expected depending on the actual details of the regional development policies and programmes (result 1) and the exchanged experiences and shared practices (result 4).

It is anticipated that for result 1, the indirect positive contribution will mainly appear in the fields of global climate and resource efficiency because these issues present priorities of business-related research and innovation in Europe in the light of investments in G&J. Positive side-effects on other environmental issues are possible but are not predictable because even the 'main effects' on global climate and resource efficiency can not be stated for sure. For result 4, the range of indirect positive contributions is wider covering potentially all environmental issues with less importance for landscape and cultural heritage.

The potential indirect positive contributions in this SO has to be put into brackets because it can only be assumed that the RTD&I activities, the exchange of practices and the improvement of innovation infrastructure and capacities focus somehow on eco-innovations and sustainable development. A pronounced orientation of the supported RTD&I programmes, research and innovation infrastructure and capacities on issues related to eco-innovation and sustainable development contributes also to the implementation of the EU Eco-innovation Action Plan (Eco-AP).

INVESTMENT PRIORITY 1(B): PROMOTING BUSINESS INVESTMENT IN INNOVATION AND RESEARCH, AND DEVELOPING LINKS AND SYNERGIES BETWEEN ENTERPRISES, R&D CENTRES AND HIGHER EDUCATION, IN PARTICULAR PRODUCT AND SERVICE DEVELOPMENT, TECHNOLOGY TRANSFER, SOCIAL INNOVATION, ECO-INNOVATION, CULTURAL AND CREATIVE INDUSTRIES, PUBLIC SERVICE APPLICATIONS, DEMAND STIMULATION, NETWORKING, CLUSTERS AND OPEN INNOVATION THROUGH SMART SPECIALISATION AND SUPPORTING TECHNOLOGICAL AND APPLIED RESEARCH, PILOT LINES, EARLY PRODUCT VALIDATION ACTIONS, ADVANCED MANUFACTURING CAPABILITIES AND FIRST PRODUCTION, IN PARTICULAR IN KEY ENABLING TECHNOLOGIES AND DIFFUSION OF GENERAL PURPOSE TECHNOLOGIES

Specific Objective 1.2: Improve the implementation of regional development policies and programmes, in particular programmes for Investment for Growth and Jobs and, where relevant, ETC programmes, that support the delivery of innovation by actors in regional innovation chains in areas of "smart specialisation" and innovation opportunity.

Table 6: Summary table of possible contributions of Specific Objective 1.2

Expected results	Environmental issues								
	Population, Human Health	Flora, Fauna, Biodiversity	Soil	Landscape	Water	Air	Global climate	Cultural heritage	Resource efficiency
1. The main change sought is an improved implementation of regional policies and programmes, in particular for Investment for Growth and Jobs (G&J) and where relevant ETC, that provide support to the actual delivery of innovation in regional innovation chains by measures related to i.e. development of research-driven clusters, support to	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Expected results	Environmental issues								
	Population, Human Health	Flora, Fauna, Biodiversity	Soil	Landscape	Water	Air	Global climate	Cultural heritage	Resource efficiency
triple-helix cooperation and to business activities in innovation.									
2. Regional authorities and their innovation partners need to facilitate cooperation and joint initiatives of the enterprises, R&D centres and higher education actors in their key regional areas of smart specialisation and innovation opportunity.	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
3. Creating effective ecosystems of innovation can improve technology transfer and the emergence and economic exploitation of new R&D results. Regions must develop and cultivate research-driven clusters in their main sectors of innovation potential to increase innovation-driven growth. Finally regional actors can also devise policies to trigger consumption of innovation, for instance through public procurement of innovation.	**0**	**0**	**0**	**0**	**(+)**	**(+)**	**+**	**0**	**+**
4. The programme will support the exchange of experience among actors of regional relevance from across Europe in this field to prepare the integration of lessons learnt in the regional programmes for Growth and Jobs, ETC or other relevant regional programmes. The programme will also facilitate policy learning and capitalisation by making relevant practices and results from Interregional Cooperation Projects and other experiences widely available and usable for regional actors involved in innovation support in G&J, ETC and other programmes.	**0**	**0**	**0**	**0**	**(+)**	**(+)**	**(+)**	**0**	**(+)**
5. This interregional sharing of practices and policy learning will improve capacities (skills, knowledge) of the involved individuals and organisations and plan the implementation of the lessons learnt. This results in a better implementation of (G&J and ETC) programmes and policies in the field of innovation delivery in the regions involved.	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

The contributions of the expected results of SO 1.2 to the environmental objectives are very limited. The SO and its expected results aim to improve the implementation of regional programmes to support the delivery of innovations. Only via the actual implementation of the regional programmes and the "feeding" of regional innovation chains effects can be generated. But the SO provides mainly for mechanisms not for direct interventions in programming and implementation.

For two out of the five expected results positive contributions to EU environmental policy and environmental objectives can be stated even if the actual conditions of the realisation are not known finally:

- Under result 3, the development and cultivation of research-driven clusters (…) to increase innovation-driven growth and trigger consumption of innovation will be supported. Having in mind the business orientation of the IP 1(b) positive contributions for global climate and resource efficiency are expected. Depending on the type of actions to be supported also positive effects regarding water and air protection might be expected (these have to be put into brackets).

- Under result 4, the exchange of experiences will be supported but also policy learning and capitalisation of practices. Linked to the business sector positive effects might be expected for the protection of water, air and the global climate as well as for improved resource efficiency. Again, the positive contributions depend on the type of actions which will be supported so the effects cannot be stated as given.

