COHESION POLICY AND SUSTAINABLE DEVELOPMENT

Supporting Paper 5

Tools for Sustainable Development

Institute for European Environmental Policy (IEEP)

Together with

CEE Bankwatch Network

BIO Intelligence Service S.A.S. (BIO)

GHK

Institute for Ecological Economy Research (IÖW)

Matrix Insight

Netherlands Environmental Assessment Agency (PBL)

FEBRUARY 2011

Table of Contents

1 INTRODUCTION

This is the Supporting Paper 5 to the final report[1] of the project 'Cohesion Policy and Sustainable Development' (contract number: 2009.CE.16.0.AT.069 and 2009.CE.16.C.AT.035). It has been drafted by the Institute for European Environmental Policy (IEEP) with CEE Bankwatch Network (hereafter Bankwatch), BIO Intelligence Service S.A.S, GHK, Institute for Ecological Economy Research (IÖW), Netherlands Environmental Assessment Agency (PBL) and Matrix Insight.

Hjerp, P., Medarova-Bergstrom, K, Skinner, I., Mazza, L. and ten Brink, P. (2011) *Cohesion Policy and Sustainable Development-Policy Instruments*, Supporting Paper 5. A report for DG Regio, February 2011.

This paper provides a review of available tools related to Cohesion Policy to deliver sustainable development in the framework of Cohesion Policy regulations. In the context of this task, the term 'tools' is interpreted broadly in order to ensure that as wide a range of potential tools and processes as possible is considered that could be used to integrate the environmental considerations of sustainable development into Cohesion Policy. In this respect, it is important to consider both strategic and procedural instruments, as well as proofing tools such as those focusing on climate and biodiversity. Hence, we cover regulatory instruments established in the EU *acquis* and those embedded in the current EU funds Regulations, such as Strategic Environmental Assessment (SEA). Additionally, we will cover the application of the polluter pays principle, cost-benefit analysis and spatial planning approaches. Furthermore, we will look at different institutional mechanisms delivering integration, eg monitoring committees, environmental networks, etc, governance mechanisms. The overarching questions of the Task would be to explore whether, how and under what circumstances these tools can ensure sustainability in terms of the four environmental themes and in view of the different governance setting that Cohesion Policy operates across Member States/regions.

The focus of this paper is to review existing tools that are part of Cohesion Policy and identify what changes, if any, should be made to these tools and the types of investment included or excluded in Operational Programmes to better support environmental sustainability. However, Supporting Paper 5 is inherently linked to Supporting Paper 3, which reviews policy instruments outside of Cohesion Policy to identify how these might work outside of or with Cohesion Policy to deliver environmental sustainability and green growth. Supporting Paper 5 will complement Supporting Paper 3 in this respect by exploring how existing policy instruments and integration/proofing tools can mitigate adverse environmental impacts of Cohesion Policy, deliver integrated solutions and foster policy coherence and coordination across different governance levels and policy networks. Supporting Paper 5 will assess the use of the policy instruments short-listed in Supporting Paper 3 to identify whether and, if so how, these policy instruments might be used as conditional or complementary instruments within Cohesion Policy. The case studies also naturally feeds into Supporting Paper 5 by providing the evidence base for how existing tools, either those embedded in current EU legislation or developed by Member States or

[1] Hjerp, P., Medarova-Bergstrom, K., Cachia, F., Evers, D., Grubbe, M., Hausemer, P., Kalinka, P., Kettunen, M., Medhurst, J., Peterlongo, G., Skinner, I. and ten Brink, P., (2011) *Cohesion Policy and Sustainable Development*, A report for DG Regio, October 2011

regions, deliver environmental integration during the different policy stages of the current 2007-2013 Cohesion Policy funds programmes.

This paper will be organised in five sub-tasks, each of which is addressed in more detail in the sections that follow:

- **Review of environmental integration tools required under Cohesion Policy**. This sub-task will develop further the literature review of Supporting Paper 1 for each stage of the Cohesion Policy cycle based on EU legislation, EU Funds Regulations 2007-2013 and studies linked to these. It will set out where in the Cohesion Policy cycle environmental integration could occur and what the existing requirements are in this respect.
- **Innovative instruments identified in the case studies.** Existing tools and mechanisms used by Member States were identified by the case studies. These will be assessed and incorporated into the framework on how instruments used in different stages of the Cohesion Policy cycle can be improved.
- **Analysis of the potential to use short-listed instruments as conditional or complementary instruments.** This sub-task will analyse the potential to use the **conditional or complementary** instruments, which are non-investment policy instruments that were short-listed in Supporting Paper 3 as **conditional or complementary** instruments within the Cohesion Policy process.
- **Review of possible changes in Cohesion Policy activity to improve integration of Sustainable Development in Cohesion Policy.** This sub-task assesses changes to the type of investments to be funded under Cohesion Policy based on the findings in Steps 1, 3 and 4 of Supporting Paper 3.
- **Synthesis and analysis of the potential to achieve environmental sustainability in Cohesion Policy.** This sub-task will provide a synthesis of the findings from above, drawing on the review of instruments outside Cohesion Policy and the case studies, in order to provide an evidence base for the effectiveness of the different integration tools and alternative instruments to deliver sustainable development at each stage of the Cohesion Policy cycle. It will also analyse whether there are additional tools, which are not yet applied at a particular stage of the cycle, which could be used to ensure the environmental sustainability of Cohesion Policy interventions.

2 REVIEW OF ENVIRONMENTAL INTEGRATION TOOLS REQUIRED UNDER COHESION POLICY

2.1 General approach to examining instruments for environmental integration

In this paper we have categorised the set of instruments which facilitate the integration of environmental objectives and concerns into the decision-making process of Cohesion Policy. The current categorisation will be used to frame the review and analysis of the different tools for environmental integration as requested in the Terms of Reference.

According to the adopted approach, there are three broad categories that integration can be captured by: strategic, procedural and organisational. **Strategic instruments** refer to tools which accommodate the *inclusion* of environmental objectives into Cohesion Policy regulatory framework and programmes, ensure the *consistency* with other overarching Strategies and policies, ensure appropriate *weighing* of environmental objective against economic and social ones and the allocation of adequate *financial resources* for environmental integration. These instruments often communicate visions, objectives, strategies and the accumulation of knowledge that are supposed to frame reform efforts towards environmental integration, while leaving it to individual Member States to develop concrete pathways to operationalize them. Although these approaches could appear somewhat soft as they do not require explicit changes in existing routines, practices or structures, they are still important as they present an opportunity to coordinate other integration tools and communicate high level political commitment.[2]

Procedural instruments are the second category, which involves a set of assessment procedures, proofing tools and monitoring and reporting systems. Essentially, these instruments have the potential to strengthen common procedures, routines and practices in policy-making and according to some have the highest potential for policy innovation in terms of environmental integration.[3] On the other hand, however, these are often facing the biggest political resistance and bear relatively high administrative costs. Therefore, their formalisation and institutionalisation in the policy-making process will be insufficient unless capacities and knowledge are harnessed towards ensuring their effective application in practice.

The last category – **organisational instruments** – refers to wider governance changes which involve changes in institutional structures, enforcement of the partnership principle and consultations. The potential of these instruments lies in the opportunity for strengthening the position of environmental actors, give spur to collaborative networks and engage with new environmentally driven stakeholders.

The three types of instruments are not mutually exclusive. They should be seen as complementary and reinforcing each other. Therefore, a comprehensive strategy for environmental integration in Cohesion Policy would require a mix of the different types of instruments and a particular effort into implementing them in practice. Table 1 presents the three broad categories and corresponding set of integration instruments that are relevant to Cohesion Policy.

---

2 Jacob, K., Volkery, A. and Lenschow, A. 2008. Instruments for environmental policy integration in 30 OECD countries. In: Innovation in environmental policy? Integrating the environment for sustainability.

3 Ibid.

Table 1: Categorisation of instruments for environmental

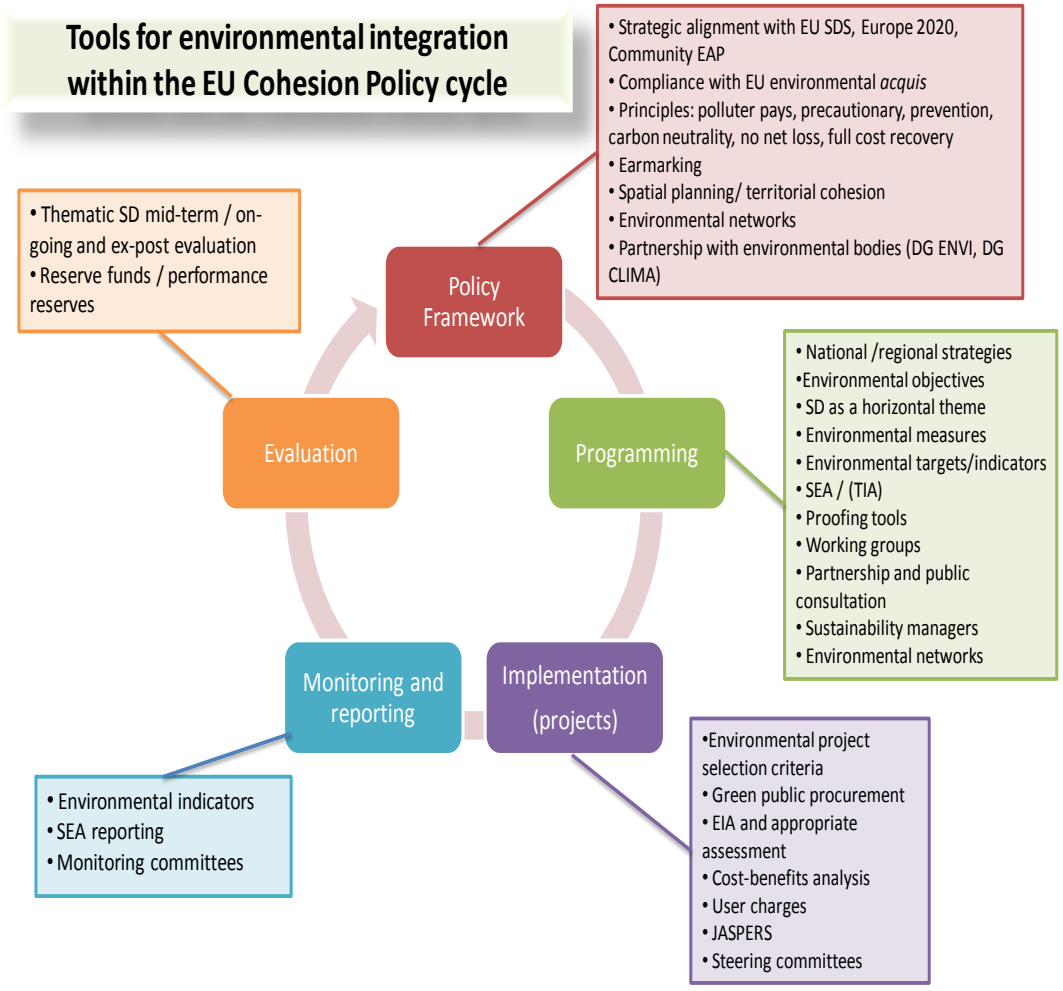
Category of integration instruments	**Criterion**	**Instrument**
Strategic	Inclusion	Environmental objectives and measures SD as horizontal principle Pollution pays and prevention principles Conditionality Spatial planning / Territorial cohesion
	Consistency	Alignment with EU SDS Alignment with Lisbon Strategy (environmental investments as economic driver) National/regional SD strategies Carbon neutrality Compliance with environmental acquis
	Weighting	Project selection criteria
	Financial resources	Earmarking Dedicated investments
Procedural	Assessments	Strategic Environmental Assessment (SEA) Environmental Impact Assessment (EIA) Territorial Impact Assessment (TIA) Appropriate assessment Cost-benefit analysis
	Reporting and evaluation	Environmental indicators Thematic SD evaluation Reserve fund (linked to environmental performance)
	Proofing tools	NECATER
Organisational	Institutional Structures	Sustainability managers Working groups Monitoring committees Steering groups
	Partnerships (Article 11)	Environmental authorities Environmental networks
	Consultation	Public participation

EU Cohesion Policy Cycle

EU Cohesion Policy operates in a complex policy sub-system which can be viewed as a policy cycle (see

Figure 1), where entry points for environmental integration exist at every stage. If environmental integration is to be pursued as a way to ensure that EU funds deliver sustainable development, appropriate integration tools need to be applied and enforced during each stage of the programme/project cycle. Therefore, below we will map the available tools in the 2007-2013 framework and the emerging novel instruments based on the case studies along the policy cycle of Cohesion Policy in order to identify gaps and opportunities where environmental integrations efforts could potentially be strengthened.

Figure 1. EU Cohesion policy cycle and examples of integration instruments



This complex policy cycle does also occur in a multi-level governance system where each level has its role in defining, delivering, monitoring and evaluating environmental sustainability. The roles and responsibilities of each level are usually explicitly defined. For example, the general policy framework of Cohesion Policy is developed, negotiated and agreed at EU level, which shows the importance of the Community level of governance which will determine to a large extent the programming, implementation and monitoring at national and regional levels. The Instruments and their level of governance is shown in Table 1.

Often there is a strong vertical interplay between the different levels and the boundaries of integration are not so straightforward and are generally difficult to be attributed to a sole level of governance. In many cases, one instrument could be deployed at more than one level of governance – this is particularly the case of organisational instruments which underpin the governance system that cuts across the different governance levels.

Still, it is important to emphasise that each level has a role in delivering environmental integration. Also, it is interesting to note that often environmental integration and policy innovations could be the product of informal processes such as the negotiations between the European Commission and Member States over the content of the Operational Programmes or the personal capacity and commitment of a single desk officer.

Table 1 A range of integration tools at the different levels of governance

Level of governance	**Instrument**
EU	Alignment with Lisbon Strategy, EU SDS and 6EAP
EU	Earmarking
EU	Thematic SD ex-post evaluation
EU	Performance reserve
EU	Territorial cohesion
EU, national and regional	Environmental objectives
EU, national and regional	Principles: Polluter pays, carbon neutrality, etc.
EU, national and regional	Compliance with EU *acquis*
EU, national and regional	Partnership with environmental authorities and organisations
EU, national and regional	Consultation and public participation
EU, national and regional	Environmental networks
EU, national and regional	Environmental indicators and monitoring/reporting (including SEA reporting)
EU, national and regional	Climate, biodiversity and resource efficiency tools
National and regional	Sustainability managers
National and regional	Monitoring committees
National and regional	SEA, EIA and appropriate assessment
National and regional	National/regional SD strategies
National and regional	Spatial planning
National and regional	Environmental criteria (conditionality)
National and regional	Cost-benefits analysis

Each of these instruments have been introduced either in the Regulations governing the management of the EU funds, in the Community Strategic Guidelines or negotiated during the negotiations between the Commission and Member States preceding the approval of the Operational Programmes. All these delivery mechanisms have achieved different degree of effectiveness in terms of the determined output in the Operational Programmes and approved projects and therefore could be used differently to promote future integration actions. Some tools, which were developed in a bottom up manner and were effective in the context of a specific region/Member States should be explored carefully in terms of their effectiveness and their potential for replicating them in other regions/Member States.

The application and enforcement of the different integration tools at each stage of the policy cycle is also crucial to ensure that what has been programmed and set out in the regulatory framework, will be operationalized in practice during the implementation and can be taken forward in terms of monitoring and evaluation. Very often many of these tools could be challenged in their interpretation at the different levels of governance and the way they will be put into practice due to different administrative cultures, political commitment and capacity across different territories and governance levels. The different delivery mechanisms for instruments are shown in Table 2.

Table 2 Different mechanisms to introduce, promote and apply the different integration tools (governance process)

Delivery mechanisms	***Instruments***
Treaty	Sets out principles and objectives
EU Funds Regulations	Arrange the alignment with EU SDS, sets out objectives and provisions for earmarking, compliance with EU environmental *acquis*, SEA and EIA, etc.
Common Strategic Guidelines	Operationalizes strategic principles, conditionality, organizational instruments in view of the Europe 2020 Strategy
Development and investment partnership contract	Ensures commonly agreed between the EC and MS a set of objectives and obligatory measures as well as conditionality and targets
Guidance documents	Provide clarity and detailed guidelines for the operationalisation and application of instruments
Inter-service consultations	Ensures the participation of environmental actors into the policy process
Formal negotiations with MS	Ensures that OPs are in line with EU priorities and strategic frameworks, which in the case of new MS could include the enhancements of various environmental instruments
Informal working groups/networks	Ensures partnership and public participation, exchange of good practices and innovative ideas
NSFR	Sets out the strategic orientations of National planning documents in view of Community strategies and action programmes (EU SDS and 6EAP)
OPs and major projects	Set out the operational objectives and measures including environmental ones
Public consultations	Ensures public participation in decision-making of interested stakeholders and awareness raising of the general public
Call for tenders/application forms	Set out a template for project application which could establish environmental conditionality/criteria
Technical assistance	Provides assistance with environmental aspects of project proposals and complex technical requirements of different integration instruments (cost-benefits analysis, EIA, etc.)

Innovative financial engineering	Provides an alternative of direct grants and ensures additional financing mechanisms for environmental measures
Capacity building, consultations to beneficiaries	Enhances awareness, knowledge, ideas, skills and capacity to prepare and manage environmental projects and apply environmental integration instruments
Strategic report	Applies environmental indicators to report on impacts and results
Annual progress reports	Applies environmental indicators to report on progress and trends
Evaluation	Analyses drivers and impacts for SD, challenges and success factors and serve the basis for reform of the future policy framework

The next two sections of this report focus on examining the range of integration instruments used in Cohesion Policy. The first section (Section 2.2) reviews the evolution of integration instruments in the past programming periods whereas the second one (Section 2.3) explores what instruments are captured and how they have been applied in the 2007-2013 programming period.

2.2 Evolution of tools and instruments for integration in Regional and Cohesion Policy

A series of reforms in the EU Regional Policy were undertaken to facilitate the integration of environmental objectives. In the period 1988-1993, Structural Funds were used primarily to provide dedicated funding to environmental measures and a number of guiding documents were issued by the Commission with regards to **assessing the environmental impact of investment programmes**. At that time, the environment did not constitute a priority area for the Funds and only a few national/regional programmes referred to the environment as a development objective.[4]

The 1993 revision of the EU Funds Regulations introduced sustainable development as a compulsory component of the development strategies of Member States. They also required that what at that time were 'Community support frameworks' should include an **appraisal of the environmental situation and environmental impact** of the plans and respective measures as well as information regarding the involvement of environmental authorities in the planning and implementation process. The revised Regulations were also supported by notes and guidance prepared by the Commission urging Member States to take the environment into account in the development and implementation of EU Funds programmes. At that time, the Commission undertook a more 'indirect steering role' relying on active initiatives by Member States. This did not prove to be very effective approach and soon the Commissioner for Environment at that time, Margot Wallström, warned that EU funding could be withhold in case of breaches of EU environmental *acquis*.

Since 2000 Structural Funds programmes have been subject to a more systematic and comprehensive framework for integrating environmental considerations into all aspects of

[4] Ferry, M. Mendez, C. and Bachtler, J. 2008. From environmental sustainability to sustainable development? Making concepts tabgible in Structural Funds programmes. IQ-Net Thematic Paper N22/2. European Policies Research Centre.

programme development and implementation. Environmental sustainability were set out as **'horizontal themes'** and **environmental authorities** were encouraged to actively participate in the full policy cycle of regional programmes[5]. The Regulations introduced the **partnership principle, strengthened monitoring and evaluation requirements** as well as information and publicity. Further guidance was published in the form of Commission working papers and technical documents, the most important of all to be the handbook on **Strategic Environmental Assessment** for EU funds programmes. This type of 'procedural guidance' is considered to have played a crucial role for enhancing environmental integration[6].

Although the new regulatory frameworks introduced a number of novel instruments for integration, their effectiveness varied considerably across Member States. The existence of **national or regional sustainable development strategies**, for instance, appeared to be a critical factor for the success of environmental integration and the contribution of Structural Funds to sustainable development.[7] Furthermore, the **existence of national environmental policies and strategies** which have framed the programming of the Funds and guided the spending, was a pre-requisite for effective spending patterns. Moreover, these policies and strategies often improved coherence and coordination among the different funds for the different measures. For instance, the Austrian national policy sets out strong goals for renewable energy which are considered to have provided an effective platform for effective spending from EU Structural Funds.[8]

Other tools considered successful in integrating sustainability considerations during the 2000-2006 period include the development of booklets, manuals and checklists especially in relation to **project generation, appraisal and selection**; these were often aided by **specialised assistance** from the administration, appointing **Sustainable Development specialists** (cross-cutting issues managers), applying special **project selection techniques** where sustainable development and environmental considerations were given special treatment or more weight in the scoring system.[9]

While some innovative instruments have been developed and successfully applied, there were a number of **factors which one way or another hindered environmental integration**. Some of the most common factors are considered to be the unfamiliarity with the concept of sustainable development and how it could be operationalized in practice. Therefore, one of the critical points often highlighted in external ex-post evaluations is that there was too much focus on the environmental pillar, and not so much on integrated approaches reflecting the three-dimensional nature of sustainable development. This is known to be largely due to the lack of clear definition and understanding of what sustainable development actually implies.[10]

---

5 Wilkinson. 2007

6 Lenschow 2002

7 GHK, PSI, IEEP, CE (2003) The thematic evaluation of the contribution of the structural funds to sustainable development, DG Regio, European Commission, Brussels.

8 EEA. 2009. Analysis of environmental aspects of the EU Cohesion Policy in selected countries. EEA technical report 10/2009.

9 EPRC, METIS and University of Strathclyde Glasgow. 2009. Ex-post evaluation of Cohesion Policy programmes 2000-2006 co-financed by the ERDF (Objective 1 and 2), Work package 11: management and implementation systems for Cohesion Policy, DG Regio

10 Ferry, M. Mendez, C. and Bachtler, J. 2008. From environmental sustainability to sustainable development? Making concepts tangible in Structural Funds programmes. IQ-Net Thematic Paper N22/2. European Policies Research Centre

Furthermore, it has been pinpointed that environmental actors often **lacked capacity** to engage in the preparation of programmes and participate in Monitoring Committees. Also, even if their participation took place, it was often perceived that the actual decision-making remained largely among the economic actors. Taking sustainable development into consideration during project selection was sometimes obstructed due to difficulties to **translate and enforce a horizontal theme into the project scoring systems**.[11] This meant that policy innovations in the regulatory framework were important but could often be insufficient to deliver the desired outcome for sustainable development if not properly enforced in the implementation systems.

During this period, little use was made of gearing the **monitoring and reporting systems** to measure results and outcomes for sustainable development with the exception of a few front-running Member States. The use of indicators has been often limited to measuring progress towards sustainability by focusing primarily on economic measurements. Even if there were environmental and social indicators set out, they were usually treated separately and not in an integrated manner. Rarely any alternatives or trade offs were quantified or reported.[12]

The use of **green public procurement** (GPP) has been also fairly limited during 2000-2006 period, although EU funds programmes offer a substantive opportunity in this respect. An important action in the future should be the development of guidelines for the application of GPP in Structural and Cohesion Funds, which should demonstrate good practices among Member States and promote GPP as a priority in Operational Programmes.[13]

There is a variety of communicative, organisational and procedural instruments which have been evolving over the years to deliver sustainable development and to ensure environmental integration in EU Structural and Cohesion Funds programmes. The 2007-2013 policy framework embedded many of these in the Regulations governing the current Cohesion Policy. In a way, these are **compulsory instruments** which Member States and regions are obliged to apply, e.g. SEA, EIA, monitoring committees, etc. Meanwhile, policy innovations with regard to integration SD and the environment into EU funds programmes and projects could be found across regions and countries adding **voluntary bottom up initiatives** to the wider set of instruments available to Cohesion Policy. Their effectiveness and potential to be replicated in other countries and regions, however, need to be further examined.

The next chapter of the report provides a more in-depth review of available tools and instruments for environmental integration in the current 2007-2013 programming period. As we are only mid-way in the policy cycle, it is relatively early to evaluate in a robust way the effectiveness of these instruments. However, where research and external evaluation has been carried out, we will provide some insights from early experience in applying these instruments.

---

11 GHK, PSI, IEEP, CE (2003) The thematic evaluation of the contribution of the structural funds to sustainable development, DG Regio, European Commission, Brussels.

12 EPRC, METIS and University of Strathclyde Glasgow. 2009. Ex-post evaluation of Cohesion Policy programmes 2000-2006 co-financed by the ERDF (Objective 1 and 2), Work package 11: management and implementation systems for Cohesion Policy, DG Regio

13 EEA. 2009. Analysis of environmental aspects of the EU Cohesion Policy in selected countries. EEA technical report 10/2009.

2.3 Overview of available environmental integration instruments (2007-2013)

The following review of available integration instruments is based on analysis of the Cohesion Policy framework governing the 2007-2013 EU funds programmes and projects. It is based on analysis of the Community Strategic Guidelines, the Regulations governing the different funding instrument under Cohesion Policy and the relevant implementing rules. It also looks into external research and evaluations, which took stock of some early experiences with the application of these instruments in the current Cohesion Policy programmes and projects.

2.3.1 Strategic instruments

Setting out environmental objectives

Given that EU Cohesion Policy pursues objectives for economic and social cohesion, the framing of environmental investments as a source of 'win-win' opportunities becomes crucial. The 2007-2013 Community Strategic Guidelines call for strengthening the synergies between environmental protection and growth establishing the relationship between environmental investments and ensuring long-term sustainability of economic growth, decreasing external environmental costs to the economy (e.g. health costs, clean-up costs or damage recovery) and stimulating innovation and job creation.[14] In this sense, it has been recommended that particular priority in funding allocation should be given to the provision of environmental services and the protection from environmental risks (for example, desertification, droughts, fires and floods). Special attention is also paid to giving priority to the development of cleaner and more efficient energy systems. Importantly, the principle of tackling pollution at its source and respecting the hierarchy of waste is highlighted with respect to investments in waste projects in order to ensure optimal economic co-benefits and job creation potential.

As a result, significant share of the 2007-2013 Cohesion Policy funding has been allocated to measures aimed to improve the quality of the environment.[15] Much of these investments, however, are being planned more in view of obligations linked to the implementation of the so called 'heavy' Directives (for example, water and waste management) rather than in view of the benefits they offer to economic and social domains. Therefore, less funding was allocated by Member States to energy efficiency and renewable energy (€9 billion) despite the call in the Community Strategic Guidelines for moving away from traditional energy sources. Risk prevention also scores relatively low with approximately €6 billion.

Sustainable Development as horizontal principle

The General Regulation 1083/2006/EC sets out in Article 2 of the Preamble that Cohesion Policy should contribute to 'increasing growth, competitiveness by incorporating the Community's priorities for sustainable development … as defined at the Goteborg European Council of 15 and 16 June 2001.' Article 17 further stipulates that 'the objectives of the Fund shall be pursued in the framework of sustainable development and the Community promotion of the goal of protecting and improving the environment as set out in Article 6 of the Treaty.'

---

[14] European Commission. 2006. Community Strategic Guidelines on Cohesion. http://ec.europa.eu/regional_policy/sources/docoffic/2007/osc/l_29120061021en00110032.pdf

[15] Commission of the European Communities, http://ec.europa.eu/regional_policy/sources/docoffic/official/communic/negociation/com_2008_301_en.pdf

This means that sustainable development and environmental protection should be integrated as cross-cutting horizontal principles in national and regional EU funds programmes and projects.

Understanding and applying sustainable development as a horizontal principle during the 2007-2013 programming period faces many challenges both at programming and implementation levels. Research has showed that in some cases the early involvement of sustainable development experts or organisations has led to improving the understanding of the sustainable development agenda early in the planning process. This resulted in a shift towards a more integrated approach to taking sustainable development into planning.[16] Nevertheless, many programmes still interpreted sustainable development by its environmental dimension echoing the findings of past evaluations of previous programming cycles. This meant that these aspects of EU Funds programmes were delegated to environmental authorities instead of addressing them in an integrated manner.

Earmarking

Earmarking is an instrument used to deploy public finance to specific objectives, expenditure or projects. In other words, it is a way to harness public expenditure for specific political priorities. According to article 9 of the General Regulation 1083/2006/EC, the Commission and Member State shall ensure that 60% of the expenditure in Convergence regions and 75% of the expenditure in regional competitiveness and employment regions are 'earmarked' for projects which are in line with the objectives of the EU Lisbon Strategy for growth and jobs. In this aspect, Annex IV of General Regulation lists categories of expenditure, which have the potential to contribute to these objectives.

There are divergent opinions about the effectiveness of the earmarking approach. However, it has been argued that earmarking was rather successful in targeting Community funding in support of EU strategic objectives.[17] For example, in Convergence regions of the EU-15 Member States, 74% of the investments, and in the Regional Competitiveness and Employment regions, 83% were allocated for Lisbon-type expenditure. EU-12 countries also earmarked on average 59% of their EU funds allocations to Lisbon-related expenditure although there was no legal obligation for them to apply the earmarking approach. [18]

Overall, the Lisbon Strategy was a powerful driver for investments to be channelled to predominantly economic and social measures. However, the earmarking could be a useful instrument to gear dedicated financing to environmental and climate activities. Firstly, this could be done for environmental and climate measures which bring clear economic and social benefits (win-wins). In the current period, Annex IV of General Regulation includes a number of environment related measures which contribute to the Lisbon Strategy objectives – for example, assistance to SMEs for the promotion of environmentally-friendly products and production processes (EMAS, pollution prevention technologies, clean technologies, etc.), energy efficiency and renewable energy, the promotion of clean urban transport as well as multi modal transport and intelligent transport systems.

---

16 EPRC. From environmental sustainability to sustainable development? Making concepts tangible in structural funds programmes. IQ-net Thematic paper N. 22(2)

17 EPRC. 2006. Strategic planning for structural funds 2007-2013. A review of strategies and programmes. IQ-net thematic paper N.18(2), September.