Most of the potential indirect positive contributions under this SO have to be put into brackets because it can only be assumed that the establishment of clusters and better marketing of innovations, the exchange of experiences and capitalization of practices will provide developments for eco-innovations and sustainable development. A pronounced orientation of this SO 1.2 and the expected results on issues related to eco-innovation and sustainable development would increase the potential indirect positive effects on the environments and would also better contribute to the implementation of the EU Eco-innovation Action Plan (Eco-AP).

5.2.2.2 Priority Axis 2: Research, Technological Development and Innovation

For PA 2, a share of 25 % of the available EU funds for INTERREG EUROPE 2014-2020 is allocated (excluding the means dedicated to Technical Assistance), i.e. € 84,441,610.

INVESTMENT PRIORITY 3(D): SUPPORTING THE CAPACITY OF SME'S TO ENGAGE IN GROWTH IN REGIONAL, NATIONAL AND INTERNATIONAL MARKETS, AND IN INNOVATION PROCESSES

Specific Objective 2.1: Improve the implementation of regional development policies and programmes, in particular programmes for Investment for Growth and Jobs and, where relevant, ETC programmes, supporting SMEs in all stages of their life cycle to develop and achieve growth and engage in innovation.

Table 7: Summary table of possible contributions of Specific Objective 2.1

Expected results	Environmental issues								
	Population, Human Health	Flora, Fauna, Biodiversity	Soil	Landscape	Water	Air	Global climate	Cultural heritage	Resource efficiency
1. The main change sought is an improved implementation of regional policies and programmes, in particular programmes for Growth and Jobs and ETC that support the creation, development and growth of small and medium sized enterprises.	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
2. The potential for enterprises to create new or use existing market opportunities begins with the presence of entrepreneurial skills. Regional policies therefore need to actively support entrepreneurship development and capacity building as a building block for business creation and growth.	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
3. It is equally crucial that regional authorities and business support actors respond adequately to the key challenges that obstruct businesses on their path to growth, such as access to finance (e.g. through facilities for start-up capital or guarantees) and knowledge and to international markets. Certain priority target groups of entrepreneurship policies (e.g. young people, migrants or	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Expected results	Environmental issues								
	Population, Human Health	Flora, Fauna, Biodiversity	Soil	Landscape	Water	Air	Global climate	Cultural heritage	Resource efficiency
female entrepreneurs) may also require specific support.									
4. A transparent and dependable business climate is crucial for all economic actors. Regional procedures can be made more business-friendly, e.g. related to public procurement or e-invoicing.	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5. The programme will support exchange of experiences and sharing of practices between actors of regional relevance with the aim to prepare the integration of the lessons learnt in regional policies and actions for SME and entrepreneurship support	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
6. The programme will facilitate policy learning and capitalisation by making relevant practices and results from interregional cooperation and other experiences widely available and usable for regional actors involved in innovation support in G&J, ETC and other programmes.	**0**	**0**	**0**	**0**	**(+)**	**(+)**	**(+)**	**0**	**(+)**
7. This interregional sharing of practices and policy learning will improve capacities (skills, knowledge) of individuals and organisations involved and prepare the implementation of the lessons learnt. This results in a better implementation of G&J or ETC programmes, but also other programmes and policies of regions involved.	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

The contributions of the expected results of SO 2.1 to the environmental objectives are negligible. The SO and its expected results aim to improve the implementation of regional programmes to support SMEs in all stages of their life cycle. The results cover mainly the improvement of crucial framework conditions for SMEs.

Only for one of the seven expected results positive contributions to EU environmental policy and environmental objectives can be stated even if the actual conditions of the realisation are not known finally:

- Under result 6, the 'facilitation of policy learning and capitalisation by making relevant practices and results from interregional cooperation and other experiences widely available and usable for regional actors involved in innovation support' will be supported. If these practices, results and experiences from interregional cooperation cover also innovations and improved processes indirect positive effects might be expected in the long run for the protection of water, air and the global climate as well as for improved resource efficiency. Again, the positive contributions depend on the type of actions which will be supported so the effects cannot be taken as given and the trend has to be put into brackets.

5.2.2.3 Priority Axis 3: Low Carbon Economy

For PA 3, a share of 25 % of the available EU funds for INTERREG EUROPE 2014-2020 is allocated (excluding the means dedicated to Technical Assistance), i.e. € 84,441,610.

INVESTMENT PRIORITY 4(E): PROMOTING LOW-CARBON STRATEGIES FOR ALL TYPES OF TERRITORIES, IN PARTICULAR FOR URBAN AREAS, INCLUDING THE PROMOTION OF SUSTAINABLE MULTI-MODAL URBAN MOBILITY AND MITIGATION RELEVANT ADAPTATION MEASURES.

Specific Objective 3.1: Improve the implementation of regional development policies and programmes, in particular programmes for Investment for Growth and Jobs and, where relevant, ETC programmes, addressing the transition to a low-carbon economy.

Table 8: Summary table of possible contributions of Specific Objective 3.1

Expected results	Environmental issues								
	Population, Human Health	Flora, Fauna, Biodiversity	Soil	Landscape	Water	Air	Global climate	Cultural heritage	Resource efficiency
1. The main change sought is an improved implementation of regional development policies and programmes, in particular the programmes for investment and Growth and Jobs and ETC, in support of the transition to a low-carbon economy.	+	0	0	0	0	+	+	0	+
2. Regional policies and interventions in this field include support actions and investments to increase levels of energy efficiency, including in public buildings and the housing sector. They also aim at raising the share of energy from renewable sources in the overall energy mix, by encouraging and facilitating production and distribution of renewables (*while preventing possible adverse effects on biodiversity, landscape or water*)[50]. Another key field of action is reduction of the emissions of greenhouse gasses by businesses and households from energy consumption, mobility and other sources.	+	(-)	0	(-)	(-)	+	+	0	+
3. Integrated regional low-carbon strategies are needed to identify the most promising areas of action, mobilise stakeholders, facilitate and channel public and private investments and increase the awareness of inhabitants, business and other actors of the need for and opportunities of using low-carbon alternatives. Regional authorities can also facilitate the development of low-carbon innovations and speed up their application through green public procurement, regional pilots and investment schemes.	+	0	0	0	0	+	+	0	+
4. The programme will support exchange of experiences and sharing of practices between actors of regional relevance with the specific aim to prepare the integration of the lessons learnt into regional policies and actions. And the programme will facilitate policy learning and capitalisation by making relevant practices and results from Interregional Cooperation Projects and other experiences widely available and usable for regional policy actors.	+	0	0	0	0	+	+	0	+
5. This interregional sharing of practices and policy learning will improve capacities (skills, knowledge) of individuals and organisations involved and plan the implementation of lessons	+	0	0	0	0	+	+	0	+

[50] Text in italic added as consequence of recommendations provided by the SEA experts (see also chapter 6).

Expected results	Environmental issues								
	Population, Human Health	Flora, Fauna, Biodiversity	Soil	Landscape	Water	Air	Global climate	Cultural heritage	Resource efficiency
learnt. This results a better implementation of (G&J and ETC) programmes and policies for the low-carbon economy.									

For all of the expected results of S 3.1 significant positive indirect effects on the environment and contributions to EU environmental objectives and environmental policy can be stated. Though even for this SO most of the actions to be supported refer to improvement of programming, exchange of experiences and practices, a successful realisation of the proposed results finally will show positive impacts on the environmental issues related to reducing GHG emissions and promoting low-carbon economy. The effects are indirect again, but the entire Specific Objective focus on an environmental issue directly.

Global climate is positively affected as the main addressed environmental issue under this Specific Objective. But the effects on other environmental issues can be considered similar important. The transition to low-carbon economy reduces also the pollution of the air which again mitigates health risks for the population, in particular in urban areas and agglomerations. Less generation of GHG emissions is directly linked to less consumption of fossil primary energy sources. The result is a more efficient use of these resources.

Attention must be paid to expected result 2. Besides supporting energy efficiency also "raising the share of energy from renewable sources in the overall energy mix, by encouraging and facilitating production and distribution of renewables" is part of this result. The generation of energy by particular renewable sources can cause negative impacts on other environmental issues:

- Wind energy plants can negatively affect birds, bats and marine mammals and also "pollute" landscape. [51]
- Biomass plants can cause the further promotion of monoculture of biomass with negative impacts on natural goods as landscape, water, biodiversity in Europe but also in other regions of the World due to possible imports of biomass. Particularly by the transition of grassland into production land for biomass the biodiversity is reduced[52]. The so-called second generation of biomass (straw, sludge, agricultural waste) is put on the agenda regarding the further promotion of biomass plants.
- The construction of hydropower plants can cause negative impacts on water flows and water habitats because of constructions; also fish population might be affected negatively.

It has also be stated that renewable energy of course is supposed to generate indirect positive effects on biodiversity in case of the increase of the global warming can be stopped.

Increasingly conflicts between climate protection aims and protection of natural assets and biodiversity aims can be stated in the last years. Support of energy generation by renewable sources has to take those conflicts into account and find an acceptable balance between the conflicting aims.

It must be stressed again that the effects and contributions of the INTERREG EUROPE Programme are highly indirect and the above described problems will actually appear quite distant on the im-

[51] See also European Commission (2011): Wind energy developments and Natura 2000. Guidance Document
[52] UNEP World Conservation Monitoring Center Website 25.11.2013
EEA (2013): The European grassland butterfly indicator: 1990-2011

pact chain. However, it seems necessary to put those possible effects on the agenda in an early stage of the impact chain.

5.2.2.4 Priority Axis 4: Environment and Resource Efficiency

For PA 4, a share of 25 % of the available EU funds for INTERREG EUROPE 2014-2020 is allocated (excluding the means dedicated to Technical Assistance), i.e. € 84,441,610.

INVESTMENT PRIORITY 6(C): CONSERVING, PROTECTING, PROMOTING AND DEVELOPING NATURAL AND CULTURAL HERITAGE

Specific Objective 4.1: Improve the implementation of regional development policies and programmes, in particular Investment for Growth and Jobs and, where relevant, ETC programmes, in the field of the protection and development of natural and cultural heritage.

Table 9: Summary table of possible contributions of Specific Objective 4.1

Expected results	Environmental issues								
	Population, Human Health	Flora, Fauna, Biodiversity	Soil	Landscape	Water	Air	Global climate	Cultural heritage	Resource efficiency
1. The main change sought is an improved implementation of regional development policies and programmes, in particular for Investment in Growth and Jobs and ETC, dealing with protecting, promoting and developing natural heritage, biodiversity and ecosystems as well as supporting cultural heritage.	**0**	**+**	**+**	**+**	**+**	**0**	**0**	**+**	**0**
2. Regional actors need to protect ecosystems and vulnerable landscapes and prevent biodiversity loss and soil degradation in their territories to prevent (further) degradation of these natural assets. Sustainable management and exploitation of the natural environment can also foster sustainable regional development based on so-called eco-system services (e.g. pollination for agriculture, or natural flood retention areas) and natural quality (e.g. tourism, regional attractiveness). A similar logic applies to the preservation and exploitation of regional cultural heritage.	**0**	**+**	**+**	**+**	**+**	**0**	**0**	**+**	**0**
3. Regional actors in management of natural and cultural heritage must define coordinated, place-based strategies and actions that balance measures of preservation with sustainable exploitation of these assets. This can include improvement of biodiversity protection schemes, sustainable use of NATURA 2000 or other protected areas, increase knowledge and sensitisation of actors.	**0**	**+**	**+**	**+**	**+**	**0**	**0**	**+**	**0**
4. The programme supports exchange of experiences and sharing of practices between actors of regional relevance with the aim to prepare the integration of lessons learnt into regional policies and actions. And the programme will facilitate policy learning and capitalisation by making relevant practices and results from Interregional Cooperation Projects and other	**0**	**+**	**+**	**+**	**+**	**0**	**0**	**+**	**0**