18 Commission of the European Communities. 2008. http://ec.europa.eu/regional_policy/sources/docoffic/official/communic/negociation/com_2008_301_en.pdf

Secondly, the Europe 2020 Strategy has integrated the 20/20/20 climate and energy targets as one of its five headline targets. If the future Cohesion Policy is to be closely aligned to the Europe 2020 Strategy, as it is indicated in the conclusions to the Fifth Cohesion Report,[19] the earmarking could be used as a tool to ensure that an explicit amount of EU funds are channelled to achieve this headline target. In this respect, the Communication on the EU budget review underlined the need to mainstream climate and energy into Cohesion Policy amongst other EU policies, which should be underpinned by clear political 'earmarking.[20]

Polluter pays principle

The polluter pays principle has been embedded in Community environmental policy since the first environmental action programme was adopted in 1973. Currently, it is enshrined in the Treaty on the Functioning of the European Union, where article 191 (2) (former 174 TEC) stipulates that the pollution pays principle should underpin EU's environmental policy together with other principles such as precautionary principle, preventive action and tacking pollution at source.[21] The principle implies that whoever causes environmental damage should be held responsible for bearing the costs of avoiding it and compensating for it. This could be done through applying requirements for environmental standards and introducing charges.

With regards to EU Community funding during 2000-2006, the General Regulation 1260/1999/EC set out explicitly the principle of the polluter pays in article 26, which governs the rules for approval and implementation of major projects (the total cost of which is above €50 million). It stipulates that information concerning its application should be submitted to the Commission for appraisal prior to the actual decision-making about the project. Furthermore, the Commission adopted a guidance for programmes in the 2000-2006 period (COM(1999)344) which sets out basic provisions for the relevance and application of the polluter pays principle in EU funds programmes and projects. These include *inter alia*:

- using the polluter pays principle in setting out differentiated rates of co-financing (thus accomplishing more effective use of public financing and more sustainable use of natural resources);
- deploying it progressively and with regard to a range of infrastructure sectors (environment, transport, energy);
- taking into account social acceptance issues linked to charging; and
- making sure that it is compatible with the goals for economic and social cohesion.[22]

The General Regulation 1083/2006/EC which governs EU funds programmes and projects in 2007-2013 refers explicitly to the polluter pays principle in article 52, which prescribes that the contribution of EU funds can be modulated in light of *inter alia* protection of the environment and in particular through the precautionary principle, principle of prevention action and the polluter pays principle. This would mean that EU funds will contribute lower

19 EC. Conclusions to the Fifth Cohesion Report.

20 European Commission. 2010. Communication on the EU budget review, (COM(2010)700), 19/10/2010, Brussels, http://ec.europa.eu/budget/reform/library/communication/com_2010_700_en.pdf

21 See article 191 (2) of the TFEU

22 European Commission. 1999. Application of the polluter pays principle: differentiating rates of Community assistance for Structural Funds, Cohesion Fund and ISPA infrastructure operations. Technical Paper 1. 6/12/1999, http://ec.europa.eu/regional_policy/sources/docoffic/working/doc/ppp_en.pdf

co-financing rate in the cases when charging systems can be introduced to cover not only investment costs but also environmental externalities. Nordregio's study found that half of the OPs refer explicitly to the polluter pays principle as a guiding principle underpinning the policy framework the programmes. This says little about how the principle is taken forward in practice. For instance, the principle is operationalized more explicitly in the cost-benefit analysis of major projects. Even though the application of the polluter pays principle can ensure the internalization of external environmental costs and facilitates sound financial sustainability of project, there might be certain trade-offs concerning social affordability if the utilization of a new service is associated with increased user charring.

In comparison, other principles of sustainable development such as 'user pays principle', 'precautionary principle', 'critical thresholds', etc. are less often referred to in the Operational Programmes. A good example is the reference to the critical thresholds principle in Tyrol in relation to the generation of GHG emissions from the use and transportation of biomass for energy production.[23]

Carbon neutrality

The current 2007-2013 period introduced the principle of 'carbon neutrality' to Operational Programmes, understood as providing funding for a range of interventions, the total impact of which incurs no increase in greenhouse gas emissions. This principle is not embedded in the regulatory framework of Cohesion Policy nor is required under the CSG. However, the European Commission introduced the concept during the negotiations preceding the approval of national/regional Operational Programmes. This resulted in varying degree of deploying the approach across Member States and regions with some managing authorities admitting that they were never aware of this requirement.[24]

The principle was taken up effectively in France, for instance, where it was seen as a way to meet its commitments to the Kyoto Protocol. All regional programmes should be based on the principle of 'carbon neutrality', meaning that overall investments in the programmes are not allowed to increase the region's greenhouse gas emissions. Furthermore, France has developed a special tool to ensure the application of the carbon neutrality principle throughout the entire programme cycle – NECATER[25] - to measure and monitor the neutral carbon objective in programmes.[26]

Spatial planning

The Community Strategic Guidelines calls for ensuring that attractive conditions exist for businesses and staff. Spatial planning can assist in this regard by offering a framework for sustainable urban development. Like land-use planning at the local level, spatial policy and planning 'seeks to influence local land-use decisions or the distribution of activities' (Williams, 1996, p. 7).[27] This is generally done through a mixture of policy instruments such as spatial visions, land-use regulations, governance arrangements and financial incentives

---

[23] Nordregio.

[24] REC-ENEA. 2009. + Interview

[25] For a presentation of this tool, see for example : http://www.datar.gouv.fr/IMG/Fichiers/DEVELOPPEMENT_DURABLE/Necater_presentation.pdf

[26] Dg Regional Policy. France: results of the negotiations of Cohesion Policy strategies and programmes 2007-2013. http://ec.europa.eu/regional_policy/sources/docoffic/official/communic/negociation/country_fr_en.pdf

[27] Williams, R.H. (1996), *European Union Spatial Policy and Planning*. London: Paul Chapman Publishing.

(UN, 2008).[28] Although not a formal competency of the European Union, an intergovernmental process has produced a spatial development perspective in 1999.[29] Since then, European spatial planning initiatives have generally occurred under the banner of territorial cohesion,[30] Interreg, or transnational cooperation such as the Baltic Sea Strategy.

There are various traditions of spatial planning in Europe, each embedded in its own system of governance (CEC, 1997), which could help deliver sustainability.[31] The regional-economic approach is closely related to regional policy as it actively seeks to develop certain regions through transportation infrastructure, urban facilities and other amenities. At present, the 'comprehensive integrated approach' is one of the most prominent traditions, and gaining in influence. This approach seeks to strike a balance between competing land uses in a particular region — such as urban growth, agricultural production, natural habitats and recreation — in the most efficient, effective and sustainable manner. Whereas many policies, EU-policies included, clearly influence land-use decisions, this usually comes as a by-product rather than intent. The CAP, for example, has had a profound but inadvertent impact on rural land-uses and landscapes through its promotion of domestic food production, which is sometimes at odds with other policy objectives, such as nature preservation and recreation. Spatial planning in this tradition attempts to reconcile competing policy goals though intelligent urban design and land-use management which seeks an optimal combination of land-uses over the long term (e.g. taking into account spatial implications of trends in demography, economy, climate change, etc.) through a combination of policy interventions.

Spatial planning has a long tradition in promoting sustainability through concepts such as the garden city (Howard, 1902),[32] green belts (Hall, 1988),[33] transit-oriented development (Jun, 2008),[34] smart growth, compact cities and the like. Many of these ideas have found their way into policy options proposed in the aforementioned European Spatial Development Perspective (CSD, 1999). The concepts of sustainable urban development (Wheeler and Beatley, 2004)[35] and sustainable urban design (Mostafavi and Doherty, 2010)[36] have been gaining currency in recent years, and best practices can now be found in European cities like London and Hamburg (VROM-Council, 2010).[37] Spatial planning can also be a mechanism by which to achieve more specific goals related to sustainable development, as many of these

---

28 United Nations (2008) Spatial Planning: key instrument for development and effective governance, UNECE Information Service, Geneva.

29 CSD (1999) European Spatial Development Perspective, Committee on Spatial Development European Commission, Luxembourg.

30 Territorial Agenda of the European Union: Towards a More Competitive and Sustainable Europe of Diverse Regions, Agreed at the occasion of the Informal Ministerial Meeting on Urban Development and Territorial Cohesion on 24 / 25 May 2007 http://www.bmvbs.de/Anlage/original_998251/Territorial-Agenda-of-the-European-Union-Agreed-on-25-Mai-2007.pdf.

31 CEC (1997) The EU Compendium of spatial planning systems and policies, European Commission, Luxembourg.

32 Howard, E. (1902) *Garden Cities of To-morrow*, Cambridge MA: MIT Press.

33 Hall, P. (1988) *Cities of Tomorrow*, Blackwell, Oxford.

34 Jun, Myung-Jin (2008) "Are Portland's Smart Growth Policies Related to Reduced Automobile Dependence?" *Journal of Planning Education and Research*, Vol. 28, pp. 100-107.

35 Wheeler, S.M., T. Beatley, eds. (2004) *The Sustainable Urban Development Reader*, Routledge, London.

36 Mostafavi, M. and G. Doherty, eds. (2010) *Ecological Urbanism*, Lars Müller Publishers, Baden.

37 VROM-Council (2010) Sustainable urban development, summary of report Duurzame Verstedelijking, advies 076, VROM-Council, The Hague.

have a clear spatial component. Biodiversity objectives, for example, are related to the designation, development and protection of habitats, something which in many countries, particularly those with the comprehensive integrated approach, can be achieved via the planning system (Van Veen et al., 2010).[38] Likewise, the transition to renewable energy sources often entails new land uses (e.g. wind parks, biomass production and conversion, energy infrastructure), something which can be assisted by good spatial planning (Van Hoorn et al., 2010).[39] Finally, spatial planning may prove vital in climate change adaptation efforts, such as the strategic designation and protection of flood-prone areas (Pieterse et al., 2010).[40]

National/ Regional strategies

National/regional strategies can be seen as important strategic frameworks which set out the long-term development orientations in terms of sustainable development and environmental integration. They also establish more long-term objectives and targets for development to which EU funds programmes should be contextualised and justified as 'additional'. National or regional SD strategies for example provide a definition of sustainable development and the means to operationalize it in practice. Therefore, as shown by previous research, the availability of such strategies could be a critical factor for improving the national/regional planning process for EU funds by ensuring more effective environmental integration and policy coherence. Sectoral management strategies and plans could also be considered a crucial tool in terms of planning of investments in major projects. Therefore, the European Commission requires that major projects in the field of water and waste are part of national plans/strategies for water and waste management ensuring that there is a coordination in the investment plans in view of national/regional circumstances and investment needs.

Compliance with EU *acquis*

The preamble of the General Regulation 1083/2006/EC stipulates that 'the activities of the Funds and the operations which they help to finance should be consistent with the other Community policies and comply with Community legislation'. The requirement for compliance with Community legislation includes compliance with environmental *acquis* in terms of the implementation of the so called heavy Directives (wastewater, water and waste) by providing significant investments to meet costs arising from the obligations that Member States have agreed upon during accession negotiations. It also implies that any programme and project should be in line with procedures as laid down in the SEA and EIA Directives as well as in line with the requirements of the Bird and Habitats Directive.

Although managing authorities assume the legal responsibility for ensuring that major projects are in line with the EU *acquis*, article 41 of the General regulation requires that the Commission takes this information into account during the appraisal of the project. The 2009 Court of Auditors report on urban wastewater projects highlighted the need for checklists, which could be used by the Commission. Therefore, in 2009, DG ENVI developed such check lists for major waste and water projects, to check the compliance of major projects with EU environmental *acquis*. The general issues that the Commission will check in this respect

38 Van Veen, M.P., M.E. Sanders, A. Tekelenburg, A.L. Gerritsen, J.A. Lörzing, Th. van den Brink (2010) Breaking Boundaries for Biodiversity, expanding the policy agenda to halt biodiversity loss, PBL Netherlands Environmental Assessment Agency, The Hague

39 Van Hoorn, A., Tennekes J., Wijngaart R. van den (2010) Quickscan energie en ruimte - Raakvlakken tussen energiebeleid en ruimtelijke ordening, Planbureau voor de Leefomgeving, Den Haag.

40 Pieterse N., Knoop J., Nabielek K., Pols L., Tennekes J. (2010) Overstromingsrisicozonering in Nederland, Planbureau voor de Leefomgeving, Den Haag.

include the Accession Treaty and the obligations in relation to the transposition of the environmental legislation, the application of the EIA and SEA procedures as well as the polluter pays principle, taking into account Natura 2000 and provisions laid down in the Climate Adaptation White paper.[41]

Concretely with regard to waste projects, the Commission will seek to ensure that the waste hierarchy and best available techniques are applied and that major projects are part of a national waste management plan or waste prevention programme in line with the Waste framework Directive. Concerning water project, the checklists look for compliance with the urban waste water treatment Directive and the water framework Directive (coherence with River Basin Management Plans). They also check for the application of the polluter pays principle and the principle of cost recovery.

2.3.2 Procedural instruments

Strategic Environmental Assessment (SEA)

The General EU Funds Regulation sets out the requirement for Member States to conduct ex-ante, on-going and ex-post evaluations of Operational Programmes which should take into account 'the objective of sustainable development and of the relevant Community legislation concerning environmental impact and strategic environmental assessment' (Article 47). The EU SEA Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment was applied to almost all Operational Programmes (with the exception of programmes under the European Social Fund). The Directive requires that an environmental assessment is carried out during the preparation and before the adoption of plans and programmes; it prescribes the development of an environmental report, which elaborates the likely environmental effects and identifies potential alternatives; it also includes a public consultation with the public, environmental authorities and other Member States (n case of transboundary impacts). Approval of the Programmes by the Commission was made conditional to compliance with the requirements of the SEA Directive.[42]

The SEA Directive sets out explicit provisions for carrying out public consultation, which in a way institutionalizes the SEA process as a platform for public participation, dialogue and learning. Involving environmental authorities and the general public in planning activities is commonly recognized as a way to enhance environmental integration efforts, resolve potential conflicts and trade-offs, capitalize on local knowledge and expertise and create ownership of the decision-making process. The consultation process however can be time-consuming while the identification of non-governmental organizations could also be challenging, therefore a choice need to be made with regards to the mix of tools for carrying the public consultations. Yet, it has been reported that public consultation, especially when organized at an early stage of planning and when understood as a process, can yield higher acceptance of the respective plan or programme and enable identification and successful resolution of conflicts.[43]

---

41 DG ENVI. Checklist Water and Waste Major projects (20/11/09), http://ec.europa.eu/regional_policy/sources/docoffic/working/doc/checklist_water_waste201109.xls

42 CEC. Report by the Commission on the application and effectiveness of the Directive on Strategic Environmental Assessment (Directive 2001/42/EC), (COM(2009)469), Brussels, 14.9.2009

43 CEC. Report by the Commission on the application and effectiveness of the Directive on Strategic Environmental Assessment (Directive 2001/42/EC), (COM(2009)469), Brussels, 14.9.2009

SEA is one of the most well established instruments for greening and environmentally proofing regional development programmes. A special Handbook on its application to EU funds programmes was published in February 2006 by the European Commission to aid the process of evaluation of the 2007-2013 Operational Programmes. DG Regio also published a working document which briefly discussed the requirement for the application of an SEA as part of the ex-ante evaluation.[44] Despite of this however, the practice of applying SEA to the current Operational Programmes varied significantly. For instance, some countries set out special coordination committees or working groups to carry out the process of SEA of Operational Programmes in a consistent manner (Italy, Latvia and Belgium), some developed common methodology for checklists to aid the SEAs (France) while others established a single SEA process for all Operational Programmes, which resulted in one single report at the end (Portugal).[45]

Arguably, the application of the SEAs in the 2007-2013 EU Funds programmes had a number of positive effects in terms of integrating environmental concerns in the programming process. For example, they facilitated the involvement of environmental authorities in all phases of the decision-making process regarding Operational Programmes[46] and aided the identification and establishment of environmentally relevant project selection criteria and indicator and monitoring systems[47]. At the same time, however, common challenges in applying SEA to the Operational Programmes in the current period included short timelines which often resulted in lower level of public participation and also varying quality of the environmental reports. Furthermore, SEAs were found to generally focus on potential synergies (win-wins) between economic development and environmental protection, and less on trade-offs.[48]

Environmental Impact Assessment (EIA)

While SEAs are applied 'upstream' at a more strategic level for plans and programmes, the Environmental Impact Assessment (EIA) is applied 'downstream' at the level of projects. The EU EIA Directive 2003/35/EEC prescribes that prior to receiving 'development consent', certain public and private projects likely to have significant environmental effects by virtue, *inter alia*, of their nature, size or location are made subject to an EIA. The EIA is an important instrument for environmental integration at a project level and therefore is relevant to examining approaches to greening investment project financed by EU funds. So far, all Member States have transposed the EIA Directive and established comprehensive regulatory frameworks in this regard although the performance varies across countries.

Similarly to the SEA, the EIA is associated with a number of benefits in terms of ensuring that environmental considerations are taken into account early in the decision-making process

---

44 http://ec.europa.eu/regional_policy/sources/docoffic/2007/working/wd1_exante_en.pdf

45 ENEA. 2008. Draft report of the working group on Cohesion and SEA. 22/05/2008, http://ec.europa.eu/environment/integration/pdf/sea.pdf

46 CEC. Report by the Commission on the application and effectiveness of the Directive on Strategic Environmental Assessment (Directive 2001/42/EC), (COM(2009)469), Brussels, 14.9.2009

47 Nordregio.

48 Nordregio. European Policies Research Centre, Austrian Institute for Spatial Planning (ÖIR) and SWECO (2009) The potential of regional development instruments 2007-2013 to contribute to the Lisbon and Goteborg objectives for growth, jobs and sustainable development. Final report for the European Commission, DG Regional Policy, Evaluation Unit, July 2009

and that the public concerned in consulted. Concretely, with regard to Cohesion Policy, the effective application of EIA has been useful in the case of major projects where in addition to the general benefits, the EIAs have improved the project design.[49] Therefore, the EIA is one of the issues that JASPERS, the technical assistance instruments aimed to aid new Member States in improving project design of major project, is concerned with, overseeing and assisting in improving its application.

Major investment projects (the total cost of which is above €50 million) are subject to a compulsory EIA in line with EIA Directive 2003/35/EEC. The Commission has retained powers over the decision-making concerning major projects and requires that Member States submit to the Commission as part of the official project documentation 'an analysis of the environmental impact' (Article 40(f) of the General EU Funds Regulation 1083/2006/EC). This means that if the Commission is dissatisfied with the quality or procedural performance of EIA, it could decide not to approve a project.

Closely linked to SEA and EIA, but also in terms of cross-compliance with EU environmental acquis (Natura 2000), article 6 (3) of the Habitat Directive requires an ***appropriate assessment*** to be carried out for plans and projects likely to affect Special Areas of Conservation (SAC), Special Protected Areas (SPA) or Sites of Community Importance (SCI). There are exceptions allowed only in cases where it has been proven that there are no alternative solutions to the proposed development, which realisation is of overriding public interest. In such cases, Member States are obliged to 'appropriate compensatory measures' to that the overall coherence of the Natura 2000 Network is ensured (article 6(4)). Some old Member States have been front running in the area by preparing a number of guiding documents at regional and local levels of planning.[50] Overall, however, the experience with this type of assessment instrument is relatively scarce especially in new Member States.

Territorial Impact Assessment (TIA)

Another emergent technique regards the impact of European policies on specific regions is territorial impact assessment. What makes TIA novel is its large-scale approach, its multidimensionality and the broad range of impacts considered (Torrieri and Nijkamp 2009).[51] Its origin lies in a desire to geographically pinpoint the combined effect of both intended and unintended impacts of European policies such as the Common Agricultural Policy (CAP), transport policy, Cohesion Policy and environmental policies. The rationale is that there is an implicit cost in not coordinating territorially overlapping policies (Robert et al., 2001).[52] Insight provided by an ex ante TIA could therefore help to design more effective policies at the European level. Because of this some view TIAs 'as an instrument to coordinate the spatial impacts of sector policies (horizontally) as well as across different levels of governance in the EU (vertically)' (Dühr et al. 2010, p. 230).[53] The European

49 CEC. http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2009:0378:FIN:EN:PDF

50 http://www.communities.gov.uk/documents/planningandbuilding/pdf/160442.pdf

51 Torrieri, Francesca and Peter Nijkamp (2009) Scenario analysis in spatial impact assessment: a methodological approach, Serie research memoranda, 2009-26, Vrije Universiteit Amsterdam, Faculty of Economics and Business Administration.

52 Robert, J., M.A. Figueiredo, M. Hollanders, C.J. Reincke, T. Stumm and J.M. de Vet (2001) Spatial impacts of Community policies and costs of non-coordination. Study carried out at the request of the Directorate-General Regional Policy.

53 Dühr, S., C. Colomb and V. Nadin (2010) European Spatial Planning and Territorial Cooperation, Routledge: London.

research programme ESPON has commissioned a number of TIAs[54] and is currently financing studies on refining TIA methodology,[55] the most of which, at present, use a multi-criteria analysis model to measure the territorial impacts on different dimensions (e.g. people, planet profit, or efficiency, identity, quality).[56]

The European Commission's Impact Assessment (IA) procedure has recently taken territorial considerations on board in its series of questions (Zonneveld and Waterhout, 2009).[57] The level at which a TIA could take place is also the subject of debate as it could be performed by the European Commission before formulating a policy proposal (as indicated above), by Member States in their reaction to this proposal, or even by regions dealing with implementation. Some Member States already perform TIAs in other contexts: comprehensive ex-ante evaluations of proposals and projects (involving the three P's) are mandatory in Germany (*Raumordnungsverfahren*), Austria (*Raumverträglichkeitsprüfung*), Wallonia and Slovenia.

Cost-benefit analysis (CBA)

Article 40 of the General EU Funds Regulation outlines the information which should be submitted to the Commission with regard to major project based on which an approval of the project is to be granted. A cost-benefits analysis (CBA) is one of the compulsory analyses, which should include risk assessment and the foreseeable impact on the sector concerned and the socio-economic impacts for the country/regions considered. DG Regio has published a common guide to CBA[58], which is aimed to aid managing authorities, public administrators and their advisors in the Member States, when they examine project ideas or pre-feasibility studies at an early stage of the project cycle.

The guide explicitly stipulates that the 'economic analysis' should take into account externalities and give them monetary value. Externalities in this case could include social costs associated with adverse environmental impacts of the planned project. CBA also includes an analysis of options for the realisation of project, which usually assess different locations of the project but could also consider the implementation of energy efficiency measures instead of the construction of energy production plants.[59]

The CBA includes a risk assessment, which currently focuses on identifying and mitigating risks associated with economic and financial performance of the project. Severe and unforeseen impacts of climate change however could pose significant risk in terms of costs of damage repair in the case of infrastructure projects. The costs of preventive climate

54 ESPON TIPTAP (2010) Territorial Impact Package for Transport and Agricultural Policies, Final Report, Project 1/6.

55 See for example, ESPON ARTS (2010) Assessment of Regional and Territorial Sensitivity, Project 1/17, Inception Report, Version 31/08/2010, as well as: ESPON EATIA (2010) ESPON and Territorial Impact Assessment, Project 2/9, Inception Report.

56 Camagni, Roberto (2009) Territorial Impact Assessment for European regions: A methodological proposal and an application to EU transport policy, Evaluation and Program Planning, Vol. 32, pp. 342-350.

57 Zonneveld, Wil & Bas Waterhout (2009) EU Territorial Impact Assessment: Under What Conditions? Paper prepared for the 49th European Congress of the Regional Science Association, 25th – 29th August 2009, Łódź, Poland.

58 http://ec.europa.eu/regional_policy/sources/docgener/guides/cost/guide2008_en.pd

59 Ibid.

adaptation measures should be integrated more rigorously in future CBA in terms of designing more financially sustainable but also climate resilient projects.

Monitoring and indicators

Indicators are important planning and monitoring tools. In the 2007-2013 period, the use of indicators is set out in two working documents developed by DG Regio which establish an output-result-impact indicator system. Typical output indicators refer to 'number of projects' and result indicators relate to the effects of the intervention, for instance the number of households connected to water supply systems. Impact indicators are linked to longer term targets to which the intervention would contribute achieving, for instance, by 2013 the average rate of ICT usage in Danish businesses is at least 75% compared to 56% baseline in 2005. According to the Nordregio study the development of impact indicators linked to sustainable development has been difficult as often these are conceived as less tangible.

Member States are also encouraged to report on 'core indicators' (these include output and result indicators) which were agreed between the Commission and Member States as a set of minimum reporting requirements linked to strategic objectives that could be aggregated at EU level. Many programmes included core indicators, specifically to measure and monitor effects with regard to CO_2 emissions (13 out of 27 Member States[60]). However, it has been found that there are discrepancies in the measurement units (CO_2, CO_2 equivalent) used in the different countries and hence the data could not be aggregated at EU level. The set of core indicators can therefore in the future benefit from establishing a common approach to unified monitoring system. This might entail the provision of further technical guidance to managing authorities in that respect.

Beyond the set of core indicators, proper monitoring of environmental impacts of EU Funds programmes and projects is in a process of maturation, however, it is still an exception rather than the norm. Some Member States have, however, developed innovative indicator systems concerning wider environmental interventions and their impacts. An EEA report has found that Italy introduced an effective indicators system in the 2007-2013 period, which links a performance-based reward system to pre-established targets in order to provide a better assessment of the link between spending and the extent to which they help the attainment of results under the urban wastewater treatment Directive.[61] Developing an appropriate set of indicators that establish the correlation between spending and broader impacts, for instance, spending on wastewater treatment facilities and improved water quality, is however rather complex and therefore challenging.

Reporting

There are a number of requirements for reporting on the implementation of EU funds programmes and projects. Managing authorities are required to submit *annual implementation reports* for the first time in 2008 and then by 30 June each year; with a final implementation report due by 31 March 2017. The Commission has two months to express an opinion on the content of the report from the date of its receipt. Based on the annual implementation reports, the Commission prepares an overall Annual Progress Reports to the Spring European Council.

60 Nordregio. 2009.

61 EEA. 2009. Analysis of environmental aspects of the EU Cohesion Policy in selected countries. EEA technical report 10/2009.

Member States are also required to submit to the Commission two *strategic reports*, with the second to be submitted by the end of 2012. These reports should demonstrate how the implementation of the OPs contributes to attaining the objectives of Cohesion Policy and to the priorities set out in the Community Strategic Guidelines in line with the Integrated Guidelines for growth and jobs. Furthermore, these reports elaborate on the socio-economic situation and trends; achievements, challenges and future prospects and provide good practice examples. Based on the national strategic reports, the Commission prepares a strategic report (first one due in spring 2010), which is transmitted to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions.

However, these reports are focused on 'core' indicators (often basic socio-economic indicators), which the Commission is able to aggregate at EU level. For instance, the 2010 Strategic report states that based on the submissions from different member States, 13 countries have approved programmes/projects which will contribute to the creation of 351,300 gross jobs, while 8 Member States already report the creation of 55,900 gross jobs.[62] Similar core indicators for environmental outcomes are lacking.

The 2000-2006 evaluation found that in most cases project reporting did not require a reference to integrated sustainability concerns. However, positive examples were found in the ERDF ex-post evaluation, namely in Brandenburg and East Scotland, where reporting was used to identify progress on project level in relation to sustainable development strategies or checklists. In general, reporting on sustainable development was found to be of limited value, as there were concerns regarding its quality. Alternatives and trade-offs were not taken into account in reporting in any of the studied programs.

Furthermore, the EU Funds reporting system need to accommodate the requirements of SEA reporting as set out in the SEA Directive 2001/42/EC (Article 10). It requires the monitoring of significant environmental effects of plans and programmes so that unforeseen adverse effects can be identified at an early stage and remedied accordingly.

Evaluation

There are four types of evaluations carried out within Cohesion Policy 2007-2013. Ex-ante evaluations and SEAs are a responsibility of the Member States and are conducted parallel to the development of the Operational Programmes. The current experience with ex-ante evaluation is found useful in terms of aligning the Operational Programmes to the EU Lisbon and Goteborg Strategies. They were also perceived as an opportunity to reflect and learn along the programming process itself.[63]

The ex-post evaluations are a responsibility of the European Commission. They can be a useful instrument to measure the outcomes and results from spending programmes. To do this, they are carried out several years after the completion of the programming period. For example, the ex-post evaluations of the 2000-2006 period were completed towards the end of 2009, which is two years after the start of the new programming period. In this sense, they cannot influence the next programming cycle and provide it with valuable lessons learned. They are more likely, however, to provide valuable input to the post-2013 programming

62 European Commission. 2010. Strategic report. (COM(2010)

63 Nordregio.

period.

This underlines the importance of the mid-term evaluation which in practice provides timely input to the programming of the next policy cycle. Currently, the mid-term evaluations are substituted by 'on-going' evaluations which are more loosely defined and stirred by the Member States

The European Commission can also carry out thematic and strategic evaluations at any time of the policy cycle with the aim to improve the understanding of concrete issues and drivers for these within Cohesion Policy hence strengthening the knowledge base for policy-making and spur learning.

Proofing tools

The term 'climate proofing' has been steadily gaining prominence in European and international affairs. The rationale behind 'climate proofing' is that climate change is inherently a horizontal phenomenon which affects all economic sectors and activities and therefore needs to cut across sectoral planning and budgeting. It is often associated with efforts to build resilience and capacities to adapt programmes and projects to climate change impacts.[64] A more instrumental view is to see it as an assessment tool to screen investment plans and projects in order to measure their emissions of greenhouse gases (without necessarily doing something about them afterwards). Some refer to 'climate proofing' in terms of ensuring that 'all measures integrate the best practices available, such as those concerning energy efficiency in infrastructure built with EU funds, preservation as part of environmental actions and even concerns about long-term impacts in *ex ante* impact evaluations of infrastructure (e.g. the effect of higher temperatures on specific infrastructure).[65] Others define 'climate proofing' in a wider sense of policy reform, which entails the application of a range of instruments/mechanisms that integrate climate mitigation and adaptation considerations/objectives/targets at every stage of the policy cycle and each level of the governance system.[66]

There are similar attempts to forge a definition and approaches to biodiversity proofing again in relation to investment projects. This is however at very early stages of development and while its principles can be logically assumed, the specifics remain yet unclear.