Expected results	Environmental issues								
	Population, Human Health	Flora, Fauna, Biodiversity	Soil	Landscape	Water	Air	Global climate	Cultural heritage	Resource efficiency
experiences widely available and usable for regional policy actors.									
5. This interregional sharing of practices and policy learning will improve capacities (skills, knowledge) of individuals and organisations involved and plan the implementation of lessons learnt. This results a better implementation of (G&J and ETC) programmes and policies for natural and cultural heritage.	**0**	**+**	**+**	**+**	**+**	**0**	**0**	**+**	**0**

For all of the expected results of SO 4.1 significant positive indirect effects on the environment and contributions to EU environmental objectives and environmental policy can be stated. Though even for this Specific Objective most of the actions to be supported refer to improvement of programming, exchange of experiences and practices, a successful realisation of the proposed results finally will show positive impacts on the environmental issues related to natural and cultural heritage. The effects are indirect again, but the entire Specific Objective focus on an environmental issue directly.

The improvement of programme implementation and strategy definition linked with exchange of experiences and policy learning assures that the impacts on the relevant environmental issues flora-fauna-biodiversity, soil, landscape, water and cultural heritage could be realised effectively.

INVESTMENT PRIORITY 6(G): SUPPORTING INDUSTRIAL TRANSITION TOWARDS A RESOURCE-EFFICIENT ECONOMY, PROMOTING GREEN GROWTH, ECO-INNOVATION AND ENVIRONMENTAL PERFORMANCE MANAGEMENT IN THE PUBLIC AND PRIVATE SECTORS.

Specific Objective 4.2: Improve the implementation of regional development policies and programmes, in particular programmes for Investment for Growth and Jobs and, where relevant, ETC programmes, aimed at increasing resource-efficiency, green growth and eco-innovation and environmental performance management.

Table 10: Summary table of possible contributions of Specific Objective 4.2

Expected results	Environmental issues								
	Population, Human Health	Flora, Fauna, Biodiversity	Soil	Landscape	Water	Air	Global climate	Cultural heritage	Resource efficiency
1. The main change sought is an improved implementation of regional development policies and programmes, in particular for Growth and Jobs and ETC, that support the regional transition to a resource efficient economy based on green growth and eco-innovation and improve environmental performance management.	**0**	**0**	**+**	**0**	**+**	**+**	**+**	**0**	**+**
2. Natural resources like metals, minerals, fuels and timber but also water, land and clean air are becoming scarcer. Making use of these	**0**	**(+)**	**+**	**+**	**+**	**+**	**0**	**0**	**+**

Expected results	Environmental issues								
	Population, Human Health	Flora, Fauna, Biodiversity	Soil	Landscape	Water	Air	Global climate	Cultural heritage	Resource efficiency
resources in an efficient and conscious manner is essential to achieve sustainable growth in Europe and also brings major economic opportunities.									
3. Regional actors can capacitate businesses to pursue green growth and eco-innovation to develop new products and services, reduce inputs, minimise waste and improve management of resource stocks. And they can lead in the introduction of new green products and services, for instance by means of green procurement.	**0**	**(+)**	**+**	**+**	**+**	**+**	**0**	**0**	**+**
4. They can also create awareness and provide incentives to businesses and households to provoke change in consumption patterns and reduce waste and emissions of pollutants to air, soil and water. And regional authorities can invest in further improving (the governance of) waste management, water treatment and recycling.	**+**	**0**	**+**	**0**	**+**	**+**	**0**	**0**	**+**
5. The programme will support exchange of experiences and sharing of practices between actors of regional relevance, intended to prepare the integration of the lessons learnt into regional policies and actions. And the programme will facilitate policy learning and capitalisation by making relevant practices and results from Interregional Cooperation Projects and other experiences widely available for regional policy actors.	**+**	**+**	**+**	**+**	**+**	**+**	**0**	**0**	**+**
6. This interregional sharing of practices and policy learning will improve capacities (skills, knowledge) of individuals and organisations involved and prepare the implementation of the lessons learnt, resulting in a better implementation of (G&J and ETC) programmes and policies for resource efficiency, green growth and environmental performance management.	**+**	**+**	**+**	**+**	**+**	**+**	**0**	**0**	**+**

For all of the expected results of SO 4.2 significant positive indirect effects on the environment and contributions to EU environmental objectives and environmental policy can be stated. Though even for this Specific Objective most of the actions to be supported refer to improvement of programming, exchange of experiences and practices, a successful realisation of the proposed results finally will show positive impacts on the environmental issues related to increased resource efficiency, green growth, eco-innovation and environmental performance management. The effects are indirect again, but the entire Specific Objective focus on an environmental issue directly.

The reduction of resource consumption in the private and public sector as well as in households shows impacts on almost all environmental issues as the natural media soil, landscape, water and air. Connected to reduction of pollutions in these areas, human well being and human health is positively affected as well as biodiversity.

5.3 Cumulative and synergetic effects of environmental contributions

The high level of abstraction of this type of programme hampers a detailed, quantitative and spatially differentiated assessment of the potential effects of the INTERREG EUROPE Programme. The assessment thus has been based on the verification how far the strategic approach and the individual specific objectives and their expected highly indirect results contribute to EU environmental objectives and the general EU environmental policy. The assessment of possible cumulative and synergetic effects follows this approach and restriction.