JASPERS – environmental provisions in technical assistance

Joint Assistance in Supporting Projects in European Regions (JASPERS) is a novel instrument developed for the 2007-2013 Cohesion Policy in cooperation with the European Investment bank (EIB), the European Bank for Reconstruction and Development (EBRD) and KfW. It is designed to provide technical assistance to new Member States at different stages of the project management cycle (project preparation, selection and implementation). It objectives include building up the sector capacity to prepare and implement projects, full absorption of EU funds, fulfilment of EU requirements and application of international standards.[67] The focus of the technical assistance is usually on major projects, which have a

64 ENEA-REC. 2009.

65 CEPS. 2009

66 Medarova-Bergstrom, K. and Schellerup, P. 2010. Strategies and instrument to climate proof the EU budget. Interim report, September 2010.

67 JASPERS web page, http://www.jaspers-europa-info.org/index.php/about-us.html

total cost above €50 million (371 projects), however, there are a number of other smaller scale projects that JASPERS has been involved in up to now – horizontal initiatives e.g. combining EU grants with public private partnerships, CBA/application guidelines, training workshops (38 projects) and small projects e.g. urban infrastructure (32 projects).

With regards to environmental issues, JASPERS carries out three types of assessments[68]: assessment of the technical documents (application form for major projects; EIA report and non-technical summary, if applicable; and Appropriate Assessment, if applicable); assessment of the procedural aspects on implementation of EIA and Habitat Directives; and overall assessment of project compliance with environmental *acquis* (IPPC, LCP, Habitat and Birds, SEA, etc.). Therefore, JASPERS plays already a key role in aiding managing authorities in new Member States to address a number of environmental integration requirements at the preparatory and development stages of major projects.

Reserve funds

Article 34 of the preamble of the General EU Funds Regulation sets out that 3 per cent of the Structural Funds appropriations allocated to Member States in convergence and regional competitiveness regions may be placed into national reserve funds for rewarding performance. The reserve fund in this sense acts as a performance-based financial incentive scheme to inspire Member States and regions to improve the implementation of programmes and projects. Currently, however, the reserve fund has received a relatively narrow scope of application mainly linked to the rate of financial absorption rather than the achievement of policy objectives.

2.3.3 Organisational instruments

Institutional capacity

Arguably, EU funds programmes and projects have had an important indirect positive impact on domestic management and implementation systems in recipient countries.[69] This has happened not only through strengthening of existing environmental authorities and their involvement in the policy-making process but also through building in environmental expertise in the managing authorities themselves. For example, at EU level, DG Regio has hired a number of environmental experts in the Policy Coordination Unit dealing with coordination of Cohesion Policy with other Community Policies and also in the Policy Development unit, which prepares forward looking studies with regard to the evolution of Cohesion Policy. Furthermore, the collaboration with DG Environment has also been strengthened beyond the inter-service consultation, through improved coordination with the Cohesion Unit in DG Environment. The external outreach to partners has been significantly strengthened also through the European wide network of environmental and managing authorities (see below) coordinated by DG Environment. A forum hosted by DG Regio targeting key social and environmental partners has been set out for a first time in 2010 with the idea of establishing it as an annual event to enforce the partnership principle in Cohesion Policy.

In some countries, further institutional mechanisms for an improved integration of the environment into Cohesion Policy have taken place, such as in the UK, where a

68 Ibid.

69 Bachtler, J. et al. 2010. Challenges, consultations and concepts: preparing for the Cohesion Policy debate. EPRC, February 2010, United Kingdom.

'sustainability manager' post has been created with the aim of making EU funded programmes and projects more resilient and proofed from an environmental perspective. Similar instructional innovations have taken place in a number of Member States or regions.

Partnership

The partnership principle sets out the requirement for Member States to organise close cooperation with socio-economic partners and non-governmental organisations during the preparation, implementation, monitoring and evaluation of OPs (Article 11 of the General EU Funds Regulation 1083/2006/EC). The application of the partnership principle in previous Cohesion Policy programming periods has shown mixed results as in some countries the benefits of partnership are not understood and its delivery has not been entirely transparent.[70]

Still, the partnership principle as stipulated in the General Regulation for a first time explicitly refers to environmental organizations as equal partners to other socio-economic ones. In many ways, it provides a platform for environmental actors to institutionalize their participation in the programming process through *working groups* and *steering committees*. During the implementation stage, the formally established Monitoring Committees ensure that the partnership principle is applied by accommodating broad representation of a range of different policy actors, including environmental authorities and NGOs.

Monitoring committees

According to Article 63 of the General Regulation 1083/2006/EC Member States are required to establish Monitoring Committees for the Operational Programmes, which are chaired by the managing authorities and include representatives of other relevant authorities, socio-economic and environmental partners. Members of the European Commission are also members of these committees but they usually have the status of observers and do not hold voting rights. Importantly, the Monitoring Committees are tasked with deciding upon the project selection criteria, reviewing periodically progress made towards achieving the targets of the Operational Programmes, examining the results of the Operational Programmes interventions, approving the annual and final reports on implementation.

Arguably, the Monitoring Committees can propose to the Managing Authorities amendments or examinations of the Operational Programmes in view of better attaining the Funds' objectives.

Environmental networks

In 2003, a European wide network of environmental and managing authorities (ENEA-MA) of EU funds programmes and projects was set up. It is coordinated by DG Environment and meets twice a year. Its purpose is to bridge the exchange of knowhow and ideas among managing authorities on how to integrate environmental considerations into Cohesion Policy. The network usually establishes ad-hoc internal Working Groups on different topic areas. For the 2008-2010, there were three active working groups focusing on reporting good practices and experience across Member States concerning climate change, SEA and biodiversity.[71] Currently, a new working group has been established on the future Cohesion Policy, which

[70] DG Regional Policy (2005) Partnership in the 2000-2006 programming period: analysis of the implementation of the partnership principle

[71] CEC (2009) ENEA and cohesion policy

aims to provide input to the negotiations on the future EU Funds Regulations from the perspective of environmental integration.

Networks of national and regional environmental authorities are being established at national level as a coordination mechanism aimed at ensuring that environmental concerns are taken into account during the management of various EU funded projects. The aim of these networks is to establish common approaches to environmental investments and integration[72]. At national level such environmental networks were created in a number of Member States, such as Spain, Italy and Poland. Some of them have been actively involved in environmental integration efforts, for instance, the network in Italy drafted common guidelines on the ex-ante environmental evaluation in Objective 1 regions for the 2000–2006 cycle.[73] In Poland, the network was set up as a result of the negotiations of the OP Infrastructure and Environment upon the explicit request of the European Commission. Their planned activities focus primarily on information sharing and knowledge management by preparing different expertise, guidelines, procedures and reports.[74]

Negotiations between the Commission and Member States

The negotiation process between the Commission and Member States preceding the approval of the national/regional Operational Programmes could be seen as an important coordination mechanism for introducing informal recommendations/requirements with regards to environmental integration. It appears that especially in new Member States, the negotiations process resulted in the articulation of better objectives for environmental protection and the integration of environmental concerns horizontally across EU funds programmes.

For instance, in Slovakia, the negotiations allowed them to identify and prioritise better investments in the water sector which resulted in establishing concrete targets for increasing the number of people connected to public sewers to 4.4 million, the percentage of population connected to waste water treatment plants to 81% and the proportion of the population supplied with drinking water from public water supply networks to 91%.75 In Finland, as a result of the negotiation process, some environmental indicators were added to the programmes to be followed up during implementation.[76]

72 IEEP (2010) Manual of European Environmental Policy. Earthscan

73 IEEP, (2010), Manual for European Environmental Policy, Earthscan.

74 Piotr Otawski, The National Network of Environmental Authorities and Management Authorities for European funds „Partnership: The Environment for Development", Presentation at ENEA meeting, 26 May 2010, Warsaw

75 DG Regional Policy. Slovakia: results from the negotiations for the Cohesion Policy strategies and programmes 2007-2013, http://ec.europa.eu/regional_policy/sources/docoffic/official/communic/negociation/country_sk_en.pdf

76 DG Regional Policy. Finland: results from the negotiations for the Cohesion Policy strategies and programmes 2007-2013, http://ec.europa.eu/regional_policy/sources/docoffic/official/communic/negociation/country_fi_en.pdf

3 EXPERIENCES WITH ENVIRONMENTAL INTEGRATION TOOLS AT NATIONAL AND REGIONAL LEVELS

This chapter provides a review of integration instruments applied across the Member States and regions to deliver Sustainable Development in the framework of Cohesion Policy. The survey of instruments is based on the 26 case studies and additional literature on the subject. The analysis in this chapter will complement the evidence presented in the previous reports by exploring how existing policy instruments and tools can mitigate adverse environmental impacts of Cohesion Policy, deliver integrated solutions and foster policy coherence and coordination across different governance levels and policy networks. Conclusions drawn from this chapter will help the team to identify what possible changes in investment patterns could be facilitated through some of the examined instruments.

The 26 case studies examine a large set of instruments applied at national, regional, urban or major project level. However, given that the case studies are not a representative sample, the findings of this report cannot be generalised. They rather focus on trends in and examples of good practices as well as the effective application of integration instruments or governance processes that facilitated environmental sustainability. The review of experiences with the application of these tools follows the same structure of strategic, procedural and organisational instruments as this was done in the previous section. From the national and regional experiences we will be able to distil some innovative instruments based on bottom up and locally tailored approaches. Furthermore, we will be able to assess to some extent the effectiveness of the application of already existing instruments in a given context and identify ways how to improve these. Examples of case studies where there is further room for improvement are also mentioned.

3.1 Experiences with strategic instruments

In a number of case studies the **national or regional sustainable development strategies** have been underlined as important instruments that have aligned the Operational Programmes with sustainable development objectives, principles and targets. This is encouraging for translating into the Operational Programmes the targets and objectives of Europe 2020, as suggested by the Fifth Report of Cohesion Policy. At the same time it is important to acknowledge that Cohesion Policy should not be restricted solely to the aims of Europe 2020, as it is broader than that, as defined in the Treaty. For instance, the strategic alignment of the OP of the Catalonia region was underpinned by its Sustainable Development Strategy. This strategy establishes a roadmap of key objectives and orientations to guarantee Catalonia's transition towards a safe, eco-efficient low-carbon economy. The correspondence between the objectives identified in the Strategy for Sustainable Development and those identified in the Operational Programme suggests that there is a strategic alignment between the two. In addition, the 2026 Strategy provides long-term inter-departmental guidance to ensure collaboration across different departments and government agencies ('comprehensive approach') and between the government and citizens. It sets the ground for collaboration across the teams involved in the implementation of Cohesion Policy measures.

A number Member States and regions have framed **sustainable development as a horizontal principle** (See Supporting Paper 4: Case Studies). The integration of horizontal issues, however, has been challenged during the implementation of programmes (particularly

in terms of translating it into the system of generating, appraising and selecting projects for financing). However, **new Member States have struggled to operationalize the complexity of sustainable development into what it should concretely mean for project development**. In Hungary, for instance, it has been reported that horizontal objectives are seen merely as an administrative obligation. The Hungarian National Development Agency argues that that this approach should be reviewed, for instance, by setting minimum conditionalities[77]. In other cases, such as in Malta, environmental considerations and sustainability are not discussed as a horizontal priority, but are pursued separately.

The Fifth Cohesion Report states that the strengthening of strategic programming will be achieved through the Common Strategic Framework, which will set the targets and objectives under shared management, covering the Structural Fund, the Cohesion Fund, the European Agricultural Fund and for Rural Development and the European Fisheries Fund. In relation to this the Bremerhaven off-shore wind case study is a good example of coordination with other EU funds under **shared management**. Funding is received from the European Fisheries Fund (EFF), the European Agricultural Fund for Rural Development (EAFRD) and by the ERDF under the "European Territorial Co-operation" instrument. While all these funds are directed towards the achievement of the same overarching objectives, they target different aspects of the wide strategy and thus avoid double-funding of the same measures. At Land level, a number of programmes have been initiated to complement these activities. This case study is also relevant in being a good example of **increasing thematic concentration** as required by the Fifth Cohesion Report as the off-shore wind energy strategy for Bremerhaven formed the basis for policy planning and programming in all departments and, according to public sector stakeholders, achieved a **wide commitment among all relevant decision makers** at Länder level.

An example of effective coordination with EU funds not under shared management can be found in the **cluster programme of the Lower Austria** region. The programme provides pre-competitive support for mainly small and medium enterprises, in order to strengthen their eco-innovation capacity in six main areas (Green Building, plastics, food, automotive, mechatronics and logistics). The total budget for the cluster programme is € 20,600,00, a third of which comes from ERDF.

In other cases, in order to ensure coordination between national and EU funds, EU investment is made conditional on the national government taking specific action. This has been the case in ***Lake Karla (Greece)***, where EU investments in the rehabilitation of the lake were conditional on national government action. A project, supported by Cohesion Fund co-financing, was started in 1999 to work for the reconstitution of part of what was previously Lake Karla. The investments made were aiming to re-create approximately 38,000 acres of the lake out of the pre-existing 130,000 acres that was the surface of the lake before it was drained in the 1960s. This EU co-funded investment was conditional on the national government investing in an agricultural irrigation system to provide an alternative source of surface water for local farmers. Hence, a separate nationally funded project providing an agricultural irrigation system, alongside the re-creation of Lake Karla, also supports the plan since it will enable farmers to use surface water instead of the underground water reserves of the area. The separately funded interventions designed to provide irrigation from surface

77 Gyene Gyöngyvér, National Development Agency Hungary, Environmental Requirements in the Implementation of the Operational Programs, Presentation at ENEA meeting, 26/05/2010, Warsaw

waters to agricultural lands near Lake Karla, are being created during the 2007-2013 period. However, this has not yet been completed and it is therefore difficult to calculate the savings the investment will give rise to.

All case studies have identified that specific environmental or environmentally-related objectives have been developed for the Operational Programmes. Most often these objectives are linked to the **implementation of the EU environmental acquis** and therefore entail the construction of basic environmental infrastructure in the field of waste water, water supply, waste management and the establishment of Natura 2000 network. This is the case in most of the new Member States case studies and 'cohesion' countries. In Bulgaria, the entire OP Environment (the second biggest OP in the country with total budget of €1.8 billion) is intended to accommodate investment needs linked to the implementation of EU environmental *acquis* and therefore its key objectives and subsequent priority axes are set with regard to water management, waste treatment and biodiversity protection. The compliance with EU waste water treatment legislation appears as a key priority in Romania as well. However, the establishment of environmental objectives is also often complemented through well-established **national/regional policy frameworks**. In Piemonte for instance, the NUVAL (Evaluation authority of the region) and the Environmental Authority identified, through two different but complementary analyses, environmental objectives that establish a reference framework for the programming phase of EU Funds. The positive environmental orientation of the Piemonte OP appears to have been pre-conditioned by the existence of such general environmental reference framework.

In setting environmental objectives it is important to set **quantified environmental targets** to improve the evaluation, performance and results of Cohesion Policy, as required by the fifth report on Cohesion Policy. A good example of this approach can be found in the development of the Basque Country OP. Here the development of environmental objectives is accompanied by the establishment of quantified environmental targets by 2013**.** The explicit targets bind the OP to the achievement of concrete outcomes from environmental perspective and set out a reference for monitoring. The specific Basque Country objectives set for risk prevention and GHG emissions are shown in Box 1.

Box 1: Setting quantified Environmental Objectives; an example from Basque Country OP

The quantified environmental objectives in the Basque Country OP are:

- Stabilizing GHG emissions: taking 1990 levels as a reference (100) the objective is to stay below the level of 132 in 2013, only slightly increasing from 130 in 2006[78] (consistent with the national target, but slightly less stringent);
- Reach 33.88 hectares of rehabilitated priority areas. This will be achieved through the implementation of:
    - 9 action plans for the restoration and the protection of the environment
    - 2 data centres for the promotion of knowledge on the environment

The specific objectives set for the 2013 horizon regarding transport and energy resources are:

- 185,240 travellers per year regularly using urban transport. This will be achieved through the implementation of:
    - the implementation of 1 action plan to promote the use of public transport

78 According to the OP, the index was 131.06 in 2010.

- the construction of 6.44 kilometres of cycle lane
- the promotion of 10 green public transport vehicles (bus, trains, etc.)

- Reach a rate of 5.2 per cent of total energy production coming from renewable energy sources and the implementation of 15 action plans for the improvement of energy efficiency.

The Communication on sustainable growth requires a transition towards a low-carbon economy and here the **principle of carbon neutrality** is of importance to steer the projects funded by Cohesion Policy in the right direction. Although not a legally binding requirement, it has been introduced to a few OPs. In compliance with this principle of carbon neutrality, projects which emit GHG emissions have to **offset** these by other investments, such as efforts on energy control, supply of alternatives to road transport, development of renewable energies and promotion of energy efficiency. This principle of carbon neutrality has been applied effectively in the French regional OP through the NECATER tool (Box 2) and will also be applied in South-West England by the Carbon Compass tool. In this approach, GHG emissions generated by investments in economic development (and to a lesser extent in housing and transport) are compensated in the short-term by reductions in GHG emissions thanks to investments in energy control, renewable energies and the environment. The impact of the investments in terms of GHG emissions tend to be neutral for all the categories in the long run (>30 years, as this is the lifetime of the investment). At the aggregate level, the cumulated impact is estimated at approximately 700 teqCO_2 saved. In Austria, the principle is also applied to ensure that all activities are at least neutral in their environmental impacts. This is done by a *plausibility test* on the basis of an environmental questionnaire, which the tenderer has to submit.

Box 2: **Necater: a carbon proofing tool designed for regional investment programmes**

Necater was designed to assess the overall neutrality of a set of projects in various sectors in terms of GHG emissions. Its results illustrate the importance of specific sectors in the overall CO_2 balance of the investments and helps prioritizing investments according to the CO_2 emissions target that has been set at national and regional level.

Unlike the CPER[79], in which investments in areas such as infrastructures and traditional industrial activities remain significant and, as a result, generate significant net GHG emissions, all the French OPs comply with the principle of carbon neutrality. As specified by national officers, the unofficial objective is now to go beyond the principle of carbon neutrality and present programmes characterized by significant net negative emissions.

According to a first evaluation in 2008 for a sample of 10 OPs, the results range from +16 tCO2eq to -300 tCO2eq, totalling 730 tCO2eq saved. Carbon neutrality of programmes will be achieved by actions in favour of energy control, renewable energies and waste which compensate emissions of industrial activities, road freight and home/work commuting induced by urban developments, for example. Carbon emissions evaluated by Necater are only industrial and energy related emissions and do not include emissions generated by land-use changes, for example. Necater does not have any ambitions at the moment regarding the integration of natural capital in the assessments.

79 CPER (Contrats de projet État-région) constitute an agreement between national and regional authorities regarding the financing of important projects, such as infrastructure projects or investments in research and development. In addition to national and regional authorities, local and municipal authorities can also be involved in the definition of priority axes and in the financing of the projects. CPERs are made for a period of seven years.

Governance – How and by whom is Necater used

Necater has been developed at national level by the administration in charge of regional planning (DATAR)80. The evaluations are generally performed by the *prefectures*, which are the representatives of the national authorities at regional level. The specific unit actually carrying out the evaluations in each *prefecture de region* is the secretariat for regional affairs (*SGAR*). Regional authorities (*Conseils régionaux*) are not currently directly involved in the evaluation phase but there are no legal barriers to their implication: as the tool is simplified and gets more user-friendly, regional authorities will get more and more involved in this process.

Training and knowledge sharing on Necater for the users has been limited up to now. In addition, the first versions being not very user-friendly and users have experienced difficulties in using the tool. The DATAR, which is in charge of Necater, will organize regular training sessions and improve the communication and information on this tool in order to facilitate and generalize its use.

Necater in practice

Necater is addressed to non-technical users. The tool transforms investment amounts in the different sectors concerned by the programme into GHG emissions, by applying a set of regional ratios. These ratios, such as the share of a given sector in the region's value added, or its carbon intensity, for example, are based on region specific data which is provided by regional data centres (INSEE's[81] regional offices, for example). Users can also change some key parameters of the model where they have more accurate information, such as modal shift, which can differ significantly across regions, according to the available and projected transport infrastructures, etc. A complementary tool will even be created by Basse-Normandie in order to fully integrate the regional specificities in the modelling.

Transferability of this tool to other Member States

The potential for transferability of this tool, with limited adaptations, depends on three decisive factors:

- The nature of the OPs: this tool has been developed for regional OPs and could not be used as such to evaluate sectoral OPs. However, it could be relatively easily adapted to estimate exclusively sector or sub-sector specific emissions, provided the appropriate economic and technical data are available. As it is currently used at regional level to evaluate the overall balance in terms of GHG emissions generated by regional investments, a "sectoral" NECATER could help identify, within a given sector, the potential offsetting investments required in order to achieve an overall target of no net emissions (for example, in the transport sector, identifying the amount of investment required in rail to offset emissions related to road construction projects).
- The existence of socio-economic and technical data (such as region and industry specific emission factors) at the appropriate level of detail at regional level, reliable and precise enough to construct the regional ratios necessary to translate the sectoral investment amounts into GHG emissions. Developed regional information systems do not exist in all of the Member States, especially, but not only, in the new Member States.
- Finally, given the current level of accuracy of NECATER, the investment amounts have to be different enough for the model to provide reliable and interpretable results: if there are only a few sectors concerned by the investments and if the amounts allocated do not differ significantly, the results will not be clearly interpretable.

80 Délégation interministérielle de l'Aménagement du Territoire et de l'Action Régionale

81 French national statistical institute

Similarly, innovative policy instruments have been explored also in the South West of England. For example **carbon accounting** is being developed by the Regional Development Agency (RDA) as an innovative instrument that could be more widely used within the programme. The RDA has worked with an independent research institute to develop an approach for assessing the carbon impact of investments and achieving the net zero carbon ambition. The RDA is now beginning to implement this approach, known as the *Carbon Compass*, across their investment portfolio for any project with a total financial value in excess of £1 million and for all projects that significantly generate or save carbon[82]. Denmark is also experimenting with carbon-accounting at the regional and local level, using an input-output framework. This work is likely to provide interesting insights on the use of carbon calculators in impact assessments.

3.2 Experiences with procedural instruments

The EU Funds Regulations do not require the deployment of green public procurement (GPP) or other voluntary instruments such as EMAS or ecolabels as cross-cutting conditionalities in the Operational Programmes. However, there is growing practice in the application of such instruments in the assessed case studies. For instance the Basque country is aiming to achieve 40 per cent GPP of the total public procurement by setting in its OP 20 actions aiming at promoting an environmentally sustainable consumption of resources in public buildings and undertaking 25 exemplary actions by the administration. The strong commitment towards such objectives and targets is underpinned by a strong locally-driven aspiration towards the promotion of sustainable consumption and production.

The establishment of **explicit environmental criteria** and assigning sufficient weight to them could be seen as the most straightforward way to stimulate environmentally sound projects. Some countries have established environmental criteria, granting up to 20 per cent weight to them in the project selection process, such as Bulgaria, Malta and Finland. Sometimes the identification of environmental criteria was a result of a successful application of the SEA which highlighted important environmental issues and recommended the development of specific criteria to provide the right signal to beneficiaries and favour more environmentally sound projects. For instance, the Polish authorities introduced energy efficiency as a horizontal principle in all OPs and this was subsequently reflected in the project selection criteria.83 In the Southern Finland OP the higher weighting of environmental criteria of the Southern Finland OP has also led to a higher percentage of environmentally positive projects compared to the other Finnish OPs, as shown in Box 3.

In setting environmental project selection criteria it is important to set clear standards for these in order to avoid a situation where meeting these criteria is more or less automatic and does not reward projects that go beyond them. For instance in the Maltese OP, up to this point, a large majority of applicants have been given full marks on sustainability and carbon impact concerns. This could indicate that requirements to gain full marks are too low and that there is no real incentive in the system to implement more expensive but environmentally friendly solutions and applications. Hence, there is the possibility that more environmentally friendly projects will lose out because their proposals will have a higher cost.

82 http://www.southwestrda.org.uk/working_for_the_region/working_for_the_environment/low_carbon_economy.aspx

83 DG Regional Policy. Poland: results of the negotiations for Cohesion Policy strategies and programmes 2007-2013, http://ec.europa.eu/regional_policy/sources/docoffic/official/communic/negociation/country_pl_en.pdf

Box 3: Weighting of environmental criteria and environmental projects funded: an example from Finnish Operational Programmes

The table below shows that the Southern Finland OP has the highest weighting for environmental criteria of the Finnish OPs. In the table Priority 1 is 'Promotion of business activity', Priority 2 is 'Promotion of innovation activity and networking, and reinforcing knowledge structures', Priority 3 is 'Improving regional accessibility and operational environments', Priority 4 is 'Development of larger urban areas' and Priority 5 is 'Thematic development at regional level'.

Programme	Priority 1	Priority 2	Priority 3	Priorities 4 and 5	Weight
Southern Finland	1/6	1/6	1/6	1/6	17 %
Western Finland	1/10	2/12	3/8	0/10	7 %
Eastern Finland	0/9	0/7	1/5	-	2 %
Northern Finland	0/8	0/11	0/5	-	0 %

In order to get an indication of the potential influence these have on project selection in practice we assessed the type of projects that had been funded. The table below shows the percentage and number of environmentally positive projects (in brackets) funded by the end of 2009 based on the annual implementation report.

Programme	Priority 1	Priority 2	Priority 3	Priority 4 and 5
Southern Finland	11 % (26)	29 % (14)	46 % (46)	43 % (18)
Western Finland	9 % (60)	14 % (29)	45 % (56)	24 % (2)
Eastern Finland	3 % (37)	8 % (35)	33 % (64)	
Northern Finland	4 % (45)	11 % (35)	42 % (87)	

As we can see from the table the number of environmentally positive projects funded is much higher in Southern Finland compared to the other regions and this suggests that the higher weighting for environmental criteria in the Southern Finland OP has had an impact on the proportion of environmentally positive projects funded. The small difference between the regions for Priority 3 can be explained by the priorities environmental focus and hence the role of environmental selection criteria is less relevant.

There are also interesting examples where the selection of projects, based on environmental criteria, is enhanced through the establishment of appropriate institutional structures or coordination mechanisms where environmental expertise could aid the selection process. In Denmark for instance, the spectrum of actors involved in the project application process was broadened to include professionals from the regional administration and expert groups, etc. In this way, professionals and the expert groups could contribute with their skills in areas such as environmental protection, green energy and environment technology. In Basse-Normandie a dedicated governance structure, so called environmental commissions (composed of regional council officers), was created to participate in the process of project selection. After a project has been submitted by a client/project manager, two commissions - a sectoral commission and a sustainable development commission - proceed with the evaluation of the project on a sequential basis. The projects are selected mainly based on environmental criteria specified in OP and in other programmes, at regional or national level.

In the project selection process there is not only a case for a better integration of the environment but also to improve the economic potential of environmental projects. Here the approach taken by the application selection process in the Midtjylland Region in Denmark is

of interest. The regional authorities guide the applicants in the **development of the business case for their environmental projects**, providing feedback and assistance during the drafting of the preliminary project outline documents. This approach not only promotes environmental projects that would not otherwise comply with the criteria of Cohesion Policy (because they lack economic justification), but it also promotes the development and commercialisation of environmental technologies and services.

The research within the 26 case studies explored a wide range of experiences with the application of Strategic Environmental Assessments (SEA) at programme level and, Environmental Impact Assessment (EIA) at major project level in the context of the 2007-2013 EU Funds programmes. SEA and EIAs are widely considered two of the most well established instruments for environmental integration84 of EU Funds programmes and projects. Still, the experiences across Member States and regions vary significantly in terms of the scope, timeliness, methodology, effectiveness and impact on programme/project innovation. In several countries, such as Northern Ireland, Bulgaria and Denmark, there is a **general uncertainty whether OPs which do not foresee big infrastructure investments with unlikely negative impacts on the environment, should be subject to an SEA**. This uncertainty resulted in some delay of the procedure, which meant that the SEA came relatively late in the planning process, provided relatively limited opportunities for public participation or had insignificant impact on the OP priorities and objectives.

The case studies also outlined instances in which the quality of the SEA has been rather poor or it has not been effectively implemented. In ***Poland***, for instance, despite some improvements in recent years the role of SEA in the political decision making process is rather negligible. Public authorities are aware of the obligations resulting from SEA legislation but there is a **lack of understanding why this tool is important**. Also in some cases the **SEAs are conducted by the project promoters** (e.g. the SEA for the road development programme was conducted by the General Road and Motorway Directorate). Moreover, the methodology for conducting SEAs is still not well developed. One of the concerns expressed by SEA experts is that its conclusions are of little use in decision making processes in Poland. Most frequently political decisions with regard to interventions subject to SEA are taken much before the strategic assessment (see also the Via Baltica case study in Section **Error! Reference source not found.**). SEA is not considered as a tool for presenting alternative scenarios for interventions in question. Usually changes in programming documents resulting from SEA relate to diagnostic chapters rather than practical formulation of the policy tools. Moreover, SEA conclusions are often of general character rather than specific recommendations regarding changes in the measures and allocations. For instance the SEA for the OP Infrastructure and Environment stated that: 'the programme implementation will foster decoupling of energy use from economic growth'. This general statement may be valid for some selected measures of the programme, but is unlikely to be valid for the overall effects of the entire programme. In the opinion of decision makers, linking programming process with sustainable development is an important issue but there is a limited understanding of how to do this practically.

84 European Commission 2010. Conclusions of the fifth report on economic, social and territorial cohesion: the future of cohesion policy. COM(2010)642, Brussels

.

In other cases, **the lack of experience and of methodological guidance** appears to be the main reason for the poor quality of SEAs. In ***Bulgaria***, SEA proved to be an important tool for environmental integration but the lack of experience and methodological guidance resulted in varying quality of assessments and different degree of effectiveness for greening OPs. There was no practical experience with applying SEA to Operational Programmes for EU Structural and Cohesion Funds when the programming period started; hence many difficulties and drawbacks could be observed – short timeframes, methodological dilemmas, limited capacity of the evaluation teams and relatively poor public participation. Even though there is growing comprehension that the SEA is an important tool for environmental integration in EU funds programmes, it is often perceived as a burdensome procedure, a formality required by the EU Regulations on EU funds and national legislation on SEA. The benefits that this planning instrument can offer decision makers are still rather undervalued. The environmental assessment was mostly 'added' to the socio-economic analysis and rarely considered any alternative measures or discussed trade-offs. Due to lack of expertise and guidance, climate impacts and adaptation measures were not considered in the SEA. Interviewees stated on several occasions that more guidance from the European Commission is necessary in this regard.

Overall, the case studies provide a **number of positive developments and innovative applications of SEA**. The SEA for the OP Infrastructure and Environment in Poland resulted in adding some indicators related to the modal share of 'environmentally friendly' transport and in Bulgaria into the establishment of environmental criteria for project selection within a number of OPs.

The case studies include also some complementary examples of the **SEA application as an integration instrument** in Cohesion Policy programmes. One such example is the **in-house ongoing SEA** applied to the OP on rural development in Piemonte85. Here the SEA ensures broader participation and better coordination in the evaluation of the environmental dimension of the programme. In this framework, the SEA is not only carried out exclusively before the programming phase, but it is also carried out during the implementation period. In this way, the **ongoing SEA ensures the existence of a feedback mechanism into the implementation of the OP and it influences the implementation phase of the programming.** Moreover, it guarantees the involvement of evaluators with a better understanding of the context and overcomes the lack of necessary technical and environmental expertise. It would also support the plans for making on-going evaluations obligatory, as stated in the Fifth Cohesion Report.

The South West of England pioneered in another area of the application of SEA linking to the **improvement of monitoring and evaluation systems.** An SEA monitoring strategy developed by the Regional Development Agency (RDA) set out some ideas for improvement in the monitoring system and a review or a bi-annual update to the SEA. However, additional work was required to fully develop the strategy. Essentially, it is likely that monitoring and evaluation in relationship to SEA will become increasingly prominent in the mid-term of the

[85] This practice has been put forward by the Regional Agriculture Authority, with the collaboration of the Politecnico di Torino and with the coordination of NUVAL. It is funded by EAFRD, under a priority axis similar to Priority Axis 4 in the ERDF OP (Technical Assistance), and was included in this study because of its innovative approach, even if not part of the 2007-13 Cohesion Policy funds. When asked why the practice has not been implemented also for the monitoring and evaluation of the ERDF OP, stakeholders argued that it is still in a testing phase.

EU Funds programmes. Stakeholders in the South West of England have emphasised the benefits of a robust and continuing monitoring system as follows:

- recommendations can be incorporated in alterations to the programme, heightening efficiency and ensuring continuous improvement;
- in-house and external expertise will be drawn upon which will ensure continuing engagement with relevant actors; and
- there will be broader participation and better coordination in the evaluation of the programme.

In order to **improve the evaluation of projects and link it better to the SEA of OPs**, an innovative approach has been undertaken in the Southern Finland OP. The SEA identifies critical environmental issues which are then reflected in project selection criteria. **The SEA and its impact categories therefore have a continuous role to play as they are also used in the assessment of projects**. The main part of the SEA is a table where possible impacts are assessed for each priority. These impact categories addressed in the SEA have been also adapted to better suit the relevant issues in the OP as well as the aims of the SDS. However, this SEA is also supported by an assessment of the environmental impacts of project proposals, which is gathered during the project application stage. The applicant is required to assess the environmental impacts of the project proposal by filling in a table and indicate whether a project is environmentally neutral, environmentally beneficial or environmentally harmful. The categories assessed cover broadly those of the SEA with some exemptions/additions. However, the project may also have indirect environmental impacts, such as an increase in traffic, and hence the funding authority has to also consider the SEA and its categories in the assessment of project proposals. Therefore, the SEA and its impact categories have a continuous role to play as they are also used in the assessment of projects. This approach would also correspond well and support a better functioning monitoring and evaluation system in moving towards a more strategic and results oriented approach to Cohesion Policy as stated in the fifth report on Cohesion Policy.

The SEA of the Central Baltic Interreg IVA Programme **includes a detailed table on how mitigation measures have or have not been incorporated**. The SEA recognises that due to the general character of the programme the potential environmental impacts could only be described very generally and how environmental considerations were integrated in the programme will become relevant mainly during the phase when projects will be approved and monitored. To reflect this, the SEA comes up with guidelines on project selection criteria and the abovementioned table provides information on how these will be taken into consideration.

Instruments, such as the SEA and DPA, can also be successfully used to 'inform' the selection panels when they award funding. In **Northern Ireland**, where it is clear that the DPA86 approach is used relatively consistently, the actual outcomes or benefits of the approach are less clear. The stakeholders consulted offered mixed views as to how much of an effect the development path allocation has on project selection, which suggests that the assignment of development paths is not systematically integrated into the project selection criteria across the OP's priorities. A stakeholder responsible for a number of projects funded noted that the main role of the approach is to ensure that the projects can at least be assigned a specific path (i.e. they are not directly damaging to the environment), with the actual

86 Note that the DPA categorisation differs from that developed under this study

development path playing a lesser role in selection of project applications. Two other stakeholders however argued that the path assigned to the project has a bearing on the final score a project receives. The interviewee that found the approach of least benefit was responsible for projects with a relatively clear environmental element and found the DPA approach to be of little additional value, given that sustainable development principles were already a key consideration in project selection.

In other cases, the Managing Authorities have introduced instruments that support the applicants when formulating the proposal. In **Malta**, for instance, **information sessions** are provided to participants to encourage them to include measures such as renewable energy and to facilitate the inclusion of sustainability and carbon impact considerations. These are intended to provide prospective applicants with information on energy efficiency and to encourage prospective applicants to include measures such as photovoltaic, solar water heaters or water reservoirs in the project design. To do this, relevant organisations with expertise on environmental sustainability are invited to attend the information sessions. These sessions might raise awareness of environmental and sustainability concerns and may encourage prospective applicants to engage in more integrated project approaches. This mechanism can potentially work if applicants are public institutions, as some possibilities exist to grant additional funding to measures to reduce overall CO_2 emissions from projects. But the mechanism is contestable as there are no clear criteria for when additional funding can be granted. Moreover providing extra information might not have substantial impacts, as it is dependent on the project selection process. This is supported by the fact that the number of projects that have incorporated elements like photovoltaics, solar water heaters, etc. are low and it is not clear to what extent the measures taken were caused by the information sessions.

A particular challenge for the application of both SEA and EIA are the lists of indicative major projects, which form part of the Operational Programmes, but do not fall under the scope of SEA. This is particularly the case in new Member States, where these major projects are to a large extent a result of political ambitions and there is often strong pressure for their implementation. They are subject to obligatory EIAs but only after their inclusion in the list of indicative major projects, while the inclusion itself is an indication of a preference for certain projects despite their likely environmental impacts. Therefore, as it appears from the Polish transport case studies there is a **need for the SEA to include in its scope the list of indicative major projects and consider alternative projects and mitigation measures already at a planning stage.**

However, the Polish transport case studies also display some positive developments with regard to EIAs of major projects. Importantly, the implementation of Cohesion Policy investments in Poland, particularly in the field of transport, led to **institutional reforms enabling smoother and higher quality EIA procedures**. In 2008, the General Directorate for Environmental Protection was established, together with 16 Regional Directorates. One of the primary tasks of these institutions is to carry out EIA procedures and the management of Natura 2000 sites. **The creation of these new, independent institutions ensured extra capacities to deal with EIAs for transport projects**. In fact one of the aims of the institutional reform was to facilitate implementation of transport investments funded by the EU, which before had been delayed due to problems with environmental procedures. In view of this, the quality of EIAs and Appropriate Assessments, according to Article 6 of the Habitats Directive, have improved. Moreover, it also appears that public participation in the

transport infrastructure development field has also improved. This applies especially to major transport projects designed to be co-financed by the EU.

A significant characteristic of the Danish OP is the requirement of a **compulsory Environmental Impact Assessment** for every project application87. However, this EIA does not necessarily follow the requirements of the EIA Directive. The EIA is done by the project applicants themselves and are only formally controlled in the sense that beneficiaries will have to deliver the EIA to be eligible for funding. Through the application of this type of EIA, **the integration of environmental considerations as a cross-cutting theme at project level is enhanced.**

Another interesting aspect is the application of EIA in the Southern Finland OP, as it establishes a governance mechanism to ensure quality control of the EIAs for project proposals that are provisionally approved by the funding authority. **The EIA panel assesses the quality of the environmental impact assessment done by the applicant** and where there are any inconsistencies/concerns about the quality, will inform the funding authority accordingly.

There could also be scope for a **better integration of SWOTs** as a complementary instrument for engagement and identification of problems/solutions. In the SURF INTERREG project SWOTs were used as a relatively **simple and straightforward tool to engage stakeholders** in the definition of problems and potential solutions. It was used to ensure that the project considers the wider opinion and that it meets its overall objectives. In this respect, the **SWOT had a corrective function,** which could lead to changes in emphasis within the project. The SWOT is also considered to have helped develop a mutual understanding of the issues and solutions.

Indicators

As discussed in the previous chapter, indicators are an important instrument for environmental integration. Therefore, within the case studies carried out in the context of this project, a certain amount of data on environmental indicators has been collected. It is far from exhaustive but presents a range of examples of the use of different environmental indicators. The data is presented and categorised according to the different environmental themes. The data from the case studies suggests that in the examined cases environmental indicators have been used on various occasions and some of them have been deployed in quite innovative ways. Climate change and energy indicators are predominant in the examined case studies while fewer examples of biodiversity or resource use indicators could be found. Also, the examined case studies indicate richer experience with the deployment of environmental indicators among EU15 compared to EU12 Member States.

Climate change and energy efficiency indicators

Several regions request that project developers/ applicants provide **information concerning CO_2 emissions** that their project is likely to generate. The extent to which this may ultimately be a determining criterion in the allocation of funds is difficult to assess. In the case of the Basse-Normandie Region (France) an objective for carbon neutrality of the overall Programme might result in this becoming a more stringent conditionality for applicants. It can also provide an incentive for applicants whose project proposals are carbon neutral or

87 DK OP 2007: 62

carbon saving thus offering an opportunity to off-set other project's CO_2 emissions. A commitment to monitoring CO_2 emissions throughout the project and occasional ex-post auditing of the projects taking into account CO_2 emissions seem, however, crucial to ensure that applicants who have been granted funding have indeed taken the measures to reduce CO_2 emissions as outlined in their applications for funding.

Other indicators related more to the pressures and drivers resulting in CO_2 emissions are also used (e.g. energy consumption of households, CO_2 emissions from transport, etc.). This is in particular the case when an Operational Programme promotes investments in technologies to reduce energy consumption in order to achieve a specified target. This is for example the case study of the Autonomous Community of Basque Country (Spain) which aims at reducing overall energy consumption of households and the Covenant of Mayors approach in Barcelona case study which includes a specific axis to promoting inter-modality in the transport sector. Other programmes are designed to achieve targets with regard to the region's share in consumption of renewable energy, often also linked to targets to increase the share of renewable energy produced in the region. When such targets are made the priority of the programme they may effectively contribute to achieving progress towards meeting these targets at regional level. Hence, Operational Programme headline target indicators can generally be expected to be used at the monitoring and evaluation stages. Table 3 provides an overview of the climate change and energy efficiency indicators encountered in the case studies.

Table 3. Overview of the indicators relating to climate change and energy efficiency reported to be used in the case studies.

Case study	Indicator	Indicator's purpose	Stage of the policy cycle in which indicator has been used	Does the indicator facilitate environmental integration?
Climate Change and energy efficiency (& transport)				
Basse-Normandie and carbon-proofing tools	**CO_2 emissions**	Information on CO_2 emissions of the projects financed under this programme are consistently collected to allow for an assessment of the net regional CO_2 emissions associated with the Cohesion policy investments. In addition, this allows the identification of investments that contribute positively or negatively to the carbon balance of the region and identify possible offsetting investments.	Programming, Implementation and reporting	This indicator is linked to a carbon-neutrality target for regional investments, which gives ex-ante incentives to regional authorities to propose carbon neutral investments.
South West Operational Programme	**CO_2 emissions**	The indicator measures how far carbon intensity is reduced in the project and	It is used at application stage to see how far a project has considered its carbon emissions.	By requesting that information on CO_2 emissions related to the development are

		whether the project makes a contribution towards the objective of a Low Carbon Economy. For example the application form provides the opportunity for projects to state how many emissions will be saved/what % or energy will be produced by renewable sources. Projects state how they would go about achieving CO_2 reduction and where possible provide relevant figures on savings.	[Could also be used at the implementation stage or at the end of the project lifetime for monitoring purposes.]	provided, project developers are encouraged to seek solutions to reduce those emissions to increase the chances of being granted funding.
Operational Programme of Southern Finland	**CO_2 Emissions from Energy production and Industry**	The indicator measures emissions from energy production as well as from industry. Its purpose is to be used as part of SEA monitoring.	The indicator is used during the monitoring. The indicator could also be used in other stages, such as that of programming by setting certain targets for type of projects to be funded under the OP.	It is unlikely that this indicator has as yet had a clear impact on efforts to reduce CO_2 emissions. However, as it is monitored it is likely to be introduced in a more comprehensive way n future OPs.
Operational Programme of Southern Finland	Proportion of projects (based on funding) reducing greenhouse gases	Measures the proportion of projects (based on funding), which reduce greenhouse gases By the end of 2009 5 % of the projects reduced greenhouse gas emissions.	As with the earlier indicator, this is used in the monitoring stage as part of SEA but could in other stages, such as that of programming by setting certain targets for type of projects to be funded under the OP.	As with the earlier indicator, it is unlikely that this indicator has as yet had a clear impact on efforts to reduce CO_2 emissions. However, as it is monitored it is likely to be introduced in a more comprehensive way n future OPs.
The Autonomous Community of Basque Country (Spain)	**Energy consumption of households**	The indicator is used to measure energy use by households and businesses at regional level. Medium-term targets are set and the impact of the Cohesion policy investments are assessed against this target.	Evaluation	Yes
Case Study Northern Ireland	**Capacity of renewable energy production**	Indicators measures renewable energy production in MWh. The indicator is aimed at assessing results of renewable energy activities funded under priority 3 of the OP	The indicator is used in implementation (indicators included in the OP under spending priorities)	The indicator is linked to planned activities focusing on renewable energy. The indicator thus follows from the activities. Thus it's the activities that can result in reducing adverse

		(Improving Accessibility and Protecting and Enhancing the Environment)		environmental impacts/ enhance environmental benefits, not the indicator.
The Covenant of Mayors approach in Barcelona	**Consumption of renewable energy**	The indicator measures the consumption of renewable energy over total energy consumption, in percentage points. This is a strategic indicator: its purpose is to monitor how the programme has contributed to increasing the consumption of renewable energy.	This indicator is used in the programming phase. Strategic indicators specify the current value and the objectives to be achieved in 2009, 2012 and 2013. It is important that this indicator is used also in the evaluation phase, to measure the attainment of the objectives set down in the programme.	The strategic indicator shows efforts to enhance environmental benefits and in particular increase the consumption of renewable energy. However, it is not clear whether it has resulted in particular efforts or whether this is driven by a more general and common EU commitment to increase renewable energy consumption.
Piemonte	**Resources invested in the self-production of energy from renewable sources in SME**	The indicator measures the resources invested (in Euros) to incentivise the self-production of energy from renewable sources in SMEs. Its purpose is to measure the development of the programme with respect to one of its objectives: reduce the impacts of industrial activities on air pollution.	This indicator is used in the implementation and monitoring phase, but it has been identified as part of the SEA, thus it can be considered part of programming.	The indicator does not show particular efforts in reducing environmental impacts on the environment, especially because the SEA does not provide a target against which this indicator should be monitored.
The Covenant of Mayors approach in Barcelona	**CO2 emissions from Transport**	The indicator measures CO_2 emissions generated by the transport sector. Its purpose is to measure the development of the programme with respect to one of the objectives of the programme: reduce air pollution in relation to urban transport and public transport and to develop infrastructures that encourage inter-modality.	This indicator measures the results achieved through the programme, rather than the rate of implementation of the programme. It is thus used primarily in the evaluation phase to monitor the development with respect to the objectives set down in one specific axis of the OP.	The indicator is linked to planned activities focusing on the favouring sustainable development, improved accessibility and sustainable mobility. It also reflects the commitment of the Catalunya region to reduce the negative environmental impacts related to the quality of the air, resulting from high population density and traffic. This has been recognised as one of the main environmental issues in the region.

Nature and ecosystem service indicators

As could be expected, given the more recent development of indicators in this specific field, ecosystem indicators have only been found to be used in a limited number of cases. This might be explained by the fact that ecosystem indicators might still be less developed and are considered less robust than other types of environmental indicators. The projects which have taken ecosystem service indicators into account did generally involve investments into projects having an obvious positive impact on the natural environment and the provision of ecosystem services. This is the case of both the TIDE and the Lake Karla projects. In both cases the optimised provision of a specified ecosystem service has been identified as one of the objectives of the projects and the indicators are used to monitor that projects deliver the benefits which should accrue. Hence, indicators were used both at the stage of application for funding, to present the expected benefits resulting from the project, and at the stage of implementation and reporting.

Quite clearly, the impact of investments in infrastructure should not only consider impacts on ecosystem services when these are likely to be enhanced by a project. A requirement for applicants to report on the impact of proposed projects on ecosystem services could trigger a more systematic use of available ecosystem service indicators and, where some are missing, trigger their development. It would also encourage applicants to take necessary mitigation measures or options for delivering their projects which might support the provision of ecosystem services. Table 4 provides an overview of the nature and ecosystem service indicators encountered in the case studies.

Table 4. Overview of the indicators relating to nature and ecosystem service reported to be used in the case studies.

Case study	Indicator	Indicator's purpose	Stage of the policy cycle in which indicator has been used	Does the indicator facilitate environmental integration?
Nature and ESS				
TIDE (INTERREG Project involving 4 member state partners)	Ecosystem Services	Ecosystem Services - the ecosystem service approach in TIDE defines benefits that estuary ecosystems can provide, defines services required to realise these benefits and assess what management techniques are needed to provide for these services.	Used throughout implementation. Could also be used at the end of the project to assess and report overall achievement.	TIDE seeks to integrate the physical needs for economic development with ecological and environmental needs based on the definition of ecosystem services.
Lake Karla – CP funded project	Restoring water surface levels and species reintroduction	One indicator measures the level of water surface of the lake in order to ascertain when levels have been restored to	Used throughout implementation to see how well and how quickly project is progressing. Indicators were also	The aim of the project is to recreate Lake Karla and reintroduce/protect habitats and species. Using indicators allows the project to see how much it has achieved

		its levels pre-1962. Linked to this another indicator measures the reversal of the loss of biodiversity via the reintroduction of species and maintenance of habitats and threatened populations of flora and fauna.	assessed in the application phase to ascertain how effective the project would be.	and how much more it needs to do to meet its objectives.

Waste and natural resource related indicators

Indicators reported to be used in the case studies in the field of waste management and natural resources concentrate on pressure indicators, in particular in the areas of waste reduction, recycling and recovery indicators and waste water treatment (e.g. number of waste water treatment plants built or number of people connected to the sewage network and served by a public system of waste management). These indicators, rather than measuring the predicted or observed environmental impacts of specific projects or programmes are a core element of the projects themselves as far as they are clearly linked to the project's objectives and targets. Thus, in the case of the Operational Programme Improving Accessibility and Protecting and Enhancing the Environment (Northern Ireland), the indicator was used both to define the Operational Programme's spending priorities and to monitor its implementation. The inclusion of a number of impact indicators could have allowed a better assessment of the achievement of the programme's environmental targets and further encouraged applicants to take a more creative approach to the design of projects to achieve stated environmental objectives. Table 5 provides an overview of the waste and natural resources indicators encountered in the case studies.

Table 5. Overview of the indicators relating to waste and natural resources reported to be used in the case studies.

Case study	Indicator	Indicator's purpose	Stage of the policy cycle in which indicator has been used	Does the indicator facilitate environmental integration?
Waste management & Natural Resources (including water)				
Case Study Northern Ireland	**Levels of waste management, recycling and recovery**	The indicator is aimed at assessing results of activities which apply the principles of sustainable development to waste management funded under priority 3 of the OP (Improving Accessibility and Protecting and Enhancing the Environment)	The indicator is used in implementation (indicators included in the OP under spending priorities)	No. The indicator is linked to planned activities focusing on renewable energy. The indicator thus follows from the activities. Thus it's the activities that can result in reducing adverse environmental impacts/ enhance environmental benefits, not the indicator.
South West Operational Programme	**Waste reduction**	The indicator asks projects to predict and measures how many tonnes of waste will be	It is used at application stage to see how far a project has considered its waste generated,	Yes - it forces projects to consider the ways of reducing waste. By stating it as an indicator

		reduced. This can also include details of recycling that is planned and any waste management policies that will be introduced. Projects state how they would go about achieving waste reduction and where possible provide relevant figures	however it could also be used at the implementation stage or at the end of the project lifetime for monitoring purposes.	in the application phase projects must address this point in order to gain funding.
Inter-communal system for distribution and cleaning of the waters in Alto Zezere e Coa (Portugal)	**Number of water treatment stations built**	The indicator measures the number of stations for the cleaning of waters that have been built using funds allocated to the OP. Its purpose is to monitor how the programme (and the specific project) has contributed to reducing regional asymmetries in terms of the percentage of population reached by systems for the distribution and cleaning of waters. Its purpose is also to illustrate whether there has been an improvement in the system for cleaning and distribution of waters in Portugal.	This indicator measures the level of implementation of the programme, rather than the results achieved. It is thus used primarily in the implementation and reporting phase.	No. The indicator is linked to planned activities focusing on the distribution and cleaning of waters. It does not emphasise the environmental dimension and it does not ensure that adverse environmental impacts are reduced or avoided.
Inter-communal system for distribution and cleaning of the waters in Alto Zezere e Coa (Portugal)	**Population served through public system of distribution (or cleaning) of waters**	The indicator measures the percentage of population served by systems for the distribution (or cleaning) of waters. Its purpose is to monitor how the programme (and the specific project) has contributed to reducing regional asymmetries in terms of the percentage of population reached by systems for the distribution and cleaning of waters. Its purpose is also to illustrate whether there has been an improvement in the	This indicator measures the results achieved through the programme, rather than the rate of implementation of the programme. It is thus used primarily in the evaluation phase. It is also mentioned in the SEA as part of the 'System of indicators of Sustainable Development'	No. The indicator is linked to planned activities focusing on the distribution and cleaning of waters. It does not emphasise the environmental dimension and it does not ensure that adverse environmental impacts are reduced or avoided. It seems to focus on the socio-economic dimension rather than on environmental impacts, even though it is part of the 'System of indicators of Sustainable Development'.

		level of service and quality of water supply. However, it is not clear how this indicator can help monitoring the effective quality of waters.		

Indicators relating to sustainable consumption and production

Indicators reported to be used in the field of sustainable consumption and production were of two kinds: Green Public Procurement (GPP) progress indicators and number of R&D projects financed through the regional Operational Programmes. The GPP indicator used by the Autonomous Community of the Basque Country is used to monitor the region's progress towards the target set for the share of GPP in total public procurement. The monitoring of the progress towards a target in the area of GPP at regional level, although not directly used as a criterion for allocating funds to applicants, might still encourage regions to design Operational Programmes that advance their capacity to produce goods that could be purchased in conjunction GPP criteria. This in turn supports regional development as it allows regions to purchase goods which meet GPP targets in the region.

The Operational Programme of the region Piemonte suggests how a more explicit link between GPP and innovation can be established through the development of a specific indicator. The indicator used in this Operational Programmes is rather simple though as it accounts for the number of R&D projects financed through the regional Operational Programmes in order to develop innovative processes to improve the environmental sustainability of production. Also, the way this indicator is deployed in practice is rather weak as it is primarily used for monitoring purposes but not linked to a specific target set out in the Operational Programmes. Table 6 provides an overview of sustainable consumption and production indicators encountered in the case studies.

Table 6. Overview of the indicators relating to sustainable consumption and production reported to be used in the case studies.

Case study	Indicator	Indicator's purpose	Stage of the policy cycle in which indicator has been used	Does the indicator facilitate environmental integration?
Sustainable Consumption and production				
The Autonomous Community of Basque Country (Spain)	**Green Public Procurement progress indicators**	In order to fulfil the targets set at regional level (20 actions aiming at promoting an environmentally sustainable consumption of resources in public buildings, 25 exemplary actions from the administration, 40% GPP in total public procurement), the Basque country has introduced several progress indicators aiming to measure the degree of advancement of GPP targets at sub-regional level. These progress indicators are based on the		GPP progress indicators in the Basque Country enhance environmental integration through the setting of clear targets and actions aiming to fully integrate environmental aspects in public procurement. They give a clear and comparable picture

		following information: • Basic engagement for sustainability; • Degree to which environmental concerns are taken into account in public procurement; • Existence and characteristics of an action plan for GPP; • Training of personal in charge of public procurement; • Existence of monitoring schemes for GPP; • Management of the public supply chain; • Cooperation and networking with other; and • Agencies/institutions to promote GPP. Specific actions are assigned to each of these high level indicators so as to provide a concrete and comparable measurement base. For example, for the third indicator, an action could be to carry out actions related to GPP within the local agenda 21 plan. The regional authorities are ranked on this basis and given a mark from 0 (no action undertaken) to 3 (excellent). A composite indicator is then constructed in order to summarize all the information and provide a unique mark measuring the progress made/still to make regarding GPP. Results are compared on a year-on-year basis in order to evaluate the progress made from the previous period.		across local authorities on the progress made and the work that still needs to be undertaken in order to fulfil the targets.
Piemonte	**R&D activities to improve environmental sustainability of production processes**	The indicator measures the number of R&D projects financed through the regional OP in order to develop innovative processes to improve the environmental sustainability of production. Its purpose is to measure the effectiveness of resources allocated to the OP, with respect to the general objective of reducing natural resources consumption and emissions to the environment.	This indicator is used in the implementation and monitoring phase, but it has been identified as part of the SEA, thus it can be considered part of programming.	The indicator does not show particular efforts in reducing environmental impacts on the environment, especially because the SEA does not provide a target against which this indicator should be monitored.

3.3 Experiences with organisational instruments

The ***involvement of environmental authorities through coordination and communication governance mechanisms*** has played crucial role for integrating environmental sustainability during the programming and implementation of programmes and projects. As discussed above, the engagement of environmental authorities in the selection of all projects to be co-financed by EU funds has also ensured that priority is given to environmentally sound projects and fostered more positive environmental impacts. This have also ensured that environmental considerations, criteria and indicators were taken into account not only in the selection of projects to be financed under the environmental priority axes, but also in the selection of projects in purely sectoral programmes. In most other cases, an environmental authority, which is usually part of the regional/national government, has assisted the managing authority in the evaluation of applications[88]. The creation of the ***Environmental Sustainability Manager*** as an integral part of the Regional Development Agency staff in South West England is particularly interesting in this sense (See Box 4).

Box 4 Environmental Sustainability Manager (South West England)

The South West region in England has introduced a very interesting new governance role to ensure the integration of sustainable development in Cohesion Policy, in particular in the programming and project selection phase. The Environmental Sustainability Manager for the EU Programmes and Policy Team has critical responsibilities in integrating environmental concerns including:

- Working with beneficiaries in the pre-approval stage to raise their environmental awareness;
- Assessing applications to determine if projects have taken adequate account of environmental impacts;
- Championing new projects with an environmental focus such as the low carbon grant programme for businesses, the domestic energy efficiency scheme and the deep geothermal scheme. This has collectively resulted in a pipeline of activity that if achieved will result in £40-50million worth of investment;
- Liaising across programmes to ensure synergy and complementarily; and
- Ensuring that different advisory groups such and the Programme Monitoring Committee are up to date on progress and new developments.

Although the success of this role is largely due to the dedication and commitment of the individual, creating a focused role with an individual with a relevant background such as this can be cited as good practice for other programmes. The environmental sustainability manager is viewed as a vital position by stakeholders in the region who feel that the role should be continued to ensure that environmental issues remain high on the agenda.

The environmental challenges we face are immense and we are not yet addressing them sufficiently enough, therefore the position of environmental sustainability manager remains vital'
Environmental Sustainability Manager, EU Programmes and Policy Team, SWRDA

88 This is for instance the case in the Piemonte region. However, in that case, the environmental authority has complained that its participation is required only in the evaluation of projects that have a clear direct environmental aspect.

In Northern Ireland, for instance, an ***Environmental Working Group*** has been established as a method for taking forward the cross-cutting theme of sustainability. It consists of the members of the Competitiveness and Employment Monitoring Committee of the Operational Programme under study and has the following roles and responsibilities:

- "report to the Competitiveness and Employment Monitoring Committee on and give technical advice about environmental issues taking cognisance of relevant environmental and sustainable development;
- make recommendations with regard to environmental performance and impacts of the Programmes;
- assess the environmental and environmentally related policies underpinning investment under the Programmes, and the environmental impact of that investment, within the overall perspective of Sustainable Development;
- assess and report on the degree of environmental integration achieved in the implementation of the Programmes;
- act as a forum for the promotion of environmentally sustainable policies and practices among Departments, implementing agencies, social partners and others involved in the Programmes, with particular emphasis on the development of monitoring methodologies and mechanisms to facilitate the achievement of environmental objectives;
- consider utilising publicity to raise awareness, to project promoters and project applicants, of the environment and of highlighting the work and role of the Programmes;
- encourage the utilisation of innovative environmental considerations into the Programmes;
- ensure the Programme SEA reports are complied with and carry out analyses on Environmental Reports;
- encourage and facilitate networking arrangements both on a North/South and East/West basis involving the management and use of Structural Funds; and
- liaise and share good practice through the offices of the EC[89]".