Due to the wide range of potential (indirect) contributions to EU environmental objectives and potential effects on environmental issues (all of the environmental issues are indirectly positive affected by the Programme, some by several expected result, some only by one or two only) and the complexity of interrelations between the individual environmental issues the indirect cumulative effect of the Programme is notable. A successful implementation of the Programme establishes mechanisms and builds capacities with positive influences on realising environmental protection more effectively in the future via improved regional policies and programmes. A more focussed orientation of projects of PAs 1 and 2 and a stricter consideration of interrelations of the different Priority Axes (internal consistency of the Programme) could even strengthen the cumulative effect of the contributions.

By promotion of low-carbon economy as well as environment and resource efficiency the Programme tackles two areas which might generate a number of potential indirect synergetic effects. The mitigation of GHG emissions and the reduction of the consumption of natural resources for energy generation and (industrial) production support also the protection of other environmental media as air, water, soil, biodiversity and landscape. Human health and human well-being is positively influenced by less polluted air, particularly in urban areas, but also by better quality of waters and landscape. It must be highlighted again, that better use of projects under PAs 1 and 2 could be made to increase the positive synergetic effects.

As mentioned above, in some cases the energy generation using renewable sources can show negative effects on other environmental issues if not properly planned (see chapter 5.2.3). These possible negative synergies have to be considered while exchanging respective experiences and practices or while strengthening the implementation of regional programmes in these particular fields.

5.4 Effects on the environment of the Programme as a whole

Concerning the potential effects on the environment and contributions to the EU environmental objectives and general EU environmental policy, the Programme is differentiated into two parts:

- PAs 1 and 2 show little, highly indirect effects and contributions, whereas
- PAs 3 and 4 can realise also indirect effects and contributions but due to their explicit focus on environmental issues more effectively.

The risk of negative effects and contributions is very limited. Only connected to the promotion of specific renewable energy sources potential negative effects have to be considered, e.g. in case of promotion of wind power plants, hydro power plants or biomass power plants.

Summarizing the individual PAs, the assessment shows that all environmental issues can receive positive effects by the Programme, some by several expected results, some by one or two only.

But type of interventions planned is even more important for the effect and contribution of the whole Programme as a whole as and the individual PAs. The improvement of framework conditions for more effective implementation of regional programmes, policy learning and exchange of interregional experiences expands the scope of (positive) effects. Knowledge and capacities generally

open opportunities for an effective consideration and integration of environmental issues in programming and implementation of regional programmes.

Actually it is beyond the influence of the INTERREG EUROPE that integration of environmental issues and orientation on EU environmental objectives will actually be realised in regional policies and programmes and finally by development and investment projects. The Programme can provide for the spreading of good practices and contribute to an increased understanding of the need but also benefits of low-carbon economy, resource efficiency and protection and development of natural and cultural heritage. A survey conducted in 2013 among the members on the impact of the INTERREG EUROPE Programme on the implementation of regional growth and jobs programmes shows that some 44 % of respondents express a likely influence of INTERREG EUROPE and some 39 % are undecided[53]. This influence could be capitalised. A strict consideration of the horizontal principle 'sustainable development' is needed in all phases and in all Priority Axes during the implementation of the INTERREG EUROPE Programme.

The SEA Directive requests also the assessment of certain characteristics of the potential significant effects. Two aspects are the reversibility of the effects and the type of appearance (short-, middle- and long-run). Both characteristics cannot be assessed for the INTRERREG EUROPE Programme because the effects and contributions to EU environmental objectives are indirect. Whether the effects and contributions will be finally realised depends on decisions and influences outside INTERREG EUROPE. The Programme provides mechanisms and information which, as described above, create opportunities to realise positive effects and contributions.

Same counts for the question if certain effects have to be assessed at another level or in the frame of another programme (e.g. regional programmes). This 'tiering' of the assessment is implicit because no direct effects will be realised by the Programme. The closer the programming comes to the end of the impact chain the more crucial and detailed the assessment of the likely significant environmental effects must be.

6 RECOMMENDATIONS

The recommendations stated below result from the assessment of the draft Programme dated 19.11.2013. In the course of the iterative process some the recommendations were discussed and most of them were considered in the revised draft Programme. For a better understanding of the process, the original recommendations remain and the considerations in the revised draft Programme are compiled in table 11 below.

Recommendations:

1. Projects under Priority Axes 1 and 2 should also support the EU environmental policy to decouple resource use from economic growth (see Resource Efficiency Roadmap and Low Carbon Roadmap) and to promote green economy. This complies with the horizontal principle "sustainable development". Project proposals covering these topics could be favoured in the selection procedure.

[53] Information by Joint Secretariat on 04.11.2013

2. Corresponding to recommendation 1, the consideration of the horizontal principle "sustainable development" should be demanded more clearly regarding projects for PAs 1 and 2 in chapter 8.1.

3. The output indicators naming numbers of meetings, events, etc. should be reformulated in order to promote modes of exchange and learning with less travel requirements. Output indicator 4 for PAs 1-4 (No. of policy learning events) could be expanded by the statement that "**... policy learning events could be combined with policy learning events of other priority axes"** and by this to reduce the number of events.

4. The number of visits by the Joint Secretariat (400 by 2022) should not be taken as an indicator. Visits to projects and events are necessary but they should be conducted according to the actual needs and not be forced by fulfilling an indicator. Other modes of exchange should be promoted and applied.