With regard to cooperation with other bodies, the Operational Programme notes that Northern Ireland is represented on the UK Environment and Structural Funds Groups and may cooperate with the Irish Environment Co-ordinating Committee (ECC) "on issues affecting the entire island of Ireland"[90].

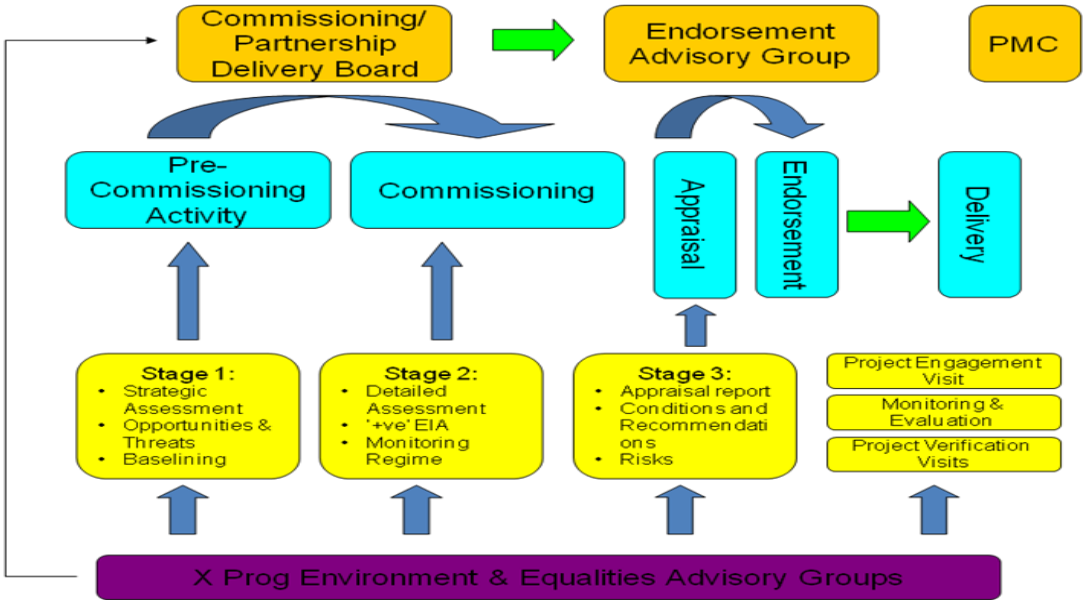
The South West of England has established a range of governance mechanisms for environmental integration. During implementation phases the ***Programme Monitoring Committee*** **(PMC)** retains a strategic steer over the programme and becomes involved in investment decisions if a project in question is particularly novel or contentious. In addition, a stakeholder who sits on the PMC noted an increased acknowledgement of environmental issues in recent years, partly as a result of the changes in thinking across all levels of government with respect to the climate change agenda and recognition of green jobs and environmental technologies as a potential growth area.

89 See Environmental Working Group Terms of Reference, pp. 3

90 See OP, pp. 49

There is also *a **Cross Programme Environmental Advisory Group*** consisting of membership from environmental partners across the region including the environment agency, energy saving trust, Universities and Natural England. The Group advises the Programme board as to whether its environmental priorities and focus are fulfilling the objectives of the Operational Programme. Figure 3 presents the governance structure in the South West of England that is currently set up to facilitate environmental integration towards sustainable development in the Operational Programme.

Figure 3: Governance Structure to facilitate integration of sustainable development



Source: The South West RDA

The case study on Denmark has also put a significant focus on institutional structure for environmental integration as a number of interesting practices can be observed there. The so called **Growth Forums**, for example, are a novel approach of institutionalised partnership at regional and local level, which bring stakeholders together both in the planning and in the implementation phase. Growth Forums are standing committees parallel to the regional councils and are considered a novel approach of institutionalised partnership at regional and local level with members being representatives of regional and local authorities, businesses, research and higher education as well as social partners. This constitutes a body responsible for the planning of programmes as well as in the evaluation of the applications. This ensures the inclusion of a broad range of stakeholders, e.g. stakeholders from industry, research and public authorities, which ensure access to local knowledge and participation of important stakeholders already at strategic level.

At project level, some Growth Forums take a very active role in engaging important regional stakeholders such as private businesses and research institutions. In this way, they define a detailed thematic scope for the projects application and they engage actively in developing the content of the projects. These authorities have (often) extensive in-house technical expertise (including expert councils), which can help develop the content of the projects. . More detailed information about the case study can be found in **Box 5**

Box 5 Institutional and procedural mechanism for the promotion of environmental projects in Denmark, Region Midtjylland

The regional authority has taken a proactive top-down approach towards the project development process. First, the regional authority is taking an active role in encouraging regional actors to engage in the development of new projects. Officials are professionals specialised in the relevant sectors and they proactive go in dialog with the regional actors about potential future projects.

Second, if the project application is submitted under the regional mega initiative 'Energy and Environment' or (in some cases), if the application is considered to have an environmental dimension, the *Division for Environment, Technology and Infrastructure*, which is part of the *Department for Regional Development*, takes an active role in the application process. This procedural approach is not formally compulsory, however, it has been applied to all project applications under the current funding cycle. A central practicality underlying this procedure is that project applicants are asked not to deliver complete applications but a project outline of a maximum of five pages.

The *Division for Environment, Technology and Infrastructure* has a range of professionals specialised in the energy and environmental sectors, who can then supervise the project applicants. In addition, to support the project development process, the regional business development authority has appointed – among others – an external, highly professional advisory committee on energy and environmental issues. Thus, the institutional setup around the managing authority at the regional level provides a pool of professional expertise in environmental management, environmental technology, agriculture, technology development and innovation supporting the development of new projects.

At the initial stage, the five page project outline is discussed with the advisory committee, and the applicant is given feedback by the committee. The committee also assesses if the project outline has the potential to be developed into a full proposal. Furthermore, regional officials contribute to the project development process with their own expertise.

According to the regional business development authority, this setup not only facilitates the integration of environmental consideration at the project level, it also – and perhaps more importantly – facilitates the integration of economic considerations into environmental projects. This is an important aspect with a significant effect. Regional enterprises, research institutions and universities already have the knowledge to design, plan and execute an environmental projects, however, they sometimes don't have the expertise or they need feedback on how to add a business dimension to their environmental projects.

One example of this is the *Miljøpilprojektet*[91], which began as an environmental project and for which a business model developed in cooperation with the regional authority. Today, the project can be described as having a short-term positive environmental effect and a long-term economic effect. This is quite an achievement because the institutional and procedural setup not only promotes environmental projects, which would otherwise have not complied with the criteria for Cohesion Policy funding, but it also promotes the development and commercialisation of environmental technologies and services.

91 http://www.rm.dk/regional+udvikling/v%C3%A6kstforum/indsatsomr%C3%A5der/energi+og+milj%C3%B8/projekter+og+aktiviteter/biomasse/produktion+af+energi+og+milj%C3%B8+ved+dyrkning+af+pil?

Important governance mechanisms during monitoring are the ***Monitoring Committees***, which are required under the General Regulation 1083/2006/EC. All Member States and regions have established such, however, the practical implications of their functioning show very mixed results across Member States. Some of the early experiences in new Member States, for example, suggest that they often tend to be a pro forma mechanism to legitimise decisions already made by the managing authorities.

Yet, there are also examples where Monitoring Committees have played more substantial role for environmental integration. For example, in Bremen, a Monitoring Committee (Begleitausschuss)[92] was set up by the Lander to accompany the implementation of the 2007 – 2013 Cohesion Policy programmes. It checks whether the selection criteria are fulfilled, assesses the project progress and the achievement of the objectives, and approves the annual reports. The composition of the Monitoring Committee ensures that environmental objectives are reasonably considered. Environmental players from the government and non-governmental sector are involved. They include: Ministry for environment and construction) and Gesamtverband für Natur- und Umweltschutz Unterweser e.V. (GNNU, non-governmental organisation for nature conservation). The Monitoring Committee meets once or twice a year and visits ERDF projects once a year.

Tools such as the SEA, the ex-ante evaluation and project assessment ensure **public participation in decision-making** and thereby strengthen the quality of decisions. In particular, the authorities in charge of these tools facilitate engagement with different environmental and economic stakeholders. In the Polish railway case study for example it was established that even though public consultation for this type of projects is not required by Polish law, the Ministry of Regional Development advised applicants to carry out public consultations. Thus, the beneficiary organised four meetings in the municipalities across the rail line, during the initial phase of the project. The responses to public consultation were analysed and collected in a report drafted by an NGO that collaborates with the beneficiary company. However, people responsible for the consultation procedure concluded that it attracted less attention than expected: few people participated and they mostly raised non-environmental concerns. They also concluded that EIA are more effective in ensuring environmental protection than public consultations.

Eco-communities (Basque Country) is another governance mechanism for cooperation between research centres and the institutional and social stakeholders. The objective of these communities is to guide eco-innovation of regional economic and social systems and to help them exploit new opportunities and synergies in order to improve sustainability and secure long-term economic and social benefits. According to the evaluators, they generate important knowledge and information spill-over, which ensure eco-innovation across a wide range of projects. Regional ECOmmunities could be created for each environmental theme and coordinated through a series of alliances at the regional level.

[92] http://www.efre-bremen.de/sixcms/detail.php?gsid=bremen59.c.2930.de

4 ANALYSIS OF THE POTENTIAL TO USE SHORT-LISTED INSTRUMENTS AS CONDITIONAL OR COMPLEMENTARY INSTRUMENTS

The previous chapters reviewed various instruments, tools and mechanisms which facilitate environmental integration. The review focused on those that are already available in the toolbox of Cohesion Policy – they have been either already embedded into the regulatory base of Cohesion Policy or were observed through their practical application at national, regional and local levels within the analysis of case studies.

This chapter, building on the work already done under Supporting Paper 3, elaborates on potential policy instruments which could be further developed or deployed within the scope of the future Cohesion Policy in order to enhance the environmental benefits and mitigate negative environmental impacts associated with investment, or even facilitate changes in investment patterns. Some of these are often closely linked to the existing EU *acquis* and in this sense could be used as a conditional instrument to enhance the implementation of EU legislation in other policy areas – environment, transport, etc.

Supporting Paper 3of this project concluded that the following policy instruments could potentially be used as conditional or complementary instruments for Cohesion Policy:

- Green public procurement, generally and for transport in particular;
- The application of EMAS and Ecolabel;
- Standards for the thermal insulation of buildings;
- Strengthening the implementation of the Water Framework Directive, including the greater use of water pricing to assist full cost recovery;
- Strengthening the use of existing EU biodiversity Regulations and the application of market based mechanisms;
- Charges for the use of transport infrastructure; and
- Renewable Energy Feed-in Tariffs.

It should be remembered that these instruments have been chosen as they were considered to be able to deliver environmental benefits when used as either conditional or complementary instruments to Cohesion Policy funding. Hence, all of the instruments discussed either have the potential to enhance the environmental performance of Cohesion Policy funds, or to mitigate adverse environmental effects that might otherwise result from Cohesion Policy investments. For more information about how these environmental, and economic, benefits are delivered, see Supporting Paper 3. Additionally, the instruments listed above where selected as they have the potential to be implemented at the European level alongside Cohesion Policy; again, the potential regulatory basis and existing legislative framework, as well as the potential barriers to the implementation of the instrument, are discussed in detail for each instrument in Supporting Paper 3. The text in this section does not repeat these discussions.

Additionally, it is important to note that there are other instruments that have the potential to be used to green Cohesion Policy, but which are not included in the list of instruments covered in this section. Many of these were scoped out within the Supporting Paper 3, as the aim was to identify the instruments with the most potential to be practically applied in the next Cohesion Policy period. In this context, the instruments above already have an existing

legislative framework or a developing implementation framework at the European level, as well as being in a situation where they can be readily applied, i.e. the practicalities of their implementation, are known. Consequently, some instruments that might have been expected to be included on the above list, as they are similar to instruments present such as waste charges, are not covered in this section as they failed to meet some of the other criteria.

The aim of this section is to focus on how the instruments listed above might be applied in practice, either as a conditional or complementary instrument, with Cohesion Policy investments. Hence, it assesses these instruments in turn (in Sections 4.1 to 4.7) with respect to the following:

a) The appropriate stage in the Cohesion Policy cycle for the application of the instrument as a conditional or a complementary instrument.
b) The way in which the conditional or complementary instruments could be operationalized.

We then discuss the way in which the conditional and complementary instruments could, or should, interact with existing tools, as well as the way in which the instruments complement wider EU policy.

4.1 Green public procurement

In Supporting Paper 3, the incorporation of Green Public Procurement (**GPP**) into Cohesion Policy has been discussed both under the transport theme as well as under the Sustainable Consumption and Production theme. The following analysis integrates these two discussions in order to ensure a consistent approach on GPP as a conditional or a complementary instrument for Cohesion Policy.

GPP is one of the instruments that can facilitate environmental integration in Cohesion Policy. However, to date it has had only a fairly limited integration in Cohesion Policy though there has been a somewhat greater commitment in general national and municipal procurement (recall chapter 2). There have also been efforts not only to develop guidance on GPP, share knowledge of good practice and use the open method of coordination (OMC) to further the uptake of GPP, but also aiming to apply GPP as a legislative instrument. On the latter this has been successful for the transport sector for low emissions vehicles.

Before discussing the appropriate stage at which GPP should be applied, it is important to consider two important issues when analysing the application of GPP alongside Cohesion Policy, ie:

- What do we understand by GPP (in terms of procedure, standards and institutions)?
- Where should GPP be anchored from an institutional perspective?

GPP is essentially about including environmental and/or energy-related criteria into calls for tender by public and semi-public organisations, as well as using whole life costing (WLC) to calculate the total costs of products and services. The challenge when applying GPP is to ensure that there are appropriate legal competences on how to include environmental considerations into public procurement and capacity to make it happen in national, regional and municipal procurement practice. Implementing GPP, therefore, requires the development of the necessary capacity, mind-set and tools to take a wider set of costs and benefits into account in procurement decisions. Furthermore, as public procurement is often to some degree centralised or coordinated by a specific institution, which is, in general, also the most

efficient approach, incorporating GPP may include developing central institutions, where these are not already in place.

The second question concerns where GPP should be anchored from an institutional perspective, ie whether the GPP schemes should be set up internally or externally to the institutional framework of Cohesion Policy. If applying GPP also includes specific procedural and institutional aspects, it seems more effective, since the scope of the scheme will be wider, and, due to the institutional costs of setting up and administering such a scheme, also more efficient to anchor the GPP scheme outside the Cohesion Policy institutional setup. Such a scheme external to Cohesion Policy would per se also apply to Cohesion Policy related procurement decisions by public and semi-public organisations (as is already the case in several Member States). Hence, from a good-governance perspective setting up a general GPP scheme could be made a **conditional requirement** for receiving Cohesion Policy funds, ie it is required that a GPP scheme (with the relevant procedure and institutional setup) is established or will be established before any Cohesion Policy payment is delivered. Such a scheme could be anchored either at local, regional or national level. This could be determined by existing approaches or policies in the individual Member State or by the concrete beneficiary.

However, it may not be politically possible to make the set-up of a general GPP scheme a conditional requirement for receiving Cohesion Policy funds. Therefore, it may be necessary to reduce the conditional requirements to a basic requirement of applying environmental criteria and whole life costing (WLC) to Cohesion Policy related procurement decisions only, i.e. to anchor GPP requirements within Cohesion Policy. In addition, to promote the voluntary establishment of general GPP schemes a spending category to promote the establishment of general GPP schemes (including institutional development and capacity building) could be made compulsory.

4.1.1 Appropriate stage in the Cohesion Policy cycle for the application of GPP

In Member States in which beneficiaries are generally public or semi-public organisations, and where no comprehensive GPP scheme is in place at the relevant policy levels, the inclusion of GPP (or elements of GPP) as a conditional instrument could potentially have a considerable positive environmental impact on public procurement beyond the scope of Cohesion Policy co-financed projects. The basic requirement for funding would be the application of environmental criteria and whole life costing (WLC) to Cohesion Policy related procurement decisions by public and semi-public organisations Cohesion Policy funding. Compliance with this conditionality should be a requirement for payment of project funding.

In the Member States, this approach would need to be included in the relevant Operational Programmes. In order to improve the efficiency of the instrument, Operational Programmes should provide assistance for networks, capacity building and institutional development to support the adoption of GPP. It would also need to be clear in all relevant calls for tender that applying the key elements of a GPP scheme, or the establishment of a scheme, is a conditional requirement for funding (when the prospective beneficiaries are public or semi-public organisations). Hence, in the guidance to applicants in the relevant programmes, the need to apply GPP would need to be made clear. Additionally, the application of GPP could be a project selection criterion in relevant projects.

The application of GPP elements would also need to be monitored and reported, first as it would be a selection criteria and second in order to identify any issues or good practice arising. At the minimum, this reporting would need to demonstrate that GPP has been applied. This, of course, is only necessary if no (legally) binding GPP scheme exists external to the Cohesion Policy regulatory framework. It is doubtful whether projects should be required to report on the subsequent environmental benefits of GPP, as it should be taken as a given that it would be beneficial.

4.1.2 Operationalizing GPP as a conditional instrument

As noted in Supporting Paper 3, elements of GPP should be used as a **conditional instrument.** It was also noted that it would be important to ensure that, as far as is possible, common, agreed GPP practices are applied. When discussing the operationalization of GPP in the context of Cohesion Policy, it is important to distinguish between existing legislative requirements, and those elements of GPP that are currently available in the form of guidance.

In the first instance, the provisions of the clean vehicles Directive[93] are important. This Directive requires public authorities, as well as organisations principally financed or administered by such authorities, to take account of the environmental performance of road vehicles when these are being purchased. Cohesion Policy should integrate such existing legislative requirements into its Strategic Guidelines, and in turn in Operational Programmes and as requirements in relevant projects. Consequently, when purchasing vehicles under Operational Programmes or projects, Cohesion Policy should also require that the provisions of the clean vehicles Directive are applied. This would also provide Cohesion Policy with an opportunity to lead the way and be a catalyst for similar procurement. In countries that already have ambitious approaches towards clean vehicle procurement, Cohesion Policy can help to provide additional context, commitment and funding to achieve national, regional or local ambitions and targets.

In other cases, both within the transport sector and in other sectors, there are as yet no legislative requirements to apply GPP, but the Commission has already been active in developing guidance and standards for common practice. In its 2008 Communication[94], the Commission identified ten sectors as the most suitable sectors for GPP[95]. For these sectors, a training toolkit for GPP has been developed. If the regulative framework for GPP is anchored outside of the Cohesion Policy framework, as proposed above, the operationalization of GPP would essentially only need to reference existing guidance, either at the EU, Member State or regional/local level. However, it is noteworthy that all Member States have, or are preparing, a national action plan for GPP. It would make sense if the respective Operational Programmes are consistent with these plans, which would help the Operational Programme to become a positive driver for the application of GPP. As with the legislative GPP requirements for clean vehicles, the statement of the need to apply elements GPP in line with existing guidelines would need to be set out in the Strategic Guidelines.

---

93 http://ec.europa.eu/transport/urban/vehicles/directive/directive_en.htm and for the legislation: Directive 2009/33/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of clean and energy-efficient road transport vehicles http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:120:0005:0012:EN:PDF

94 Communication (COM (2008) 400) Public procurement for a better environment.

95 These were construction; food and catering services; transport vehicles and services; energy (including electricity, heating and cooling coming from renewable energy sources); office machinery and computers; clothing, uniforms and other textiles; paper and printing services; furniture; cleaning products and services; and equipment used in the health sector.

Some of the sectors for which guidelines have been developed are more relevant for Cohesion Policy interventions than others, while regional differences in priority areas will influence the relevance of the different sectors. However, for the transport sector, there is clear potential to require the application of these guidelines, as the funding beneficiaries are likely to have the necessary capacity to deal with the relevant environmental and legal issues. Additionally, the transport sector is also less likely than other sectors to be included in a broader GPP scheme. With respect to GPP to transport, the following documents are particularly important:

- Product sheet and background report for **transport vehicles** (covering cars, vans, public transport vehicles and waste collection trucks), which is the fifth of the first set of GPP criteria[96];
- Product sheet and technical background report for **road construction and traffic signs**, which is the sixth of the second set of GPP criteria; and
- Product sheet and technical background report for **street lighting and traffic signals**, which is the seventh of the second set of GPP criteria[97].

As noted above, the need to apply these guidelines for relevant transport Operational Programmes and projects would need to be set out in the Community Strategic Guidelines on Cohesion, as would the requirement that the GPP requirements in the Operational Programmes should be consistent with the respective national action plans.

4.2 EMAS and Ecolabel schemes

EMAS and **Ecolabel** schemes could potentially be applied to integrate environmental and sustainability concerns into Cohesion Policy. There are basically two approaches to this:

- Providing grant schemes for financial assistance to companies to take up EMAS or Ecolabel schemes (to avoid crowding out this should apply to SMEs); or
- Making the uptake of EMAS or Ecolabel schemes (or equivalent) a conditional requirement for receiving funding for other interventions under Cohesion Policy in SMEs. This approach could also include the first approach as an aid scheme to assist applicants to comply with the requirements for funding.

The first approach would require an expansion in the activities funded by Cohesion Policy, as is discussed in Section 5.3. The second approach is discussed below.

4.2.1 Appropriate stage in the Cohesion Policy cycle for the application of EMAS and Ecolabel

If the uptake of EMAS or Ecolabel schemes (or equivalent) were made a conditional requirement for receiving funding for other interventions under Cohesion Policy in SMEs, financial assistance would only be granted to SMEs which:

1) Are registered under EMAS; or
2) Commit themselves to register under EMAS; or

96 http://ec.europa.eu/environment/gpp/toolkit_en.htm

97 http://ec.europa.eu/environment/gpp/second_set_en.htm

3) Commit themselves to expand their portfolio of products registered under the EU Ecolabel scheme or another national scheme (having an ecolabelled product in the portfolio already cannot be made a conditionality as this alone would not contribute to a positive environmental effect of the Cohesion Policy funding).

In order to make this approach more feasible applicants could be given a deadline of 3 to 5 years to register under EMAS or an Ecolabel scheme, for example, and additional funds for this purpose could be granted.

At the national level this requirement would need to be included at the programming stage in the relevant Operational Programmes and, furthermore, at the implementation stage in the specific schemes providing assistance to SMEs. As they would be conditional requirements, the requirement to apply both EMAS and/or Ecolabel would need to be clearly stated in calls for tenders launched under the relevant schemes. In accordance with this, project applications, as well as the project selection process, would need to include one of these as a selection criterion.

If beneficiaries were given the possibility of registering under EMAS or an Ecolabel scheme this would need to be monitored by the monitoring authority. As applicants for registration under EMAS and Ecolabel schemes may fail, the monitoring procedure would need to take this possibility into account. It may be necessary to develop evaluation criteria to assess the effort invested by the applicant, so that funds given to beneficiaries under Cohesion Policy who fail to be registered under EMAS or an Ecolabel scheme are not necessary withdrawn.

It could be anticipated that this approach would lead to possible legal considerations in the Member States. Therefore, in order to clarify the legal framework the approach should be included in the Community Strategic Guidelines on Cohesion Policy by the Commission. Moreover, the conditionality requirement would need to be made obligatory for all Member States receiving Cohesion or Structural Funds in order to avoid issues of competitiveness among the Member States. Some Member States may perceive the requirement to commit an extra financial burden on their industry and would otherwise opt out to improve their (perceived) relative competitiveness towards other Member States.

4.2.2 Operationalizing EMAS and Ecolabel as a conditional instrument

Both **EMAS** and the **EU Ecolabel** scheme are well established and comprehensive schemes. Furthermore, several Member States have established their own national ecolabel schemes. Thus, incorporating EMAS and/or Ecolabel as a conditional instrument within Cohesion Policy would not usually need the establishment of any new institutions, programmes or legal framework in these countries. (As noted above, where new institutions are required, these could be financed by Cohesion Policy.) The existing schemes, as well as the criteria for being registered under these, are well defined. Therefore, incorporating EMAS and/or Ecolabel as a conditional instrument will only need to make reference to the existing schemes (or equivalents) when these are included as conditionality requirements for funding in the calls for tender.

The main challenge raised by incorporating these conditional instruments exists in developing operational criteria for the monitoring process in order to enable the assessment of whether the requirement of registration under EMAS or Ecolabel had been fulfilled, as beneficiaries may fail to register, although they made an appropriate effort. Hence, objective

criteria for assessing whether an appropriate effort had been undertaken would need to be developed.

A call for projects that has a conditionality requirement of registration under EMAS or an Ecolabel scheme should be combined with call that specifically gives direct financial assistance to companies to support the EMAS or Ecolabel registration process (see Section 5.3).

4.3 Standards for the thermal insulation of buildings

Standards for the thermal insulation of buildings can be used to integrate environmental and sustainability aspects into Cohesion Policy. These standards can take different forms: certificates or labels attesting to the energy efficiency of a building (eg DGNB, PassivHaus in Germany, BBC or HQE in France, BREEAM in the UK, etc.), audits carried out in existing buildings to allow improvements in insulation and energy efficiency, national or international norms (such as the ISO norms) etc.

One or several of these standards for the thermal insulation of buildings could be used as conditionality requirements for receiving funding under Cohesion Policy. This would ensure an efficient integration of sustainable development in Cohesion Policy and help achieve the EU environmental and climate objectives for 2020 (20% reduction of the greenhouse gases emissions and a 20% energy savings).

In parallel, Cohesion Policy could also play a role in improving the energy efficiency of buildings by providing funding for professional training, information campaigns and research programmes on new building materials, etc.

4.3.1 Appropriate stage in the Cohesion Policy cycle for the application of standards for the thermal insulation of buildings

To ensure that thermal insulation of buildings is efficiently taken into account in the projects funded by Cohesion Policy, the use of standards could be made mandatory at the programming stage. For example, the National Strategic Reference Framework (NSRF) could include within the priority related to sustainable development and/or energy efficiency, the necessity of focusing on the energy efficiency of the building sector since it ranks among the most energy consuming sectors in the EU: buildings are responsible for 40% of energy consumption and 36% of EU CO_2 emissions.

A more specific requirement could be introduced at the Operational Programme level stating that when buildings are constructed or renovated, documents certifying the quality of the thermal insulation shall be provided in accordance with relevant standards available in the country/region concerned. This requirement could also be introduced at the level of major projects, when those involve the construction of buildings.

Furthermore, the requirement could also be introduced at the implementation level, ie during the tendering and contracting process, and project selection stages. When projects include the construction or renovation of buildings, call for tenders should explicitly mention in the terms of reference the certification that the selected bidder will be required to obtain. Including this criterion at the project selection stage will automatically ensure that the investments will not generate negative and unforeseen environmental impacts. A different option would be to

select projects based on energy efficiency characteristics to ensure that the most virtuous ones are selected. This approach, however, will not guarantee a given level of energy efficiency.

At the monitoring and reporting level, the SEA could assess the extent to which these requirements have been taken into account in the Operational Programme and whether there could still be detrimental consequences for the environment. In the case study focusing on the Languedoc Roussillon Region (France), the requirement to use a certification scheme (High Environmental Quality, HQE) was made at the SEA stage after it had been underlined that the construction of new buildings could be detrimental to the environment. The aim here is to set up thermal insulation requirements at an earlier stage in order to save time and ensure that the standards are applied in a systematic way.

4.3.2 Operationalizing standards for the thermal insulation of buildings

Operationalizing standards for the thermal insulation of buildings should not pose problems since such schemes are already established and used in most EU countries. At the EU level, Directive 2002/91/EC of the European Parliament and of the Council of 16 December 2002 on the energy performance of buildings re-casted by Directive 2010/31/UE sets out minimum standards on the energy performance of new buildings and existing buildings that are subject to major renovation, and mandatory energy performance certificates aiming at informing the tenants or buyers. As the standards discussed above would generally go beyond the minimum requirements in place in the EU, there will obviously be discrepancies between the content of the standards used as conditionality measures, since they are developed at the national level. Possible solutions could be to develop and propose indicative lists of standards recognised at the international level or of national standards which have proved to be efficient. These lists could be developed at the national level in each country. To prevent countries from being exposed to different levels of constraints, and to ensure that minimum requirements are respected, the European Commission should guarantee the homogeneity of standards proposed.

On the practical side, requirements for thermal insulation standards should be clearly specified at the Operational Programme level and in the calls for projects. At the project level, specific documentation (ie certification documents etc.) would have to be produced in order to prove that the criteria have been fulfilled.

4.4 Strengthened implementation of the Water Framework Directive

4.4.1 Appropriate stage in the Cohesion Policy cycle for strengthening the implementation of the requirements of the Water Framework Directive

The use of the elements contained within the Water Framework Directive (WFD) could be strengthened as a conditional instrument associated with Cohesion Policy. These are:

- The use of an improved appraisal of implementation needs leading to improvements in the cost-effectiveness of water investment (Article 5); and
- The use of water pricing (Article 9).

The WFD came into effect in 2000 and has been transposed by all Member States. The requirement for River Basin planning and appraisal, under Article 5, has also now been completed by all Member States. In contract, the requirement for proper water pricing policies to be introduced in 2010 (Article 9) has slipped in many countries. On the basis that the provision will have been met by the start of the next programming period (ie 2014), it can

be assumed that the legislative basis for a conditional instrument should be in place in all Member States when the next programming period begins.