5. In the course of possible actions under result 2 (entrepreneurship development and capacity building) the EU instrument "Eco-Management and Audit Scheme (EMAS)" (http://ec.europa.eu/environment/emas/) should be considered.

6. In the selection process for projects aiming on the promotion of energy generation by renewables the possible effects on biodiversity, landscape and water have to be taken into account. Biomass of the second generation should be promoted.

Table 11: Consideration of recommendations in the final draft Programme

Recommendation based on final draft Programme (19.11.2013)	Consideration in the revised final draft Programme (11.12.2013)
Recommendation 1 Projects under Priority Axes 1 and 2 should also support the EU environmental policy to decouple resource use from economic growth (see Resource Efficiency Roadmap and Low Carbon Roadmap) and to promote green economy. This complies with the horizontal principle "sustainable development". Project proposals covering these topics could be favoured in the selection procedure.	*In the scope of the description of the actions to be supported to the Specific Objectives 1.1, 1.2 and 2.1 it is stated that actions can also have synergies with themes covered by other specific objectives of this Programme.* *(pp. 21, 28, 33)*
Recommendation 2 Corresponding to recommendation 1, the consideration of the horizontal principle "sustainable development" should be demanded more clearly regarding projects for PAs 1 and 2 in chapter 8.1.	*In Chapter 8.1 statements are added prescribing the need that project partners will be asked to report how their projects contribute to sustainable development. The aggregated contributions will be monitored by INTERREG EUROPE.* *(p. 72)*
Recommendation 3 The output indicators naming numbers of meetings, events, etc. should be reformulated in order to promote modes of exchange and learning with less	*Not considered*

travel requirements. Output indicator 4 for PAs 1-4 (No. of policy learning events) could be expanded by the statement that "**... policy learning events could be combined with policy learning events of other priority axes"** and by this to reduce the number of events.	
Recommendation 4 The number of visits by the Joint Secretariat (400 by 2022) should not be taken as an indicator. Visits to projects and events are necessary but they should be conducted according to the actual needs and not be forced by fulfilling an indicator. Other modes of exchange should be promoted and applied.	*In the indicator, the number of visits was reduced to 200 visits by 2022.* *(p. 52)*
Recommendation 5 In the course of possible actions under result 2 (entrepreneurship development and capacity building) the EU instrument "Eco-Management and Audit Scheme (EMAS)" (http://ec.europa.eu/environment/emas/) should be considered.	*In the scope of the description of the actions to be supported to the Specific Objective 2.1 it is stated that synergies exist for instance related to policies supporting SMEs on environmental performance management (EMAS) or resource efficiency issues in SMEs.* *(p. 33)*
Recommendation 6 In the selection process for projects aiming on the promotion of energy generation by renewables the possible effects on biodiversity, landscape and water have to be taken into account. Biomass of the second generation should be promoted.	*In the respective expected result of Specific Objective 3.1 the consideration of possible adverse effects by energy generation by renewables is added.* *(p. 34)*

7 NOTES ON PROBLEMS IN THE COMPILATION OF REQUIRED DATA AND INFORMATION

In the course of the assessment, no problems occurred to find and use accurate data and information.

8 PROPOSED MONITORING MEASURES

The SEA Directive requires that "Member States shall monitor the significant environmental effects of the implementation of the plans and programmes, in order, inter alia, to identify at an early stage unforeseen adverse effects, and to be able to undertake appropriate remedial action."[54]

The highly indirectness of potential environmental effects of the INTERREG EUROPE Programme does not allow the identification of measures to monitor concrete possible impacts on the environment by projects funded by this Programme.

Thus, the monitoring must aim to ensure that no adverse effects to the EU environmental objectives and the EU environmental policy are supported by the Programme, even if the direct impacts will occur in the long run only. It is recommended to orientate on monitoring procedures as recommended by the environmental report for the Interregional Cooperation Programme (INTERREG IVC) 2006-2013 and which are applied in the management of the current programme already:

1. Environmental criteria have to be safeguarded by including in the project application manuals of the INTERREG EUROPE.
2. The consideration of potential environmental (indirect) effects has to be proven in the application for a project. Projects which potentially show effects not compliant with EU environmental objectives can be screened out or amendments can be demanded by the INTERREG EUROPE management. The selection process must be used to avoid contradictions to the EU environmental objectives and the general EU environmental policy.
3. In the progress reports and in the final report of the projects the initiated indirect effects must be described and assessed towards the expected effects stated in the application.
4. As task of the monitoring of the "progress made by projects through collecting and checking project monitoring reports, monitoring outputs, results and financial implementation (…)"[55] by the Joint Secretariat the expected (indirect) effects and contributions and the actually initiated ones as stated in the projects reports have to be compiled and assessed on regular base in order to avoid incompatibility of the Programme's implementation orientation with the EU environmental objectives and general environmental policy.

[54] Article 10 of Directive 2001/42/EC

[55] INTERREG EUROPE 2014-2020 Cooperation Programme final draft, p. 57

9 REFERENCES

Council of Europe (1992): European Convention on the Protection of the Archaeological Heritage (Revised)
http://conventions.coe.int/Treaty/en/Treaties/Html/143.htm

Council of Europe (2000): European Landscape Convention
http://conventions.coe.int/Treaty/en/Treaties/Html/176.htm

DIRECTIVE 2000/60/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 23 October 2000 establishing a framework for Community action in the field of water policy
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2000:327:0001:0072:EN:PDF

DIRECTIVE 2001/42/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2001:197:0030:0037:EN:PDF

DIRECTIVE 2001/81/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 23 October 2001 on national emission ceilings for certain atmospheric pollutants (amended 2006 and 2009)
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2001:309:0022:0030:EN:PDF

DIRECTIVE 2008/56/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive)
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:164:0019:0040:EN:PDF