The requirement to make full use of these elements of the WFD should be conditional. Their application in the context of the Operational Programmes should be required prior to investment (ie at the time of the **ex-ante evaluation of the Programme**). This will help to identify the scale of water investment needs at the Member State and/or Programme level. This could be included firstly in the strategic ex-ante assessment of investment needs across Member States to inform the Commission's negotiation process with the Member States. This appraisal would be especially important in identifying any major areas of disproportionate cost to each Member State (ie where the local benefits of investment are such that the Structural Funds are the only likely source of investment), and to establish the current levels of cost recovery and affordability and hence the scope to increase water prices reducing the need for Structural Fund support. The evaluation of investment needs would assist in the process of identifying which Member States and regions have the greatest need for Cohesion Policy funding for their water infrastructure. The requirement for the appraisal should be reflected in the Community Strategic Guidelines on Cohesion and in the respective NSRFs.

The use of the appraisal under Article 5 would complement the necessary evaluation of the extent of compliance with existing EU legislation and would provide a clear indication of where water is of sufficient quality and where sufficient treatment is occurring. The appraisal would expand the basic assessment of need from one of simple output-based compliance, such as the population served by wastewater treatment (WWT) of a certain specification, to an outcome-based approach related to availability of water supplies and water quality. The appraisal would also highlight the degree of flexibility given by the WFD in the context of River Basin Management Plans and would integrate the assessments of disproportionate cost carried out at the river basin level.

Evaluating the current levels of affordability and scope for increased user charges would also provide a clear indication of where investment in water supply and WWT could be transferred (at least in part) to users of the service, and the timescales over which such a transfer should take place. Even if extending cost recovery is currently not affordable in some countries and regions, the exercise would improve the transparency over the structure of costs and tariffs and help to identify hidden subsidies that might affect affordability (eg where households are contributing to the treatment costs of industrial effluents).

The application of these instruments would depend on there being sufficient information available at the time of planning the Operational Programme, so that information about water investment needs, compliance with Directives and affordability should not be out of date when framing and evaluating investment proposals. Cohesion Policy could require up-to-date review and appraisal under Articles 5 and 9 as a condition of ex ante evaluations that examine the need for water investment.

Evaluations should not exclusively look at the technological solutions for water supply and purification, but also at the alternative or complementary application of green infrastructure and natural assets. Forests, grasslands, agricultural lands and wetlands have been proven to offer water provisioning services or water purification regulating services where there is a suitable relationship between the natural asset and the beneficiaries (eg in a city or town).

This can lead to lower costs to municipalities of providing clean water[98]. Natural assets can complement WWT and increase water quality by allowing freshwater to reach bathing water quality standards. Cohesion Policy could therefore support the mapping and identification of where natural assets offer (or have the potential to offer through restoration or investment) economic benefits to urban and rural areas.

The appraisal tool and the assessment of affordability would also generate baseline data on potential outcomes, thus improving the quality of subsequent ex-post evaluations of investments undertaken.

Second, the appraisal of needs and options for compliance with the WFD would be deepened by individual Member States as the basis of detailed design of **Operational Programmes**. The River Basin assessment of investment needs, and the assessment of opportunities for cost recovery, would feed directly into the allocation of Cohesion Policy funds by Member State and hence the subsequent **design of the Operational Programmes**. The appraisals would also allow cost-effectiveness, regulatory compliance or cost recovery objectives and criteria to be set and monitored, helping to inform mid-term and ex-post evaluations. Collectively this should lead to sustained and realisable improvements in programme delivery, targeted where the needs are greatest and ensuring optimal cost-effectiveness.

In short, the instruments identified clearly have potential at the strategic planning and negotiation stage, the programme design stage and during the operation of programmes to deliver sustained improvements in cost effectiveness and win-win policy outcomes. However, the use of such instruments may require revision of guidance provided to funding applicants and to authorities allocating the associated Cohesion Policy funds. Similarly, best practice should be identified and promoted to users, ensuring optimal cost-effectiveness of programme delivery.

4.4.2 Operationalizing the strengthening of the implementation of the Water Framework Directive

The appraisal of regulatory compliance with respect to **water investment needs** and **water pricing**, using appropriate indicators should be applied as conditional instruments associated with Cohesion Policy, helping to improve the initial needs assessment, the targeting of funds and the overall cost effectiveness of the Operational Programme it supports. The appraisals could be made conditional on the basis that the WFD will already require the necessary levels of analysis. However to operationalize each instrument, the relationship between various government stakeholders in relevant MS is a critical factor in their likely success.

Both instruments assume a certain degree of governance competence and experience, including existing relationships between the various actors likely to be involved. At the most basic level, it is a pre-requisite for either to function that a working relationship must exist between the organisation responsible for monitoring and reporting water supply, treatment and cost recovery performance (EU and Member State water regulators and competent authorities) and the organisation responsible for administering the Cohesion Policy investment. Sufficient communication is required between those responsible for the administration and delivery of the funds and funding programme, as well as those

[98] see TEEB for Policy Makers (2010) and TEEB for local and regional policy makers and TEEB cases on www.teebweb.org

organisations responsible for achieving environmental policy objectives through Cohesion Policy. For example, in the case of funding to improve water quality, the organisation responsible for administering the Cohesion Policy investment would have to communicate with the organisations in the MS that collect data on water quality and those that are responsible for delivering the infrastructure capable of improving water quality. Thus in Member States and regions where these relationships do not exist, or do not function as well as they might, action may be required to improve them prior to (or perhaps alongside) the funding programme.

The evidence presented in Supporting Paper 3 suggests that each instrument requires substantial primary data collection to function correctly. Up-to-date information is required to ensure that the instruments operate efficiently. Regularly collecting data may be expensive, and for Member States and regions without the necessary (governance) structures in place, it may be a significant burden. In order to operationalize these complementary instruments it will be necessary to establish whether the data is available in the Member States and regions, and determine whether these data are sufficient to enable the design of well-functioning instruments. Where data available is not deemed to be adequate, it may be necessary to work with Member States and regions to assist them in gathering the data, or alternatively outline the nature of the information required prior to any investment being made.

One area where Cohesion Policy support would be valuable would be in the assessment of the spatial interrelations between economic, social and ecological systems (ecosystems, eg forests, wetlands, and other green infrastructure) and the scale of the benefits that stem from ecological systems to communities and the local and regional economies.

4.5 Biodiversity: Strengthening the application of related EU Regulations and the use of Market-Based Instruments

As mentioned in the Task 5 report, the key objective of improving and further mainstreaming the use of biodiversity related EU Regulations in the context of the Cohesion Policy is to mitigate possible negative impacts of cohesion investment on biodiversity, ecosystems and related services (ie to carry out biodiversity proofing to avoid win-losses). In addition, the existing (and possible new) EU regulations, such as the Birds and Habitats Directives, EIA and SEA Directives and Water Framework Directive, can also be used as "platforms" to actively seek win-wins between biodiversity conservation and broader sustainable development. For example, Natura 2000 sites can play an active role in creating tourism and jobs, maintaining food security, supporting physical and mental health and protecting cultural heritage values.

As for market-based instruments (MBIs), these instruments are seen both as a possible way to mitigate win-losses (eg reform of harmful subsidies, use of taxes and changes) and enhance win-wins (eg retargeting of subsidies, the establishment of schemes for the payments for environmental services, ie "PES" schemes[99]) between biodiversity and sustainable socio-economic development. It has been commonly acknowledged that there is a gap between the level of current funding and the actual financing needed for biodiversity conservation in the EU[100]. Therefore, even though innovative market based instruments, such as PES schemes,

[99] See Chapter 5 of TEEB for Policy Makers for discussion of PES and its application.

[100] Gantioler S., ten Brink P., Rayment M., Bassi S., Kettunen M., McConville A. 2010b. Financing Natura 2000 – Financing needs and socio-economic benefits resulting from investment in the network. Background Paper

have the potential to play an increasing role in the conservation of biodiversity (as well as water provision and purification, and flood risk mitigation), ecosystems and their services in the future they are also foreseen to complement, not replace, public support to biodiversity. Consequently, Cohesion Policy interventions could be targeted to actively support the uptake of more innovative, market-based win-win solutions for biodiversity and sustainable socio-economic development. Furthermore, monitoring of Cohesion Policy performance could systematically focus on assessing the successes in this regard.

4.5.1 Appropriate stage in the Cohesion Policy cycle for strengthening the application of existing biodiversity Regulations and for applying MBIs

In order to effectively address biodiversity concerns mainstreaming of biodiversity Regulations should be **conditional** to all financial support under the Cohesion Policy. Therefore, biodiversity related concerns should be systematically integrated into the Cohesion Policy cycle at an early stage and biodiversity proofing of both National Strategic Reference Frameworks and Operational Programmes should be required prior to investment (ie at the stage of the ex-ante evaluation of the NSRFs and OPs). This would help to identify and prevent any possible negative impacts the strategic objectives might have on the biodiversity needs at the Member State and/or Programme level. Furthermore, proactive support to seek win-wins between biodiversity and broader Cohesion Policy investments, eg via support to MBIs, should be integrated into NSRFs and OPs.

In order to improve the sustainability of Cohesion Policy in practice, the above mentioned biodiversity concerns should be taken in to consideration in all **projects** carried out with Cohesion Policy investment. Similarly, dedicated projects could be designed and implemented to explore the development and testing of MBIs, thus facilitating a broader uptake of such instruments at the EU level (see Section 5.4 below).

In terms of **monitoring and evaluation** of Cohesion Policy performance (eg ex-post evaluation of both Operational Programmes and projects), these policy stages should always reflect and be checked against any possible negative impacts on biodiversity, ecosystems and their services (ie to detect win-losses). Monitoring and reporting could also be targeted to systematically flag up any possible win-wins between biodiversity and sustainable socio-economic development. Such aspects are not currently covered in the Cohesion Policy cycle.

Both strengthening the application of existing biodiversity Regulations and applying MBIs clearly have the potential to be used and taken into consideration at many stages of the Cohesion Policy cycle, including strategic planning and negotiation (NSRFs), Operational Programmes and project design, as well as the monitoring of Cohesion Policy performance. However, as in the context of water and the WFD, the use of these instruments may require the revision of associated Regulations and/or guidance for funds implementing Cohesion

---

for the Conference on 'Financing Natura 2000', 15-16 July 2010. DG Environment Contract ENV.B.2/SER/2008/0038. Institute for European Environmental Policy / GHK / Ecologic, Brussels 2010. AND Kettunen, M., Berghöfer, A., Brunner, A., Conner, N., Dudley, N., Ervin, J., Gidda, S. B., Mulongoy, K. J., Pabon, L. and Vakrou, A. 2011. Recognising the value of protected areas. The Economics of Ecosystems and Biodiversity in National and International Policy Making (ed. P. ten Brink), Earthscan, London. (to be published).

Policy (eg Structural and Cohesion Funds). Similarly, best practice should be identified and promoted to users, ensuring optimal cost-effectiveness of programme and project delivery.

4.5.2 Operationalizing the strengthening of the application of existing biodiversity Regulations as a conditional instrument

The **biodiversity related EU Regulations** (ie the habitats and birds Directives) are already used, at least to a certain extent, to create the "biodiversity baseline" for Cohesion Policy investment. In particular, it is increasingly highlighted that the investments under Cohesion Policy (eg investments in infrastructure) should not have negatively impacts on biodiversity. In order to improve sustainability of the Cohesion Policy, these Regulations should be more systematically used in designing Cohesion Policy and in assessing the impacts of all investment under Cohesion Policy (ie biodiversity proofing, including assessing possible negative impacts on wider ecosystems and their services). In addition, a number of broader environmental Regulations, such the existing EU provisions for preventing negative environmental impacts (EIA and SEA), could be re-targeted to more specifically prevent negative impacts on both biodiversity and broader ecosystems (eg its functioning and services). Furthermore, the regulative framework (eg the birds and habitats Directives and the Natura 2000 network they establish) could be used as a basis to develop win-wins for biodiversity and sustainable socio-economic development.

The operationalization of EU biodiversity Regulations as a comprehensive conditional instrument would require a more systematic integration of biodiversity concerns into the existing tools supporting the Cohesion Policy cycle (ie through adopting a comprehensive and effective process for biodiversity proofing). In addition, there is a need to adopt guidance on and practical procedures for using the existing tools (eg SEA and EIA) for biodiversity proofing. Furthermore, guidance and practical procedures should also be established for highlighting biodiversity win-wins (eg in the context of cost benefit analyses (CBAs)).

In order to be effective, biodiversity proofing under Cohesion Policy should be supported by ensuring that other policy sectors also do not provide financial support to activities/investment with adverse impacts on biodiversity (ie possibly undermining efforts and contribution under Cohesion Policy).

4.5.3 Operationalizing the application of MBIs for biodiversity as a complementary instrument

Linked to the above, systematic removal of harmful subsidies under other sectoral policies forms one of the key conditions for operationalizing a more biodiversity-friendly and sustainable regime for the future Cohesion Policy. The reform of harmful EU subsidies is on its way (eg in the context of Common Agricultural Policy (CAP) and the move towards public payments for public goods and the European Fisheries Fund (EFF)). However, further political support seems to be required to completely abolish incentives that support activities with negative impacts on biodiversity, ecosystems and their services, especially in the long-term.

Given the novelty of the other market-based instruments for biodiversity (eg PES schemes and partnerships with businesses) dedicated support from the Cohesion Policy could play an important role in initiating and assisting the development and uptake of these instruments at the EU level. Consequently, the establishment of an effective and more comprehensive framework of MBIs to support win-wins under Cohesion Policy (eg uptake of such instruments at the national and regional levels) is a longer term goal that might benefit from, or require some initial investment from, Cohesion Policy itself.

4.6 Charges for the use of transport infrastructure

As noted in Supporting Paper 3, **user charging for transport** could be applied where Cohesion Policy funds are used to:

- Construct **inter-urban roads**. In this case, user charging could be required to be applied in accordance with the environmentally-best option allowed by the (revised) Eurovignette Directive (1999/62/EC, as amended). Note that this Directive restricts the level of charges that can be applied.
- Develop transport networks in **urban areas**, where the application of congestion charging could be required.

User charging should, as far as possible, deliver a level playing field between the different modes of transport. For roads, historically there has been no EU wide requirement for charging for use of roads for passenger or freight transport, and road tolls, in place in some countries, have been the exception rather than the rule. As discussed in Supporting Paper 3, user charging for transport is allowed to varying degrees by EU legislation, such as the Eurovignette Directive, and international treaties. All forms of user charging could be used to apply the principle of cost recovery or apply external cost pricing, or simply as an alternative means of raising finance, as far as is possible by existing EU legislation or relevant international agreements.

4.6.1 Appropriate stage in the Cohesion Policy cycle for the application of user charging in transport

User charging for transport should be applied as a **conditional** instrument, unless applicants can demonstrate why the application of user charging would not be appropriate. Hence, at the tender stage, relevant projects would be encouraged to apply user charging, which could be a selection criteria, ie projects involving the construction or development of transport infrastructure would be looked upon more favourably if they applied user charging. However, given the different economic and social circumstances in different Member States, it would be appropriate to allow Member States to make the case for not applying user charging. In such cases, project applicants would have to justify the non-application of user charging. The rationale for not applying user charging would need to be set out in the Operational Programme, which could indicate where in the region/country the application of user charging might not be appropriate. Project applicants would then have a clear indication of where it might be possible to make an argument for the non-application of user charging.

However, in order to ensure that all relevant projects applied user charging consistently and coherently, the preference to apply user charging would need to be stated at higher levels of the policy framework, eg in the NSRF and the Community Strategic Guidelines on Cohesion. The latter would need to set the ultimate framework with respect to how, when and where user charging should be applied, as well as the conditions under which it might be appropriate

to exempt infrastructure from user charges. At the national level, Member States would need to develop these arguments in their respective NSRFs and apply them to their respective national situations, eg by proposing where user charging should not be applied, ensuring that these proposals are in line with the limitations set by the Eurovignette Directive. Operational Programmes would need to reflect the framework set out in the respective NSRF.

It would be important to include a requirement to report on the experience of the application of user charging for transport. At the minimum, this reporting would need to demonstrate that user charging has been applied. Projects could be required to report on relevant indicators, eg traffic (or use) levels.

4.6.2 Operationalising user charging in transport as a conditional instrument

A key element of the operationalisation of the application of **tolls or user charges** is making a decision about the level of charges that are to be set, and the methodology for calculating these charges. The revised Eurovignette Directive allows for an element of external cost charging, in addition to charging for cost recovery. The revised Directive will also set out the methodology to be used for calculating these costs. In this respect, the Directive sets the framework in which road user charging under Cohesion Policy could be operationalized. While the Directive itself only applies to freight transportation weighing over 3.5 tonnes, similar principles could be applied, where relevant and appropriate, to the charging of all vehicles using roads funded by Cohesion Policy. Alternatively, for those vehicles not covered by the Eurovignette Directive, other means of estimating external costs could be chosen, such as the approach set out in the handbook developed under the IMPACT study[101]. The framework charging for railways is set in Directive 2001/14.

4.7 Renewable Energy Feed-in Tariffs

As pointed out in Supporting Paper 3, the EU provides a framework for **feed-in-tariffs**, but without providing specific measures on how to strengthen their impact. The EU sets specific targets on the share of renewable energies (eg through Directive 2009/28/EC), leaving Member States to set specific measures. The use of feed-in tariffs as a market instrument has a wide range of possible recipients, ranging from households to large renewable energy businesses.

Therefore, there are numerous national (and in some Member State regional) specificities that apply to the variety of potential feed-in tariff users. These specificities can be addressed most effectively at the national or regional level.

4.7.1 Appropriate stage in the Cohesion Policy cycle for the application of feed-in tariffs

As a result of the specificities mentioned above, it would not be appropriate to define in detail the potential use of feed-in tariffs at the European level, eg in the Regulation or in the Guidelines, as more specific implementation measures need to be outlined. However, it would be essential at this level to carefully examine the potential conflicts or trade-offs with other support schemes (eg direct subsidies in renewable energy infrastructure). In other words, the extent to which feed-in tariffs could substitute or fully replace other instruments

[101] CE Delft, Infras, Fraunhofer and the University of Gdansk (2008) *Handbook on estimation of external costs in transport – Produced within the study Internalisation Measures and Policies for All external Cost of Transport (IMPACT)* for the European Commission's DG TREN. Publication number: 07.4288.52. Available from www.ce.nl

needs to be scrutinised, in order to maximise the cost-effectiveness of funds. Regarding the substitution of other instruments, feed-in tariffs could be used as a **complementary instrument** for Cohesion Policy investments on energy grids. Specifically, a wider and more efficient energy grid is expected to cause an increase in energy demand. This win-loss situation can be mitigated by a higher share of renewable energy promoted by feed-in tariffs.

Feed-in tariffs would be more effective if the framework for their potential use as a complementary instrument was addressed at the programming stage. At this stage, the development of the policy framework, and the NSRF, have the role of providing general support and guidance on objectives such as the development of renewable energy sources, which will be progressively translated into explicitly designed measures at later stages of the policy cycle. In particular, the Operational Programmes present the priorities of the Member States (and/or regions) in more specific ways that include both policy measures and the allocation of funding. Given that Member States need to increase the share of renewable energies in forthcoming years, Operational Programmes can provide an efficient policy tool to promote specific policies. Operational Programmes can also support the scope and application of instruments such as feed-in tariffs, as these have been informed by national and regional policies. These policies define which types of renewable energy technologies should be supported and at which level and spatial scale. In this context, when developing measures on renewable energy, Operational Programmes must be consistent with the existing feed-in tariffs schemes. The level of efficiency of feed-in tariffs should be carefully examined in order to avoid extensive or unnecessary funding. Furthermore, Operational Programmes can have an important role in building the skills and capacities which are necessary to optimise the use of feed-in tariffs. This can be achieved for example, by boosting research in domains such as the identification of areas of high wind or solar potential. This would provide essential guidance to national or regional authorities when designing the spatial scale of the scheme.

Operational Programmes could also allocate funding to support the development of the necessary infrastructure (eg power grids, smart grids) or new energy sources and address potential bottle necks. This should be restricted to Member States or regions with limited funding sources. In Greece for example, higher feed-in tariffs are applied in islands with no connection to the power grid with the aim of increasing investments in renewable energy. In this context, partnerships and public consultation could play a key role in identifying opportunities (eg areas of high wind or solar potential) and anticipating possible barriers (eg social opposition to wind turbines).

In the implementation phase, feed-in tariffs could also be used as a complementary instrument during the project selection process. When assessing projects for the development of renewable energies, feed-in tariffs could complement the applied criteria. For example, if feed-in tariffs were evaluated and considered to be an adequate tool for the development of renewable sources in specific areas, no allocation of funding (or any other form of support) will be needed from Cohesion Policy in the domain of renewable resources.

As was pointed out in Supporting Paper 3 there are different factors that can affect the efficiency of this instrument, such as the long-term targets regarding GHG emissions. These factors might reduce the need for incentives or instruments, such as feed-in tariffs. The efficiency of feed-in tariffs in conjunction with the measures on renewable energy development that are set directly by the Operational Programmes can be assessed through the monitoring and evaluation stages. The use of benchmarks and indicators (see Task 5) would

potentially assist in identifying areas of improvement in the design of the feed-in tariffs related to cohesion policy funding mechanisms, with the objective of maximising the effectiveness of the latter. As an example, the development of core indicators, measuring for example the effectiveness of feed-in tariffs (eg CO_2 reductions), could provide an indication of the effectiveness of the instrument and consequently the need for readjustment and/or up scaling of Cohesion Policy measures on renewable energy. These aspects could be highlighted in the annual implementation reports.

In the rapidly evolving renewable-energy sector, a prerequisite for the effective application of measures for the development of renewable energy sources would be a continuous evaluation of their effectiveness. In addition, because feed-in tariffs require a long-term certainty on the tariff rate they need to be considered from a long-term standpoint, before proceeding to the level of the selection of renewable energy projects. The monitoring and reporting, together with the evaluation phase, would provide an on-going and an ex-post evaluation of the interaction of feed-in tariffs which would point to areas of adjustment and improvement of the Cohesion Policy measures. Specifically, this evaluation process would help in assessing the type of Cohesion Policy investment needed (eg on what renewable energy) and the necessary level of funding. Moreover it could lead to the identification of best practices and provide a solid basis for benchmarking at the EU or MS (or regional levels).

4.7.2 Operationalizing feed-in tariffs as a complementary instrument

As noted in Supporting Paper 3, the **feed-in tariff** rate is normally guaranteed for a long-term (10-15 years) to reduce the risk supported by investors and increase the likelihood of sufficient return on investment. Recently, in some MS (eg in Germany and France) there have been reductions in feed-in tariffs to foster innovation and achieve cost reductions. This seems to be a necessary prerequisite to ensure a widespread adoption of this instrument. Given the fact that Cohesion Policy (and the Operational Programmes) are reviewed and reformed every 6 years, the long-term cannot be set through this EU policy strand. Thus, other strong policy initiatives must be in place to provide this fundamental prerequisite. The level of EU intervention is limited to providing a more general policy framework (eg through the Directive 2009/28/EC) but the EU cannot be directly involved in the energy pricing policy of MS. Therefore this provision relies solely on MS, eg Germany and Spain have set remunerated agreements, as noted in Supporting Paper 3.

Nonetheless, there are many other important requirements of feed-in tariffs that can be supported directly or indirectly by the Operational Programmes. Possible direct effects of Operational Programmes to the functioning of feed-in tariffs can occur by:

- Funding the development of power grids to guarantee access in regions with limited funding sources and weak infrastructure Operational Programmes. This would have a direct positive effect on the security of renewable energy investments, on the access to renewable energy and on the security of renewable energy supply;
- Creating or supporting research that focuses on the collection of scientific data, which is needed to most effectively design the elements of the feed-in tariffs (eg feed-in tariff rates, definition of type of producers involved etc); and
- Providing a basis for benchmarking and best practice exchange (within regions and Member States with similar renewable energy markets) through the assessment of the type Cohesion Policy support that is needed in conjunction with feed-in tariffs.

OPs can also influence feed-in tariffs indirectly by:

- Supporting the development of renewable energy technologies by building capacity and developing the necessary skills through funding of research. This would have an effect in lowering the primary cost of the investment in this sector, thus creating the need for an adaptation on feed-in-tariffs schemes (eg rate reductions);
- Supporting research to identify the best areas to invest on renewable energy (eg areas with high-energy producing potential); and
- Identifying areas of interaction of feed-in tariffs with other instruments and policy measures, through the evaluation and monitoring phase of Cohesion Policy. This would also provide support to the national and regional authorities in adjusting and improving the instrument.

4.8 Summary: Conditional and complementary instruments: interaction with existing tools and principles

In many cases, the conditional and complementary instruments should be used in conjunction with, rather than instead of, existing tools. Additionally, many of the instruments are consistent and coherent with wider principles of EU policy making.

There would be benefits in terms of the coherence of the EU policy framework if the key elements of **GPP** were applied within projects funded by Cohesion Policy. As noted in the Task 5 report, the application of GPP is encouraged in many Commission documents and is being taken forward in many Member States. If the need to apply GPP elements was included as a conditional instrument for Cohesion Policy activities, its application would be assessed as part of the SEA.

The inclusion of **EMAS** and/or **Ecolabels** under schemes for GPP could potentially generate synergies improving the incentives for registration under EMAS and Ecolabel schemes through creating a market for the companies. Incorporating EMAS, Ecolabel and GPP into the Cohesion Policy would provide a policy-mix that would improve the effectiveness and efficiency of the investment instruments under the Cohesion Policy by coordinating supply-side (EMAS and Ecolabel) and demand-side instruments (GPP).

Since the building sector accounts for 40% of energy consumption and 36% of CO_2 emissions at the EU level, the integration of **standards for the thermal insulation of buildings** in Cohesion Policy would be coherent with the EU policy framework. It would certainly help achieve the targets of 20% reduction of the Greenhouse gases emissions and 20% energy savings by 2020.

Overall, the coherence of the EU policy framework would benefit if both the assessment of regulatory compliance needs with reference to the **appraisal of water investment needs (and opportunities to address needs using natural assets)** and **water pricing** were applied in Cohesion Policy funded programmes, as both mutually reinforce the effectiveness of each other and any additional instruments applicable in the water policy field. In particular the use of the appraisal tool would take into account the operation of other Directives that affect water pollution, since the WFD seeks to coordinate water quality specific directives to ensure good water quality across Europe (such as the Nitrates directive and Urban Waste Water Treatment Directive). It could also extend to for example the IPPC Directive.

The selected **biodiversity** instruments could mainly be used in conjunction with, not replace, the existing tools and instruments currently in place within the Cohesion Policy cycle. In general, the biodiversity related EU Regulations would be foreseen to be more systematically

used during the entire Cohesion Policy cycle to create solid biodiversity-standards for Cohesion Policy investments and avoid any win-losses, or even loss-losses caused by the degradation of ecosystem and their services in the long run, between socio-economic development and biodiversity (ie conditionality/framework for biodiversity proofing). Also, as outlined above, biodiversity Regulations could be used as a legislative basis to build on when proactively seeking win-wins between biodiversity and Cohesion Policy. The market-based and voluntary instruments on the other hand are anticipated to be best placed to complement the existing/future Cohesion Policy investment to biodiversity conservation.

The application of **user charging for transport** would also be beneficial in terms of the coherence of the EU policy framework within projects funded by Cohesion Policy. The application of road user charging would make Cohesion Policy consistent (or at least more consistent given the restrictions set by the revised Eurovignette Directive) with the Polluter Pays Principle, which is set out in Article 191 (2) of the Lisbon Treaty. If user charging was included in an Operational Programme, its application would be assessed as part of the SEA – a justification of any proposed non-application of user charging would need to be developed.

Feed-in tariffs could be used as a complementary instrument in conjunction with earmarking. Earmarking could have an important role in developing the necessary funding mechanisms that would ensure that negative spill-over effects do not occur under feed-in tariff schemes such as an increase of end user electricity prices through the cost sharing mechanisms. If the price increases (eg as a result of a phasing out of regulated prices) above a specific threshold, that might reduce the social acceptance of these schemes.

5 REVIEW OF POSSIBLE CHANGES IN CP ACTIVITY TO IMPROVE INTEGRATION OF SD IN COHESION POLICY

This section contains a review of possible changes in activity by theme, which would have the potential to improve the integration of sustainable development into Cohesion Policy. This covers in turns, categories of funding that could be expanded, categories that could be removed and categories that could be added. Additionally, Section 5.3 discusses categories for which a different approach might be more appropriate, which addresses the funding of transport infrastructure.

It should be remembered that this discussion of this section builds on the analysis undertaken in Supporting Paper 3. In this respect, the analysis of Supporting Paper 3 with respect to the potential for Cohesion Policy investment crowding out private investment is particularly relevant. If it was found that this was the case for any particular Cohesion Policy investment category, then this would support an argument for excluding this category from future funding periods.

5.1 Current Cohesion Policy activities that could be expanded

The analysis undertaken under Supporting Paper 3 and 5 has led to the identification of a number of current Cohesion Policy activities that could be expanded in order to improve the environmental performance of Cohesion Policy. These include some activities relating to clean energy and climate change mitigation, some potential activities relating indirectly to water and a number of biodiversity activities.

As noted in Supporting Paper 3, with respect to **clean energy and climate change mitigation**, measures which could be considered to be win-wins, and therefore which could be expanded, are ***investment in research activities focused on energy efficiency and renewable energies*** and ***measures related to the control of energy demand, development of renewable energies and eco-materials***. The first is likely to generate positive effects on regional competitiveness, related to economic benefits from increased innovation and technological change aimed at improving production processes. The second is likely to generate direct economic gains for households and businesses by reducing dependency on fossil energies, improving energy efficiency and reducing overall energy demand.

Cohesion Policy investments in the field of clean energy and climate change mitigation could also be directed towards the preservation and/or the creation of natural carbon sinks, such as wetlands, forests and other carbon-storing ecosystems. Cohesion Policy investments in this area could be expanded because, in addition to providing considerable benefits in terms of carbon sequestration, these ecosystems also provide a wide array of environmental as well as economic and social (market and non-market) benefits. However, the private costs associated with the implicit economic value of the natural areas concerned (eg valorisation through agriculture or real estate) are likely to be endured in the short-term because of the lack of appropriate financial incentives for preservation/conservation, due to for example, to the impossibility to value avoided CO_2 emissions on carbon markets. Even in cases where this is made possible by CDM investments, the price of one tonne of CO_2 (as evidenced by the historic trading prices on the EU-ETS, for example) is likely to be too low to ensure that preservation/conservation is profitable versus other land uses. Cohesion Policy investments might be channelled to this type of investment in order to bridge some of this gap and increase the level of financial incentives.

There are a number of measures which could be expanded that are linked to ***adaptation to climate change, risk prevention and measures to preserve the environment*.** Indeed, considering the expected effects of climate change in the next years, the support of regional actions by EU funding seems clearly justified.

With respect to adaptation to climate change, activities related to sustainable urban and land use planning, protection of natural resources and protection of ecosystems are generally win-wins. Sustainable urban and land use planning is likely to provide benefits in terms of reduction of exposure to climate change impacts, as illustrated for example in the case-study, focusing on adaptation to climate change in coastal areas (eg in the Languedoc-Roussillon case study in France). However, in their current design, investments in sustainable urban and land planning or preservation of the environment are more aimed at increasing productivity (eg more efficient use of infrastructure, more efficient localisation of the activities throughout the region), increasing revenues from tourism, or increasing agricultural yields for instance. Thus, Cohesion Policy funding of these activities should be expanded but with a better integration of the objective of adaptation to climate change, as shown in the Languedoc Roussillon case study.

As explained in Supporting Paper 3, public funding in these areas is necessary since very few private investors have so far taken part in these types of interventions, mainly because they still lack an integrated approach combining the environmental and economic dimensions. High capital investments are usually required for projects aiming at protecting/restoring areas at risk from climate change as they often involve significant works linked to infrastructure construction or adaptation. The private profitability of these projects is rather low in the short-term since benefits appear mainly in the long term. The economic benefits of this type of project can be mainly expressed in terms of avoided losses more than direct profits, which is not likely to attract private sector investments. Given that some costs are public costs (ie to the society at large) and some benefits of action are public benefits, there is a strong argument that there should be public intervention or regulation (to avoid public costs) and/or public payments for the provision of public goods.

Within the core of Cohesion Policy **water**-related funding, investments in green infrastructure and natural assets (i.e. forests, wetlands and grasslands) have been identified as measures that clearly have environmental benefits, but which can also contribute to improving water treatment quality and supply. Such investments could therefore be expanded through Cohesion Policy funding. Outside of green infrastructure, measures suitable for expansion are more limited. However, an exploration of funding at the fringes does indicate some areas where existing measures could be expanded. For example, increases in inland waterway investment to aid transport modal shift and in flood defence could be expanded to deliver additional eco-system services, to protect habitats of special interest and to assist in adaptation to climate change.

Cohesion Policy already supports a number of activities that can help to deliver win-wins for **biodiversity** and sustainable socio-economic development and which could be expanded. These areas include measures linked to the ***mitigation of and adaptation to climate change***, measures to ***preserve the wider environment***, support to the prevention of ***environmental risks*** (eg water quality, flooding and forest fires), ***diversification of jobs*** and support to the promotion of natural assets and heritage (e.g. ***tourism***). However, in order to ensure that these existing activities are effectively used to deliver biodiversity win-wins in practice, the links and opportunities between the existing measures and biodiversity, healthy ecosystems and

supply of ecosystem services should be made more explicit under Cohesion Policy. Also, earmarking/ring fencing a dedicated amount of Cohesion Policy investments or making obligatory the support for such win-wins would further help the uptake of these activities.

The promotion of ***biodiversity and nature protection*** (eg Natura 2000) is also already a part of the Cohesion Policy portfolio. Given that ecosystems and the resources and services that they provide (eg protected areas) underpin our socio-economic welfare, supporting the protection and sustainable management of biodiversity and ecosystems brings benefits to broader sustainable socio-economic development and supports the goals of Cohesion Policy. For example, protected areas such as Natura 2000 sites can play an important role in creating tourism, maintaining food security, supporting physical and mental health and protecting cultural heritage values[102]. Similarly, investment in preventing risks and negative impacts related to invasive alien species can help to avoid significant socio-economic costs in long term[103]. Finally, restoration of broader ecosystems and their services can provide cost effective solutions for mitigating environmental risks. Consequently, from the perspective of sustainable development and the long-term welfare of European citizens dedicated support to biodiversity and nature protection should become one of the key areas supported under Cohesion Policy.

Finally, Cohesion Policy also provides dedicated opportunities for ***education and capacity building*** and ***transboundary cooperation*** between Member States. Both of these aspects are important for enabling the uptake of biodiversity win-wins at the wider EU level. As explained earlier, the integration of the value of biodiversity, ecosystems and their services into the design and implementation of Cohesion Policy still requires more effort, eg awareness raising and capacity building. Furthermore, several ecosystem services, such as ecosystems' role in water supply and purification and the mitigation of floods, is dependent on actions at a wider regional scale (eg across an entire river basin). Therefore, supporting the coordination of activities at a regional scale under Cohesion Policy could be an invaluable mechanism to establish win-wins for biodiversity and sustainable socio-economic development at a wider EU level.

5.2 Current Cohesion Policy activities that could be reduced

The work that has been undertaken has also identified a number of existing Cohesion Policy activities that could be reduced in future funding periods. Such a conclusion can be reached for a number of reasons, such as avoiding crowding out, in relation to some clean energy and climate mitigation activities, as well as some water activities in the longer-term.

With respect to **clean energy and climate change mitigation**, funding renewable energy, energy efficiency, co-generation and energy management measures have the potential to crowd out private investment, as private finance is generally significant in this field throughout the EU. Given the price signals and the structure of incentives, the private sector is likely to be more and more involved in the renewable energy industry. Market and

[102] Kettunen, M., Berghöfer, A., Brunner, A., Conner, N., Dudley, N., Ervin, J., Gidda, S. B., Mulongoy, K. J., Pabon, L. and Vakrou, A. 2011. Recognising the value of protected areas. The Economics of Ecosystems and Biodiversity in National and International Policy Making (ed. P. ten Brink), Earthscan, London.

[103] Shine, C., Kettunen, M., Genovesi, P., Essl, F., Gollasch, S., Rabitsch, W., Scalera, R., Starfinger, U. and ten Brink, P. 2010. Assessment to support continued development of the EU Strategy to combat invasive alien species. Final Report for the European Commission. Institute for European Environmental Policy (IEEP), Brussels, Belgium.

ownership structures, as well as the administrative framework, should allow for this and facilitate private investment. Nevertheless, given the high capital investments required in this industry, regulatory and financial public intervention is generally necessary in order to reduce the financial risks related to the project. Funding from Cohesion Policy should therefore be maintained but should be shaped in order to avoid crowding out private investment.

Additionally, in the field of clean energy and climate change mitigation, other non-investment measures currently outside of Cohesion Policy deliver similar results and have to be used in conjunction with Cohesion Policy funding in this area. These instruments are, for instance energy and CO_2 taxes, emissions trading or support schemes such as feed-in tariffs. However, these measures generally cover specific sectors (for example, the EU emissions trading scheme covers around 40% of EU total CO_2 emissions) and provide insufficient incentives. Indeed, the level of taxes and/or prices on energy and CO_2 is lower than what is needed to provide the necessary incentives that would generate the necessary GHG emissions reductions. Additionally, energy taxes and CO_2 prices do not cover all of the sectors that have a significant share of total GHG emissions (particularly the transport and agriculture sectors). Consequently there is still a rationale for public investment, including Cohesion Policy funding, to fill in the gaps left by these non-investment measures or to reinforce these.

Finally, other losses might appear if investment in research projects is directed towards unsustainable or high cost technologies, such as carbon capture and storage (CCS) or nuclear energy, with the risk of creating lock-in situations. In general, Cohesion Policy investments should be directed in priority to the mitigating technologies and actions with the highest cost-effectiveness, ie the highest score on indicators such as the cost of avoided CO_2 emissions or the cost of carbon storage. The cost of CCS, for example, as measured by the cost of avoided CO_2 emissions, is still high compared to alternative technologies and actions which are less costly or which can even provide direct economic benefits on the short-term, such as switching to LED lighting and developing smart grids[104].

As highlighted in Supporting Paper 3, the largest proportion of Cohesion Policy **water** related funding is allocated to water treatment, while the second largest share is given to water supply. The implementation of non-investment measures to increase cost-effectiveness and cost recovery should reduce the need for Cohesion Policy funding; this can include measures to protect natural assets that help to avoid the need for additional costs of water supply, pre-treatment and treatment. In the longer term, it is plausible to suggest that improvements in water quality and supply will reach a point at which there would be no requirement for any additional capital investment, above that of capital replacement and maintenance. However, to reach such a point would imply that water treatment technologies deployed would operate at such a high level of pollution abatement and cost, that they would be disproportionately costly to employ, something to which the non-investment measure should help control. Adding to this, the environment costs associated with resource and energy use in the operation of this technology may exceed the environmental benefits, therefore the overall net impact is likely to be negative. Consequently, it is foreseen that Cohesion Policy funding will no longer be significantly required sometime in the future for many regions and countries, largely driven by regulation through the WFD in its second and third management cycles. However, for some newer Member States this position is unlikely to occur even by the post

[104] In a study carried out in 2008, Mc Kinsey estimated the cost of CCS in the range of 50-100 USD per ton of avoided CO2 emissions, compared to negative costs for LED lighting and smart grids, for example (in the range of -50 to -30 USD).

2020 period. With climate change and water stresses, the provisioning aspect may increase in some areas without changes in pricing regimes.

Given the increasing knowledge on the role of **biodiversity** and healthy, well-functioning ecosystems in underpinning human welfare and supporting sustainable socio-economic development, the existing, dedicated support to biodiversity and biodiversity win-wins under the Cohesion Policy does seem limited rather than too excessive. Consequently, it is not foreseen that any of the existing biodiversity related measures under the Cohesion Policy should be reduced. On the contrary there are a range of areas where increased funding is merited in order to protect natural capital in a more effective manner.

However, Cohesion Policy does support a number of measures that could have negative effects on biodiversity, eg support to transport infrastructure and in some cases also renewable energy (see Supporting Paper 3 for more information). If the funding of these measures is not reduced, they should be designed and biodiversity-proofed so that they do not have any adverse impacts on biodiversity, ecosystems and related services in the future.

5.3 Current Cohesion Policy activities that require a different approach

With respect to **EMAS**, changes should be made in order to make Cohesion Policy activities promote the registration by SMEs under EMAS more effective. Experience within the current funding period revealed a very low uptake of available funds for investments in registration under EMAS (as well as for Ecolabel schemes)[105]. This indicates that primarily a new approach rather than an expansion of funding is needed. On the one side EMAS and Ecolabel schemes are characterised by high short-term expenditure and mid- and long-term benefits. Also, whereas the costs are easy to calculate in monetary terms, some benefits may be more difficult to put a number on. Combined with the mechanism of reimbursement, ie grants are reimbursed when the project is implemented, this creates rather unfavourable conditions to provide an incentive for SMEs to invest in registration under EMAS or an Ecolabel scheme, as SMEs, especially during recessions, often struggle with capital expenditures. The type of investment should therefore be changed to enable payments up front to reduce the initial financial burden that SME have to face. Also the activities should be changed to give more emphasis to information and consultation measures. This should aim at helping SMEs to better understand the costs and benefits of registration under EMAS or an Ecolabel scheme as well as how to best plan and manage the registration process.

With respect to **transport**, it is not straightforward to say that some measures or modes should be funded more, some less and some excluded from Cohesion Policy. As was demonstrated in Supporting Paper 3, from the perspective of CO_2 emissions per passenger kilometre, some modes are generally better than others. From the perspective of passenger travel, journeys by aeroplane generally emit more CO_2 per passenger kilometre than those taken by other modes, as do cars that only transport one single passenger. At an average vehicle utility, CO_2 emissions per passenger kilometre undertaken in cars are slightly higher than those of other modes, such as coaches, trains, buses and metros. For freight transport modes, heavy goods vehicles on the road tend to be more CO_2-intensive per tonne-km than trains, inland waterways or shipping. However, it is important to note that it would not be possible to shift all freight from road to rail or other modes. Hence, given the way in which

[105] See for example, the Maltese case study

goods are distributed within Europe, some freight will need to be transported by road rather than other modes.

Developing transport infrastructure for a particular mode effectively enables more passenger and freight transport and in this respect will contribute to stimulating increases in transport use and potential lock-in effects in the long term unless measures are taken to manage or reduce demand. In this respect, the application of user charging as a conditional instrument for transport (see Section 4.6) could be used as a mechanism to dampen the potential increases in demand that might otherwise result from new infrastructure. However, it is still likely that new infrastructure would lead to a net increase in transport use (unless additional policy instruments are introduced, eg measures to reduce demand on infrastructure not funded by Cohesion Policy). Hence, the development of infrastructure will enable transport use and therefore lead to CO_2 reductions, at least in the short- to medium-term, until zero carbon transport is possible and common. Such increases in CO_2 must be taken into account when developing transport infrastructure, eg by potentially using a tool such as Necatar (see Section 3), and ideally mitigated through other measures.

From the perspective of their respective impacts on biodiversity and eco-systems, it is also not possible to generalise that the infrastructure of one mode is better than that of another. The impacts will be very much dependent on the location and route of the infrastructure, as well as the way in which it has been designed, eg the extent and utility of any biodiversity-proofing. Consequently, constructing and developing transport infrastructure for a particular mode has the potential to be detrimental from the perspective of biodiversity and nature conservation, particularly if the construction or development occurs outside of urban areas. Such impacts on nature and biodiversity must be recognised by the application of biodiversity proofing tools, with the result that any infrastructure constructed or developed is as green as it can be, and that any land of particular natural value that is lost is at least replaced elsewhere in order that there is at least no loss and if possible a net benefit to biodiversity and nature from the development or construction of the infrastructure.

Consequently, from the perspective of developing transport infrastructure it is important to fund only that infrastructure that contributes to economic and social objectives, while minimising (or off-setting by reductions elsewhere) adverse environmental impacts. In this respect, the onus should be put on Member States to justify why they need Cohesion Policy funding to develop their respective transport infrastructure. In this respect, the Commission would need to set guidelines in the revised Community Strategic Guidelines on Cohesion for the post-2013 period that would set out how Member States would need to demonstrate that the development or construction of infrastructure would bring net economic and social benefits, while minimising or off-setting any adverse environmental impacts.

Additionally, it is also important that the treatment of modes is undertaken on a level playing field. For example, as can be seen by the Polish transport case study, the existing structural funds Regulation has a tendency to discriminate against investment in railways, as no revenue can be made within five years of the receipt of structural fund money (see case studies in Supporting Paper 4). Such a barrier would also need to be removed to enable road user charging to be applied. As it assumed that such a requirement was inserted in the Regulation for a particular reason, an assessment would need to be made as to whether an additional condition would need to be added to replace an intended consequence of the original rule.

5.4 Activities that could be added to the list of Cohesion Policy activities

GPP is, when established properly, an effective and efficient instrument for achieving more sustainable patterns of consumption by public organisations. GPP is not an activity under Cohesion Policy, but a framework for purchasing and developing calls for tenders by public organisations. Hence, to foster a more sustainable use of Cohesion Policy funding by public organisations it is important to pursue a higher application of GPP. Cohesion Policy could promote the uptake by making the application of GPP a conditionality requirement for funding, as well as by providing financial assistance for projects to establish GPP schemes. Hence, there is a need for more investment in such measures. A specific spending category for institutional development and capacity building for GPP could be defined to foster this.

With respect to **clean energy and climate change mitigation**, there are measures currently outside of the Cohesion Policy that could be included within its scope. These could be, for instance, investments in ecosystem-based mitigation and the development of natural carbon sinks. Ecosystems are an important regulator of climate change[106]. Each of the main ecosystem types has the potential to affect carbon storage and emissions, and the degradation of these ecosystems can thus significantly impair climate change mitigation or adaptation. Ecosystem-based approaches are increasingly being used as a way to address the interlinked challenges of climate change and ecosystem degradation and loss. Protecting and enhancing the ecosystem service of climate regulation, through carbon sinks and stores has the potential to make a significant contribution to mitigation efforts; and managing other ecosystem services, such as water regulation, natural hazard regulation or air regulation, enhances adaptation to the impacts of climate change, for both society and ecosystems. However, one key factor limiting the widespread uptake of ecosystem-based approaches may well be the lack of quantitative evidence of their impacts for tackling climate change.

From the perspective of **transport**, there are two potentially relevant types of infrastructure that could be included in future Cohesion Policy funding:

- Infrastructure that enables user charging, particularly on roads and in urban areas; and
- Infrastructure that enables the increased use of alternative, potentially zero carbon sources of energy by transport. Again the focus in this respect would be on alternative energy carriers for road transport, but other modes might also be relevant in this respect.

From the discussion in Section 4.6 with respect to the application of transport user charging as a conditional instrument, user charging would only be required under Cohesion Policy on those pieces of inter-urban infrastructure funded by Cohesion Policy, or in urban areas where Cohesion Policy is being used to fund developments to the transport network. In such cases, the application of road user charging would need to be integrated with the respective developments. Hence, in this respect, Cohesion Policy would not be funding road user charging infrastructure as a separate funding category; instead funding for road user charging infrastructure would need to be made available within the categories that fund road construction (ie categories 20 to 23) or those that develop the urban transport network (ie 25 and 52).

[106] Trumper, K., Bertzky, M., Dickson, B., van der Heijden, G., Jenkins, M. and Manning, P., 2009. The natural fix? The role of ecosystems in climate mitigation. A UNEP rapid response assessment, United Nations Environment Programme, UNEP-WCMC, Cambridge, UK.

In the short-term, funding for infrastructure that would enable transport to use alternative, energy carriers that have the potential to be zero carbon should focus on the development of the charging infrastructure for electric vehicles. In the longer-term, it might be appropriate to fund infrastructure for hydrogen in the same way[107]. The important element in this respect is that the infrastructure enables an increase in alternative sources that have the potential to be carbon neutral, as otherwise such investments would not enable transport to be decarbonised.

From the perspective of **adaptation to climate change**, certain instruments currently outside of Cohesion Policy could be included within its scope. This is the case with respect to instruments related to regulations on construction in areas at risk of climate related hazards, such as flooding, storms or landslides. Evidence shows that existing regulations are not enforced as completely as they should and lead to increased exposure of economic activities and residential housing to climate-related risks. Cohesion Policy could therefore support measures aiming at improving sustainable urban and land planning scheme and fund activities aiming at creating zoning and mapping of risks.

Cohesion Policy could also fund activities linked to the enforcement of these regulations since enforcing and adapting existing regulations (or creating new ones) in order to take into account new levels of risk will reduce the expected impacts of climate change and provide economic benefits on the long-term to the society as a whole.

With respect to **water**, a number of measures are currently deployed by Member States that conserve water resources, collect rain water and partially treat wastewaters which are not currently funded through Cohesion Policy mechanisms. Measures include the construction of wetlands and oxidation ponds as natural water filtration systems, in addition to rainwater ponds, lakes and agricultural reservoirs to collect and store water for a variety of habitat, amenity and agricultural uses. Furthermore, investing in natural capital and the services it provides could be also more cost-effective, efficient and sustainable compared to those technological solutions and facilities that have traditionally been supported.

As regards supporting win-wins between **biodiversity** and sustainable socio-economic development under the Cohesion Policy, there are a number of measures currently outside of the Cohesion Policy that could be included in its scope. For example, investments in ***ecosystem-based mitigation and adaptation to climate change*** could be included as an area supported under Cohesion Policy (see also discussion on climate change adaptation above). It should be, however, noted that activities that improve an ecosystem's ability to mitigate climate change, such as reforestation, do not automatically have positive impacts on biodiversity. For example, forest plantations can be effective ways for increasing carbon sequestration but they can have a very low biodiversity value and may replace areas with higher biodiversity value (eg semi-natural grasslands). Therefore, such activities should always be biodiversity-proofed to ensure true biodiversity benefits and win-wins.

[107] While both battery electric and hydrogen vehicles could be considered to be zero carbon at the point of use, these energy carriers could only truly be considered to be zero carbon energy carriers if their life-cycle emissions, which includes the emissions caused in the production of the electricity or hydrogen, were zero. At present, this is not generally the case, as electricity is produced from a range of sources, only some of which could be considered to be low carbon, while hydrogen is not yet produced on a scale that could be used in transport. However, for example if the electricity sector decarbonises, which it is planning to do, then cars using electricity could be more properly referred to as zero carbon vehicles. Hence, electric cars could be considered to have the potential to be zero carbon. A similar argument might be relevant for hydrogen in the future.

Furthermore, but also linked to the above, support could be provided towards maintaining and improving the overall status of EU's ecosystems and guaranteeing the supply of ecosystem services, ie so called ***green infrastructure***. For example, a representative and well-managed network of protected areas is crucial for delivering EU biodiversity goals and it also helps to maintain several ecosystems services underpinning socio-economic development and wellbeing within the EU (eg water retention and purification, mitigation of natural hazards, creation of jobs, support to tourism and sustaining mental & physical health). Similarly, investment in restoring natural areas, such as floodplains and wetlands, can be a cost-effective way to mitigate flooding and improve clean water supply. For this purpose, however, a well-designed definition of what is meant by "green infrastructure" needs to be established.

Furthermore, establishment of systems to monitor the interrelations between the status of and interrelationship between ecological and socio-economic systems (eg establishing EU / national ecosystem accounts) would help to identify benefits related to well-functioning ecosystems (eg green infrastructure) and how these would be appropriately integrated into existing policies, e.g. Operational Programmes within the Cohesion Policy.

As indicated above, a successful ***uptake of market-based instruments and approaches for biodiversity***, such as the establishment of PES schemes and the development of business partnerships on a wider scale is expected to require some initial support from the EU and national levels. Targeted investment under Cohesion Policy to allow for the development and testing of such instruments could be a possible way to facilitate a broader uptake of such instruments at the EU level.

Finally, the integration of biodiversity win-wins into the implementation of Cohesion Policy and/or national policies requires further information, raising of awareness and capacity building, both among the stakeholders and administrative bodies that contribute to the design and implementation of Cohesion Policy. Furthermore, stakeholders within the biodiversity sector are often unfamiliar with, and under resourced, to fully utilise the possibilities of funding biodiversity related measures under the Cohesion Policy. Therefore, such ***capacity building activities*** could receive dedicated support from the Cohesion Policy.

6 SYNTHESIS OF FINDINGS

The aim of this section is to bring the various reviews of instruments together in order to identify how to use the instruments covered to improve the integration of environmental considerations into Cohesion Policy with the aim of enabling Cohesion Policy to maximise its potential in delivering sustainable development in the EU. This done by assessing each integration instrument in relation to the Cohesion Policy Cycle (see
Figure 1), the appropriate governance level (see Table 1) and the delivery mechanism (Table 2). In order to capture both specific Cohesion Policy instruments (see Section 2) as well as similar integration instruments from the case studies (See Section 3), we have created broader headings for the as categorised in Figure 2

Figure 2. Categorisation of integration instruments

Category of integration instruments	Instrument
Strategic	Environmental objectives and priorities Application of SD as a horizontal principle Application of principles underlying EU environmental policy Eco-Conditionality Principle of carbon and biodiversity no net loss Spatial planning / Territorial cohesion Alignment with EU Strategies, including Europe 2020 and others relevant to Cohesion Policy Alignment with national/regional SD strategies (and wider policy frameworks) Compliance with EU environmental acquis Gearing financial resources to environmental objectives
Procedural	Strategic Environmental Assessment (SEA) Environmental Impact Assessment (EIA) Territorial Impact Assessment (TIA) Cost Benefit Analysis (CBA) Ex ante evaluations and SWOT Other assessments Monitoring and environmental indicators Evaluations and Reporting Environmental project selection criteria Rewarding performance, including reserve fund Technical assistance Proofing tools Financial Engineering

Organisational	Partnership and capacity for environmental action Environmental networks Monitoring committees Public participation and consultation Negotiations between the Commission and Member States

However, a comprehensive strategy to improve the environmental performance of Cohesion Policy, and ultimately bring Cohesion Policy in line with sustainable development, will require **a mix of strategic, procedural and organisational instruments that are applied at each stage of the Cohesion Policy cycle**. It should be noted also that the different instruments have different functions and scope of application and therefore - different capacity to facilitate environmental sustainability. In this sense, these instruments are not exclusive and should be seen as complementary to one another. The optimal outcome for sustainability might entail different mixes of instruments in view of the diverse policy contexts and administrative settings; the appropriate stage of the policy cycle; and the level of governance and specific territorial features.

Importantly, this does not imply adding an additional layer of bureaucratic requirements at each step of the policy process; rather it requires a different approach that underlines the importance of the environment at each step in order to ensure policy coherence, consistency and integration. The benefits of deploying such instruments are likely to outweigh the associated administrative costs in the long-term and realise potential synergies. Therefore, it is important that the proposed instruments are designed to be workable and useful tools for all levels of governance involved, particularly the managing authorities, so that those using the instruments develop ownership of these.

Given the complex multi-level governance system within which Cohesion Policy operates, **each level of governance should assume specific roles and responsibilities** with regard to the deployment of the environmental integration instruments. Therefore, investing in soft measures, such as awareness-raising, training, skills and capacity building, are critical in ensuring that the institutional structures are in place to manage the policy innovations necessary to induce integration. There is yet another dimension to this discussion which requires a spatial/territorial perspective on the selection, development and application of integration instruments. Regional specific pressures, assets, opportunities and capacities should be identified and the respective responses in terms of investments and integration instruments developed accordingly.

Finally, there are a number of **delivery mechanisms** through which each of these integration instruments could be established and deployed starting from the General EU Funds Regulations, through the formal negotiations between Member States and the Commission to informal actor networks, just to name a few. According to proposals made in the conclusions of the 5th Cohesion Report on the future Cohesion Policy, there will be a few changes in the regulatory framework of the future policy which include the development of a Single Strategic Framework for all EU funds under shared management substituting the existing set of Community guidelines for the different policies. Furthermore, a special development and investment partnership contracts are to be negotiated between the Commission and Member

States, will set out investment priories, their respective funding allocations, agreed conditionalities and targets in line with the countries' National Reform Programmes. The Operational Programmes are to be retained from the current programming period and will be the main management tool at national/regional levels[108].

The conclusions of the 5th Cohesion Report already started to establish the contours of the future Cohesion Policy which include a new Common Strategic Guidelines aimed to translate the Europe 2020 objectives into investment priorities for Cohesion Policy and other funding instruments under shared management. It has been proposed that a special development and investment partnership contracts, replacing the existing NSRF, will be negotiated by EC and MS, which will set out objectives, targets and conditionality. Therefore, the discussion of the potential environmental integration instruments will also take into account these new proposals.

6.1 Strategic instruments

Alignment with EU strategic documents, including Europe 2020 and others relevant to Cohesion Policy

The conclusions to the Fifth Cohesion Report[109] indicated that future Cohesion Policy should be closely aligned to the 'Europe 2020' Strategy[110]. Europe 2020 sets out an explicit objective of green growth that is coupled with the 20/20/20 climate and energy targets, which is one of the strategy's five headline targets. In the context of 'sustainable growth', Europe 2020 also argues that attaining such growth would help the EU "to prosper in a low-carbon, resource constrained world while preventing environmental degradation, biodiversity loss and unsustainable use of resources". Additionally, the Communication on the EU budget review underlined the need to mainstream climate and energy into Cohesion Policy amongst other EU policies[111]. Consequently, there is an emerging strategic framework at the European level in which ties economic success to environmental protection. In the context of Cohesion Policy, there is therefore a clear framework within which Cohesion Policy investment should operate to deliver win-wins for both the economy and the environment.

However, it is important to note that the 2007-2013 Community Strategic Guidelines already called for framing environmental investments as drivers for economic development and social cohesion. While such a perspective does not appear to have been entirely popular and not fully embraced by Member States and regions back in 2007, it still offers an important discourse in the changing political realities and priorities of the European Union. REC-ENEA's study[112]' for example, shows that there is often insufficient knowledge about and

---

[108] European Commission. Conclusions of the fifth report on economic, social and territorial cohesion: the future of cohesion policy, (COM(2010)642), 9/11/2010, Brussels, http://ec.europa.eu/regional_policy/sources/docoffic/official/reports/cohesion5/pdf/conclu_5cr_part1_en.pdf

[109] EC. Conclusions to the Fifth Cohesion Report.

[110] European Commission. 2010. Communication – Europe 2020: A strategy for smart, sustainable and inclusive growth (COM(2010) 2020), 3.3.2010

[111] European Commission. 2010. Communication on the EU budget review, (COM(2010)700), 19/10/2010, Brussels, http://ec.europa.eu/budget/reform/library/communication/com_2010_700_en.pdf

[112] REC-ENEA. 2009.

limited experience with taking up the opportunities offered by climate-related projects which means that there is a need for more guidance, capacity building and close cooperation between managing and environmental authorities. One example is related to climate change adaptation for which the possibility to fund low or no regret investments exists, i.e. investments that provide direct and indirect economic benefits regardless of the climate regime.