DIRECTIVE 2009/28/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:140:0016:0062:EN:PDF

DIRECTIVE 2010/31/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 19 May 2010on the energy performance of buildings
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:153:0013:0035:EN:PDF

DIRECTIVE 2012/27/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32012L0027:EN:HTML:NOT

European Commission (2000): Action Plan to Improve Energy Efficiency in the European Community; COM(2000) 247
http://eur-lex.europa.eu/smartapi/cgi/sga_doc?smartapi!celexplus!prod!DocNumber&lg=en&type_doc=COMfinal&an_doc=2000&nu_doc=247

European Commission (2004): Implementation of Directive 2001/42 on the assessment of the effects of certain plans and programmes on the environment
http://ec.europa.eu/environment/eia/pdf/030923_sea_guidance.pdf

European Commission (2005): Thematic Strategy on air pollution; COM(2005) 446
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2005:0446:FIN:EN:PDF

European Commission (2006): Thematic Strategy for soil protection; COM(2006) 231
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2006:0231:FIN:EN:PDF

European Commission (2010): EUROPE 2020 - A strategy for smart, sustainable and inclusive growth; COM(2010) 2020
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:2020:FIN:EN:PDF

European Commission (2011): Wind energy developments and Natura 2000. Guidance Document.
http://ec.europa.eu/environment/nature/natura2000/management/docs/Wind_farms.pdf

European Commission (2011):A Roadmap for moving to a competitive low carbon economy in 2050; COM(2011) 112
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0112:FIN:EN:PDF

European Commission (2011): Our life insurance, our natural capital: An EU biodiversity strategy to 2020 (COM(2011) 24)
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0244:FIN:EN:PDF

European Commission (2011):WHITE PAPER -Roadmap to a Single European Transport Area - Towards a competitive and resource efficient transport system; COM(2011) 144
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0144:FIN:EN:PDF

European Commission 2011: Innovation for a sustainable Future - The Eco-innovation Action Plan (Eco-AP) COM(2011) 899
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0899:FIN:EN:PDF

European Commission 2011: Roadmap to resource efficient Europe COM(2011) 571
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:DKEY=615217:EN:NOT

European Commission (2011): Regulation on specific provisions for the support from the European Regional Development Fund to the European territorial cooperation goal (ETC-Regulation) COM(2011) 611
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0611:FIN:EN:PDF

European Commission (2012): A Blueprint to Safeguard Europe's Water Resources; SWD(2012) 382
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2012:0673:FIN:EN:PDF

European Commission, European Environmental Agency (2012): The State of Soil in Europe
http://ec.europa.eu/dgs/jrc/downloads/jrc_reference_report_2012_02_soil.pdf

European Commission (2012): Report on The implementation of the Soil Thematic Strategy and ongoing activities; COM(2012) 46
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2012:0046:FIN:EN:PDF

European Commission (2013): Guidance on Integrating Climate Change and Biodiversity into Strategic Environmental Assessment
http://ec.europa.eu/environment/eia/pdf/SEA%20Guidance.pdf

European Commission (2013): Guidance document on ex-ante evaluation
http://ec.europa.eu/regional_policy/sources/docoffic/2014/working/ex_ante_en.pdf

European Commission (2013): Programme for the Environment and Climate Action (LIFE Programme) for the period 2014 - 2020 (PE-COS 70/13, 16103/13 ADD1)

European Commission (2013): An EU Strategy on adaptation to climate change COM(2013) 216
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2013:0216:FIN:EN:PDF

European Commission (2013): Cultural Heritage; Website 17.Nov 2013
http://ec.europa.eu/culture/our-policy-development/cultural-heritage_en.htm

European Community (2007): TREATY OF LISBON AMENDING THE TREATY ON EUROPEAN UNION AND THE TREATY ESTABLISHING THE EUROPEAN COMMUNITY (2007/C 306/01)
http://eur-lex.europa.eu/JOHtml.do?uri=OJ:C:2007:306:SOM:EN:HTML

European Environment Agency (2010): The European environment – state and outlook 2010: Synthesis ; Report No 1/2010
http://www.eea.europa.eu/soer/synthesis/synthesis/at_download/file

European Environment Agency (2012): Soil - SOER 2010 thematic assessment
http://www.eea.europa.eu/soer/europe/soil/at_download/file

European Environment Agency 2012: European waters - assessment of status and pressures; Report No 8/2012
http://www.eea.europa.eu/publications/european-waters-assessment-2012/at_download/file

European Environment Agency Website 19.11.2013
http://www.eea.europa.eu/themes

European Environment Agency (2013): Towards a green economy in Europe - EU environmental policy targets and objectives 2010-2050; Report No 8/2013
http://www.eea.europa.eu/publications/towards-a-green-economy-in-europe/at_download/file

European Environment Agency (2013): Air quality in Europe - 2013 report; Report No 9/2013
http://www.eea.europa.eu/publications/air-quality-in-europe-2013/at_download/file

European Environment Agency (2013): Trends and projections in Europe 2013 - Tracking progress towards Europe's climate and energy targets until 2020; Report No 10/2013
http://www.eea.europa.eu/publications/trends-and-projections-2013/full-report-ghg-trends-and-1

European Environment Agency (2013): The European grassland butterfly indicator: 1990-2011; Report No. 11/2013
http://www.eea.europa.eu/publications/the-european-grassland-butterfly-indicator-19902011/at_download/file

European Union (2007): The Lisbon Treaty
http://europa.eu/lisbon_treaty/index_en.htm

European Union (2011): EU Resource Efficiency Perspectives in a Global Context
http://ec.europa.eu/environment/enveco/studies_modelling/pdf/res_efficiency_perspectives.pdf

Osterburg B., Laggner B., Nitsch H., Roggendorf W. and Röder N. (2011): Analysis of grassland conversion into arable land in Northwest Germany; In: Grassland Science in Europe, Vol. 16, p. 350-2
http://www.egf2011.at/files/pubs/350_osterburg.pdf

UNEP World Conservation Monitoring Center (2009): The impacts of biofuel production on biodiversity: A review of the current literature; Website 25.11.2013
http://www.unep-wcmc.org/the-impacts-of-biofuel-production-on-biodiversity-a-review-of-the-current-literature_641.html

Umweltbundesamt (2009): Leitfaden zur Strategischen Umweltprüfung
http://www.umweltbundesamt.de/sites/default/files/medien/publikation/long/3746.pdf

Annex 1

2014-2020 Interregional Cooperation Programme
under the European Territorial Cooperation Objective

(INTERREG EUROPE)

Strategic Environmental Assessment
Scoping Report

On 5th November 2013, the scoping note was sent to the National Contact Points of INTERREG EUROPE in order to forward it to the national authorities with environmental responsibilities. The deadline for the scoping consultation was the 19th November 2013. Due to the short period and other obligations of the authorities some comments were submitted after the deadline.

In total, twelve (12) responses were received by the INTERREG EUROPE members. Overwhelmingly the authorities had no objections regarding the drafted scoping note. Few suggestions were made regarding further strategies to include as well as the consideration of NATRURA 2000 aspects in the assessment.

In the table below all received comments are listed and remarks to their consideration:

No.	Institution/State	Comment	Remarks
1.	Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft AUSTRIA	No objections and suggestions on the scoping proposal.	n.a.
2.	Ministry of Environment and Water BULGARIA	No objections and suggestions on the scoping proposal.	n.a.
3.	Department of Environmental Impact Assessment, Unit of SEA Ministry of Environment CZECH REPUBLIC	No special proposal improving the scoping note. But of course, if it is assumed that programme can have significant effects also on territory of the Czech rep. we require to assess impact to all relevant environmental issues as indicated in the Tab. 1 (page 11 – 17) incl. potential impact on the Natura 2000 network stated in the Czech rep.	The impact on all relevant environmental issues will be assessed in the frame given by the Programme's approach. An assessment of particular country-specific assessment of Natura 2000 networks is beyond the possibility in the frame of the SEA at this programming level.
4.	Department of Environmental Preservation; Ministry of Rural Development	No need of modification of the Scoping note	n.a.

	HUNGARY		
5.	Ministry of Environment ITALY	We agree that because of the limited content of the scoping document, it is very difficult to proceed with a robust environmental evaluation. It is desirable that the next phase of consultation on the draft plan and the environmental report will be wide enough to permit an effective contribution. We would give evidence, in table 1 (pag.16), of the lack of indicators for the Environmental Issues: "Material Assets, Cultural Heritage including Architectural and Archaeological Heritage". In the absence of indicators is very difficult to assess possible impacts on this component.	The limited content of the scoping note is caused by the character of the INTERREG EUROPE Programme which is located at a high strategic level and doesn't provide details of the in future supported measures. The hint on a longer consultation period for the draft OP and environmental report is taken into account. Indeed, it is difficult to assess possible impacts on "Material Assets, Cultural Heritage including Architectural and Archaeological Heritage" if no indicators are provided. So far, no indicators are defined at EU level. Possible national indicators can not be taken as reference because this would create an imbalanced picture of the present situation in the EU.
6.	Environment State Bureau LATVIA	To pay attention to the potential effect of the Programme on Europe's nature conservation (*Natura 2000)* territories, describing it in Section 3 "Characteristics of the environment, status of the environment in case of non-implementation of the programme and existing environmental problems" and in Section 4 "Expected significant impacts on the environment"	The effects of the Programme on Natura 2000 will be considered in the finalisation of Environmental report.
7.	Ministére du Développement Durable et des Infrastructures, Départment de l'aménagement du territoire LUXEMBOURG	Scoping document looks fine in general: it would be good if a reference to the European Landscape Convention could be included in the respective part of the document.	The European Landscape Convention will be included.
8.	Management Efficiency Unit - SEA Focal Point MALTA	No specific comments except to suggest that the SEA process could also take into account the territorial environmental differences within the EU, e.g. peripheral regions and islands.	Spatial details of the programme implementation are not known yet; same holds for the concrete topics to be tackled by individual measures. Territorial aspects will be considered insofar as territorial differences in the achievement of environmental objectives exist across the member states.
9.	NCP Interreg IVC NORWAY	Proposed approach, methodology and conclusions as a main rule seem reasonable.	n.a.
10.	Ministry of Infrastructure and Development	No comments on the scoping note.	n.a.

	POLAND		
11.	Ministry of Environment SLOVAK REPUBLIC	Table 1: Environmental issues, environmental protection objectives and related indicators (section Environmental Issues: Water) should be updated. The document "A Blueprint to Safeguard Europe's Water Resources, COM(2012)673 final" should be quoted in this section. Simultaneously, the competent Slovak environmental authority requests that during the process of consultation of the Environmental Report the „Non-technical summary" containing sufficient information on the assessment of the impact of the strategic document on the programme area should be submitted as well.	The document "A Blueprint to Safeguard Europe's Water Resources, COM(2012)673 final" will be included in the environmental report. The Non-technical Summary is an integral part of the environmental report and will be submitted as part of the report for the consultation. It is mentioned in the scoping note in chapter 4, proposed structure of the environmental report.
12.	Ministry of Agriculture and the Environment SLOVENIA	Document seems appropriate and no comments on it.	n.a.

Frankfurt, 05 December 2013