Consequently, an important instrument for environmental integration within Cohesion Policy is setting the right framework that eventually facilitates projects that contribute to the potential win-wins. It could also facilitate an understanding of the future Cohesion Policy closely linked to the issue of resource use in the context of the four capitals (natural, man-made, social and human) and guarantee a balanced investment portfolio. A good example of this could be found during the changes undertaken of Cohesion Policy in contribution to the European Economic Recovery Plan, when the link between environmental and particularly climate change interventions and greener and smarter sources of growth was underlined. Swift changes in the regulatory basis of Cohesion Policy coupled with intense work with managing authorities led to the reallocation of funds in 2009 in 14 Member States towards enhancing support for energy efficiency in housing.[113]

The success of this approach will however, strongly depend on the ambition of the respective Flagship Initiatives and forthcoming Roadmaps under the umbrella of the Europe 2020 Strategy, as well as the future EU SDS and 7th Environment Action Programme. While these initiatives are emerging, their details will take a while to develop. To date, the Flagship Initiative 'Innovation Union'[114] contains only a few references to environmental technologies and services as sources of innovation, which sends a relatively vague signal to the different stakeholders. In support of the 'Resource-Efficient Europe' Flagship Initiative[115] scenarios will be modelled, which have a range of assumptions, e.g. from weak to strong protection of biodiversity in the EU. The latter Initiative underlines the importance of developing different components of policy, including the policy agendas for climate change, energy, transport, biodiversity and regional development, in a coordinated manner. It will be important that as these initiatives develop, they contain strong language with regard to a 'win-win' opportunities stemming from environmental actions.

With respect to Cohesion Policy, the Commission will need to ensure that the emerging Europe 2020 agenda is repeated in the new EU funds Regulations covering the post 2013 programming period, as well as in the accompanying new Single Strategic Guidelines. The Guidelines in particular should stress that Cohesion Policy investments should contribute to the aims of Europe 2020 and its Flagship Initiatives, particularly the resource efficiency Flagship Initiative. In this respect, the actions and targets that emerge from the various Flagship Initiatives will be important. In this context, of particular importance is the framework provided by the resource efficiency Flagship Initiative, which includes the need to cut greenhouse gas emissions by 80 to 95% by 2050, the need for low carbon energy and

113 European Commission. Staff working document, Cohesion Policy helping economic recovery, http://ec.europa.eu/regional_policy/sources/docoffic/2007/working/economic_crisis_sec20101291.pdf

114 European Commission. 2010. Communication – Europe 2020 Flagship Initiative: Innovation Union (COM(2010) 546), 6.10.2010

115 European Commission. 2011. Communication – A resource-efficient Europe – Flagship Initiative under the Europe 2020 Strategy (COM(2011) 21), 26.1.2011

transport systems, the need to take early action to adapt to climate change and a new biodiversity strategy "to halt further loss to and restore biodiversity and ecosystem services". Early engagement with Member States and the European Parliament will also be important to ensure that there is buy-in for framework provided by the Regulation.

Such alignment of Cohesion Policy interventions should be brought forward in the respective Special development and investment partnership contracts, as these will provide a framework for the Operational Programmes, in which the objectives, priorities and conditionality also need to be stated. The new partnership contracts will also provide the Commission with an opportunity to ensure that environmental objectives and priorities are given sufficient weight. In this way, a consistent strategic framework is created, which should align the various delivery instruments with the aim of the Europe 2020 Strategy, and other relevant EU strategic documents.

Application of SD as a horizontal principle

The General Regulation 1083/2006/EC sets out in Article 2 of the Preamble that Cohesion Policy should contribute to 'increasing growth, competitiveness by incorporating the Community's priorities for sustainable development … as defined at the Goteborg European Council of 15 and 16 June 2001.' Article 17 further stipulates that 'the objectives of the Fund shall be pursued in the framework of sustainable development and the Community promotion of the goal of protecting and improving the environment as set out in Article 6 of the Treaty.' The Community Strategic Guidelines on Cohesion for the 2007-2013 programming period also contained a number of references to the need for Cohesion Policy to contribute to sustainable development. This means that sustainable development and environmental protection should be integrated as cross-cutting horizontal principles in national and regional EU funds programmes and projects. However, the operationalisation of sustainable development has proved to be challenging, with the concept often being interpreted to cover its environmental pillar only Research has showed that in some cases the early involvement of sustainable development experts or organisations has led to improving the understanding of the sustainable development agenda early in the planning process. This resulted in a shift towards a more integrated approach to taking sustainable development into planning.[116] Nevertheless, many programmes still interpreted sustainable development by its environmental dimension echoing the findings of past evaluations of previous programming cycles. This meant that these aspects of EU Funds programmes were delegated to environmental authorities instead of addressing them in an integrated manner.

This experience suggests that more guidance is needed to Member States and regions on how to operationalize the concept of sustainable development. Given the explicit link between sustainable growth, the prevention of environmental degradation, biodiversity loss and unsustainable use of resources in the resource efficiency Flagship Initiative of the Europe 2020 Strategy, such guidance is all the more important for the next programming period in order to ensure that these concepts are operationalized within programmes and projects.

The new set of strategic guidelines and partnership contracts should be used as an opportunity to clarify how managing authorities should deal and address cross-cutting issues such as sustainable development. The Europe 2020 and flagship initiatives introduce new concepts such as 'green' investments, sustainable growth, resource efficiency, etc. which could appear

116 EPRC. From environmental sustainability to sustainable development? Making concepts tangible in structural funds programmes. IQ-net Thematic paper N. 22(2)

equally ambiguous to many managing authorities an stakeholders especially at lower levels of governance and therefore there is a need to better define what they mean and imply in terms of investments and even provide concrete practical examples and instructions.

EU guidance should be more detailed, it should specify how these strategic, broader and cross-cutting concepts to be operationalized in terms of translating them into concrete objectives, priorities and measures. This is in fact the only way to get environmental objectives right and on par with economic and social ones. Furthermore, the guidelines should establish what these concepts mean in terms of integrating the environment, what tools can be applied who should assume responsibility and leadership into making these horizontal issues operational; it should be made clear that integrating the environment is a way to ensure green economy and sustainable growth.

An explicit link should be established in the partnership contracts to national Sustainable Development strategies where a political commitment to sustainable development is conveyed and a definition of it is provided. If this link is reinforced, EU funds programmes can be better informed by nationally developed strategies for SD which are enjoy stronger ownership and provide clarity to the issues.

A number of Member States and regions framed sustainable development as a horizontal principle (Bulgaria, Northern Ireland, France among others). The integration of horizontal issues however has been challenged during the implementation of programmes (particularly in terms of translating it into the system of generating, appraising and selecting projects for financing). Many new Member States for instance have struggled to operationalize the complexity of sustainable development into what is should concretely mean for project development. In Bulgaria, for instance, Sustainable Development is described in one paragraph in each Operational Programme as a horizontal issue but it is often unclear what it should mean in practice for the managing authorities and beneficiaries. Sometimes, it is interpreted as a compliance with the EU environmental *acquis* or the applications of assessment procedures such as SEA and EIA. In Hungary, it has been reported that horizontal objectives are seen merely as an administrative obligation. Hungarian National Development Agency argues that that this approach should be reviewed, for instance, by setting minimum conditionality instead.[117]

Application of principles underlying EU environmental policy

Article 191(2) of TFEU states that EU environmental protection policy shall be based on the following principles:

- Precautionary principle
- Principle that preventative action should be taken
- Environmental damage should be rectified at source
- Polluter should pay.

Of these four principles, the final one, ie the polluter pays principle, is the one to which OPs are more likely to refer.

117 Gyene Gyöngyvér, National Development Agency Hungary, Environmental Requirements in the Implementation of the Operational Programs, Presentation at ENEA meeting, 26/05/2010, Warsaw

Nordregio's study found that half of the Operational Programmes refer explicitly to the polluter pays principle as a guiding principle underpinning the policy framework the programmes. This says little about how the principle is taken forward in practice. For instance, the principle is operationalized more explicitly in the cost-benefit analysis of major projects. DG Regio has published a common guide to CBA, which explicitly stipulates that the 'economic analysis' should take into account externalities and give them monetary value. Externalities in this case could include social costs associated with adverse environmental impacts of the planned project. CBA also includes an analysis of options for the realisation of project, which usually assess different locations of the project but could also consider the implementation of energy efficiency measures instead of the construction of energy production plants.[118] Even though the application of the polluter pays principle can ensure the internalization of external environmental costs and facilitates sound financial sustainability of project, there might be certain trade-offs concerning social affordability if the utilization of a new service is associated with increased user charging.

Given the way in which funds have been applied for the purpose of environmental protection, it is clear that there needs to be clearer environmental principles underlying the allocation and use of Cohesion Policy funds. In this respect, there is an argument for making the precautionary principle, the principle of preventative action and the polluter pays principle guiding principles underlying Cohesion Policy funding, in order to ensure that the environmental principles that underlie EU environmental policy also underlie Cohesion Policy funding, which is one of the most significant ways in which EU policy affects the environment.

In this respect, these principles should be explicitly stated as guiding principles both within the EU Funds General Regulation, the Single Strategic Guidelines and the partnership contracts. It would be beneficial to produce guidance for Member States and regional delivery authorities on how to operationalize these principles in practice. This could be undertaken in the same guidance document that sets out how to operationalize sustainable development. The Polluter pays principle is already operationalized in the guidelines for Cost-benefits analysis, however, it is unclear how it is exactly taken forward in the assessment of major projects. Similar guidelines could be developed to further operationalize the other important principles of preventive action, addressing pollution at source and precautionary principle.

In Member States' partnership contracts and in the respective Operational Programmes, these principles should be re-stated and translated into the respective national and regional contexts. The parameters within which the national and regional circumstances can alter the operationalization of the principles should be set out within the Guidelines, or at least within the associated guidance. The assumption should be in favour of the implementation of the principles, while any deviation from these would need to be justified either by the Member State in its partnership contracts, or by the region in the respective Operational Programme.

Principles of carbon neutrality and no net loss for biodiversity

Given the environmental challenges faced by the EU and the increasing recognition that addressing these are important in the context of achieving sustainable growth, eg in the resource efficiency Flagship Initiative supporting the Europe 2020 Strategy, the application of principles such as carbon neutrality and biodiversity no net loss are arguably even more

118 http://ec.europa.eu/regional_policy/sources/docgener/guides/cost/guide2008_en.pd

important in the post-2013 programming period. The resource efficiency Flagship Initiative sets the wider policy framework, including a recognition that the EU is aiming to reduce its greenhouse gas emissions by between 80% and 95% by 2050, in addition to the 20/20/20 strategy target of reducing these emissions by 20% by 2020. Given the importance of Cohesion Policy in developing infrastructure, which has the potential to lock-in patterns of behaviour that lead to emissions of greenhouse gases, it is clearly important for Cohesion Policy to be consistent with the aims of the 20/20/20 strategy.

The principle of carbon neutrality is being applied in some Operational Programmes in the 2007-2013 programming period, even though it is not embedded within the regulatory framework, ie either the Regulation or the Community Strategic Guidelines. Instead, the principle was introduced in the course of the approval of national/regional Operational Programmes and has been taken up in some countries.

The principle of carbon neutrality has been applied effectively in the ***French*** regional Operational Programme through the tool so called NECATER. It shows that in the short-term, GHG emissions generated by investments in economic development (and to a lesser extent in housing and transport) are compensated by reductions in GHG emissions thanks to investments in energy control, renewable energies and in the environment. The impact of the investments in terms of GHG emissions tend to be neutral for all the categories on the long run (>30 years). At the aggregate level, the cumulated impact was estimated at approximately 700 teqCO2 saved. In ***Austria***, the principle is also applied to ensure that all activities are at least neutral to the environment if they do not have positive impacts. This is done by a plausibility test on the basis of an environmental questionnaire the tenderer has to submit.

The experience of ***Malta*** with the carbon neutrality principle has been mixed. The explored Maltese Operational Programme declares that the ultimate goal should be carbon neutrality. However, this has not necessarily led to pursuing more sustainable solutions in the planned investments on the long-term nor was it a driver for innovation. For example, when giving grants for buildings, instead of building a low energy building, a solar panel is proposed for construction. From a SCP perspective, the Maltese approach is assessed as insufficient as it should pursue to address unsustainable patterns of production and consumption, e.g. energy production and energy use/efficiency.

Similarly, innovative policy instruments have been explored also in the ***South West of England***. For example carbon accounting is currently being explored by the Regional Development Agency (RDA) as an innovative instrument that could be more widely used within the programme. The RDA has worked with an independent research institute to develop an approach for assessing the carbon impact of investments and achieving the net zero carbon ambition. The RDA is now beginning to implement this approach, known as the Carbon Compass, across their investment portfolio for any project with a total financial value in excess of £1 million and for all projects that significantly generate or save carbon.[119] ***Denmark*** is also experimenting with carbon-accounting at the regional and local level, using an input-output framework. This work, carried out by statistics Denmark and a LCA 2.0, a consultancy, will provide interesting insights on the use of carbon calculators in impact assessments.

119 http://www.southwestrda.org.uk/working_for_the_region/working_for_the_environment/low_carbon_economy.aspx

Cohesion Policy funding should be allocated where the highest EU value added can be exploited, to actions which can contribute to achieving EU's strategic objectives and targets, including these related to carbon reduction. Old MS should be allowed to use EU funds only for actions that realise carbon savings and support exemplary/pioneering projects and projects of 'excellence' in terms of environmental achievements. New MS need to catch up with building infrastructure but in their EU funds programmes there should a requirement for overall carbon neutrality as EU funds programmes should set an example and drive the direction for other investments. Additionally, if new MS are supported to invest in carbon intensive infrastructures now they might be running the risk of getting into a technological lock-in and consequently carbon high path dependency. On the long run, post 2020, new MS should also use EU funds only for projects ensuring emission reductions and their Operational Programmes should be carbon saving.

The resource efficiency Flagship Initiative also notes the need to halt the loss and restore biodiversity and ecosystem services. Consequently, applying a principle of biodiversity no net less to OPs should be consistent with achieving these aims. This would require some specific requirements to ensuring no net loss when planning interventions and projects with are likely to have significant impacts on land use. While the EIA procedure can ensure that such negative impacts are identified and mitigated the principle of no net loss would imply that developments with potential to disrupt natural ecosystems should not receive a go head through support by EU funds.

Environmental objectives and priorities

The Community Strategic Guidelines on Cohesion for the 2007-2013 programming period called for the strengthening of the synergies between environmental protection and growth. In this respect, the aim was that priority would be given to the provision of ecosystem services and protection from environmental risks (eg in the face of climate change). However, in practice, environmental investment has gone on the implementation of the more costly environmental Directives, eg those relating to water and waste management, rather than on other, more innovative environmental investments (eg measures on ecosystem-based adaptation to and mitigation of climates change). Given this mismatch, there is clearly the need to reconsider the framework for environmental protection within Cohesion Policy.

All case studies identify that specific environmental or environmentally-related objectives have been developed for majority of Operational Programmes. Most often these objectives particularly in new Member States are linked to the implementation of EU environmental acquis and therefore entail the construction of basic environmental infrastructure in the field of waste water, water supply, waste management and the establishment of Natura 2000 network. In old Member States objectives are usually linked to developing low carbon projects and solutions or the boosting of eco-innovation and technologies.

Another example from the case studies is the Basque Operational Programme, where the development of environmental objectives is accompanied by the establishment of quantified environmental targets by 2013. The explicit targets bind the Operational Programmes to the achievement of concrete outcomes from environmental perspective and set out reference for monitoring.

Setting out environmental objectives is critical in the Operational Programmes as they become and important point of reference for future investments. While sustainable development as a cross-cutting principle is aimed to ensure horizontal integration across the

different Programmes, concrete environmental objectives are necessary to ensure that the environment is given sufficient weight vertically, or within the partnership contracts and the Operational Programmes. These should mirror the strategic orientations provided at EU level by the respective overarching strategies such as the Europe 2020 but also should be in line with the environmental objectives as set out in the national/regional sustainable development or environmental strategies.

Gearing financial resources to environmental objectives

After environmental objectives are set out, the next step is to ensure that sufficient funding resources are allocated in order to achieve these objectives. Earmarking is an instrument to harness public financing towards achieving certain policy objective e.g. in the 2007-2013 programming period, earmarking was relatively successful in targeting investment in support of the objectives of the Lisbon agenda. Given the desire that the post 2013 programming period be aligned to the Europe 2020 strategy, which itself recognises the importance of the environment in supporting sustainable growth, earmarking funds in the forthcoming period would appear to be a useful instrument to apply. This conclusion is supported by the Communication on the budget review, which called for earmarking to underpin the mainstreaming of *inter alia* climate change and energy policies into Cohesion Policy. Given that resource efficiency Flagship Initiative under Europe 2020 also makes reference to the need to prevent biodiversity loss and recognises that the world is resource-constrained, there is also a clear rationale for earmarking resources to the prevention of biodiversity loss and to improving resource efficiency.

As with the 2007-2013 programming period, there needs to be an instrument or generic approach to ensure that EU funds will allocate a considerable amount of financial resources in support for the sustainable growth objective of the Europe 2020 Strategy, the resource efficiency Flagship Initiative and EU environmental legislation. This approach needs to be explicitly specified within the post 2013 EU Funds General Regulation programming period. The associated principles need to be developed in the revised Strategic Guidelines, while the subsequent allocations to priorities would also need to reflect the high level allocations in the same way in which this was achieved for the post 2013 programming period. Similarly, partnership contracts and Operational Programmes would need to reflect these priorities and contribute towards delivering the overall allocation of funds, although the extent to which Operational Programmes can be expected to contribute to the overall delivery of the specified allocations will depend on the type of Operational Programme.

Earmarking is one way to target public funding. In the previous programming period it was a useful instrument to concentrate funding resources to strategic priorities. In the on-going political debates other approaches are also being discussed such as ring fencing or establishing obligatory measures. Whatever the exact instrument, however, in principle there should certainly be mechanisms embedded in the EU funds regulatory framework which to ensure that sufficient amount of funding is allocated in support of environmental objectives and targeting environmental projects.

As for biodiversity, in 2007-2013 it has been possible for the Member States to specifically direct Cohesion Policy investment towards promoting biodiversity and nature conservation, including Natura 2000 (ERDF budget category 51). However, allocation of Cohesion Policy funding for this budget category has been voluntary and in practise only some Member States

taken up this opportunity[120]. Therefore, further steps would be helpful to improve the scope and design of Operational Programmes so as to ensure that the possibilities for financing biodiversity are taken up in practise. These could include, for example, obligations for the minimum earmarking of funds for biodiversity. Also, in order to ensure the absorption of Cohesion Policy funding for biodiversity at national / regional level, stakeholders responsible for managing biodiversity (eg Natura 2000 sites) should be unequivocally recognised in the socio-economic partnerships under Cohesion Policy and efforts should also be made to ensure the capacity of these relatively new ERDF partners to effectively access the available funding.

Compliance with EU environmental acquis

The preamble of the General Regulation 1083/2006/EC stipulates that 'the activities of the Funds and the operations which they help to finance should be consistent with the other Community policies and comply with Community legislation'. Cohesion Policy investment should be consistent with other Community policies and comply with Community legislation, including legislation such as the SEA, EIA, Birds and Habitats Directives. It is also possible for Cohesion Policy to fund infrastructure that enables compliance with the more expensive EU legislation, such as that relating to waste and water. In 2001, a Commission Communication assessed the investment needs stemming from the implementation of the so called 'investment-heavy' Directives to be of €120 billion in CEE countries. A grant over €500 million per year for environmental investments was secured through the pre-accession fund ISPA over the period 2000-06. It has also been estimated that Candidate Countries need to spend on average between 2 and 3% of GDP in the coming years for full implementation. Yet, it is stressed that much more investment are going to be needed within the 2007-2013 period as well.[121]

While managing authorities assume the legal responsibility for ensuring compliance with the acquis, the Commission has to take this information into account when appraising projects. In order to assist with the assessment of compliance with the acquis of major water and waste projects, the Commission has developed checklists.[122] From the case studies, it is clear that some of the new Member States are using Cohesion Policy funds to develop the infrastructure that should enable compliance with the Community's environmental acquis, particularly in relation to waste and water, but also in relation to the implementation of Natura 2000.

Compliance with EU Environmental acquis is the case in most of the new Member States case studies and 'cohesion' countries. In ***Bulgaria***, the entire Operational Programme Environment (the second biggest Operational Programme in the country with total budget of €1.8 billion) is intended to accommodate investment needs linked to the implementation of

[120] Kettunen, M., Carter, O., Gantioler, S., Baldock, D., Torkler, P., Arroyo Schnell, A., Baumueller, A., Gerritsen, E., Rayment, M., Daly, E. & Pieterse, M. 2011. Assessment of the Natura 2000 co-financing arrangements of the EU financing instrument. A project for the European Commission. Institute for European Environmental Policy (IEEP), Brussels. (to be published)

[121] CEC. 2001. http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2001:0304:FIN:EN:PDF

[122] DG ENVI. Checklist Water and Waste Major projects (20/11/09), http://ec.europa.eu/regional_policy/sources/docoffic/working/doc/checklist_water_waste201109.xls

EU environmental acquis and therefore its key objectives and subsequent priority axes are set with regard to water management, waste treatment and biodiversity protection. The compliance with EU waste water treatment legislation appears as a key priority in ***Romania*** as well. Priority Axis 1 of the Operational Programme Environment in Romania is fully directed towards the compliance with urban waste-water treatment legislation of the EU. The entire territory of Romania has been classified as sensitive area vulnerable to eutrophication. European legislation requires that for such areas all agglomerations of more than 10,000 population equivalent should be equipped with wastewater treatment plants allowing advanced treatment level i.e. tertiary treatment with removal of nitrogen and phosphorus.

Similar compliance checklists to those used for assessing the compliance of major waste and water projects could be extended to other major projects. As discussed in the Task 5 Report, all pieces of infrastructure have the potential to impact on biodiversity, so developing a checklist, which includes the need to ensure compliance with relevant biodiversity and nature conservation policies and legislation, has the potential to be beneficial in ensuring that all pieces of infrastructure comply will Community policies and legislation.

Spatial planning / Territorial cohesion

Spatial planning can be an important policy instrument for territorial development as it seeks to reconcile different sectoral objectives in a single geographical area. The EU does not have a formal (de jure) competence for spatial planning; this remains largely in the hands of Member States. At the same time, various EU policies, including cohesion policy have a clear spatial dimension and have clear spatial impacts (e.g. TENs, CAP) and impacts on land-use planning systems (e.g. Water Framework Directive, Natura 2000). So one could speak of an informal (de facto) spatial planning at the European level. Moreover, the inclusion of territorial cohesion in the Lisbon Treaty as a formal Community objective presents the opportunity to use this concept to facilitate a spatial planning approach that is sensitive to environmental issues, as territorial cohesion has not yet been formally defined and elaborated. The description of territorial cohesion in the *Fifth Report on Social, Economic and Territorial Cohesion* (2010) is very encouraging in this respect: one of the four dimensions of territorial cohesion (p. 24) is the 'environmental dimension to sustainable development', while the other three are quite amenable to spatial planning ('access to services of general economic interest', 'functional geographies' and 'territorial analysis'). This interpretation of the term can therefore be used as a vehicle to make the cohesion funds more sustainable at the EU level (e.g. an ex-ante territorial impact assessment) and promote activities such as long-term strategic spatial planning at the regional level.

For example, one of the four dimensions of territorial cohesion identified in the Cohesion Report are novel approaches to planning which stretch beyond the boundaries of administrative regions and address functional geographies such as river basins and seas. Such approaches should be promoted even more in future Cohesion Policy, especially when the objectives enhance environmental quality and sustainability. This has already proven to be the case in the Baltic Sea. In addition to transnational activities, the EU may wish to actively promote good practices in spatial planning where this has proven to contribute to responsible and sustainable spatial development by means of information exchange and provision of spatial data. The work of EEA and ESPON in this regard constitutes an important first step towards making relevant, comparable, transparent, and usable information available to regional planners in Europe. Still, much work remains.

Conditionality

Supporting Paper 3 has discussed in detail the ways in which a number of non-investment policy instruments could be used alongside Cohesion Policy as conditional or complementary instruments. There is also some evidence from case studies that some of these policy instruments, such as green public procurement (GPP), EMAS and Eco-labelling, are already being used in some Member States as conditional instruments linked to Cohesion Policy.

The notion of introducing some form of conditionality in future Cohesion Policy was proposed in the Communication presenting the conclusions of the 5th Cohesion Report[123]. The conclusions explicitly note that conditionality could be applied in the area of environmental protection. Such eco-conditionality could ensure that environmental considerations are better integrated into Cohesion Policy both by reinforcing existing win-wins, but also in helping to mitigate win-losses. In Section 4, the use of the following non-investment instruments as conditional, or at least complementary, instruments are discussed:

- Applying ***GPP*** generally and to the transport sector in particular;
- Applying ***EMAS and Ecolabels***;
- Applying standards for the ***thermal insulation of buildings*** in a systematic way when buildings are constructed;
- Strengthening the ***implementation of the Water Framework Directive***, including the greater use of water pricing to assist full cost recovery and the development of guidelines for undertaking the proposed appraisal for water investment;
- Strengthening the use of ***existing EU biodiversity Regulations*** and the application of market based mechanisms for nature conservation;
- Applying ***user charging for transport*** infrastructure; and
- Applying ***feed-in tariffs*** as a complementary instrument.

Using these instruments as either conditional or complementary instruments would require that any general requirements linked to eco-conditionality be set out at a high level in the revised Community Strategic Guidelines for Cohesion, with which all NSRFs and OPs would have to be consistent. This is important in order to ensure that i) the eco-conditions are applied consistently within all Member States and regions that are recipients of Cohesion Policy funds; and ii) that the application takes into account national and regional circumstances. In this respect, some mention is needed at most stages of the Cohesion Policy cycle, but the level of detail required will be dependent on the existing EU policy frameworks that are in place and the scope for different approaches to implementation within Member States and regions. The latter will vary from instrument to instrument.

At the highest level, the revised Strategic Guidelines would need to include the necessary references to, and frameworks for, the use of the conditional and complementary instruments, eg:

- The need to apply ***GPP***, ***EMAS*** and ***Ecolabels***, and any requirements as to their application;

123 EC. Conclusions to the Fifth Cohesion Report.

- The need to apply ***thermal insulation standards for buildings***, and any requirements to their use;
- The requirement to undertake the proposed appraisal for ***water investment***, and the conditions under which the application of the relevant elements of the Water Framework Directive could be strengthened, including a reference to more detailed guidance on how to undertake the appraisal;
- A strengthened requirement to apply existing ***biodiversity*** Regulations, and the framework for the potential application of market-based instruments for biodiversity, including a reference to more detailed guidance on the use of such instruments for nature conservation;
- The conditions under which ***user charging for transport*** should be applied on infrastructure financed by Cohesion Policy funds, including a reference to more detailed guidance on how this should be operationalized; and
- The high level guidelines for the application of ***feed-in tariffs*** as a complementary instrument.

Such requirements would then need to be included in the NSRFs and subsequently in the Operational Programmes. In the NSRFs, any relevant national conditions and circumstances would need to be set out. This would include any regional differences within the country, eg for the application of user charging for transport. It would also need to build on the EU-wide framework included within the Community Guidelines by developing the necessary framework within which the respective Operational Programmes could be developed. In this respect, consistency between the European level Guidelines and the Operational Programmes would be achieved. For their part, the Operational Programmes would need to be developed within the framework set out within the NSRFs, as is currently the case.

From the perspective of choosing which projects to fund, the use of selection criteria in the project application process is also important, as these could be used to reject projects that do not adequately address the environment. If the project does not sufficiently address or take account of the underlying environmental principles, the onus should be on the project to justify why it has chosen this approach. It would be perfectly justifiable for projects to claim any additional costs incurred, eg by purchasing greener products or introducing road user charging, from Cohesion Policy, as this would be part of the added value of Cohesion Policy investments in delivering sustainability. Examples of the potential use of selection criteria to require the use of specific conditional or complementary instruments include:

- Where projects led by public or semi-public organisations involve the construction of infrastructure or buildings, or the purchase of products or services, they should be required to apply GPP.
- Applicants should be required to have environmental management systems in place that are consistent with EMAS, or at least commit to putting such systems in place in the course of the project.
- Projects including the construction or significant renovation of buildings would have to apply suitable standards for thermal insulation.
- Projects funding water investment would need to apply (higher levels of) water pricing if the assessment in the respective OP concludes that this is affordable.

- Investment affecting biodiversity would need to demonstrate compliance with biodiversity Regulations.
- Projects to develop transport infrastructure would need to apply user charging to this infrastructure, unless they can justify otherwise in line with the guidelines set out in the Strategic Guidelines.
- Feed-in tariffs would need to be applied with respect to renewable energy, unless the project could justify why they are not in line with the guidelines set out in the Strategic Guidelines.

Such requirements could also be included in the development and investment partnership contracts.

The EU Funds Regulations do not require the deployment of green public procurement (GPP) or other voluntary instruments such as EMAS and ecolabel as cross-cutting conditionality in the Operational Programmes. In spite of this fact, there is some evidence from the case studies that in some countries, there is growing practice in the application of such instruments in conjunction to EU Funds programmes and projects. For example, one of the objectives of the ***Basque*** Operational Programme refers explicitly to GPP: undertaking 20 actions aiming at promoting an environmentally sustainable consumption of resources in public buildings; undertaking 25 exemplary actions by the administration; and achieving 40% GPP in total public procurement. The strong commitment towards such objectives and targets is underpinned by a strong locally-driven aspiration towards the promotion of sustainable consumption and production. The number of organisations enrolled in the EMAS scheme in the ***Cataluña*** region has increased substantially between 2000 and 2007, thus ensuring that an increasing number of enterprises evaluate, monitor and improve their environmental performance that negative environmental impacts are mitigated and that environmental capital is enhanced. Eco-labels encourage producers to go beyond legislation in reducing the environmental impact of their production methods and the products they make. In addition to delivering direct benefits by driving both producers and consumers towards more environmentally friendly products, the Eco-label scheme can have impacts far beyond the direct labelling of the products that are certified. These include positive outcomes in Green Public Procurement and independent benchmarking for all participants - including many producers. Catalonia is the leading regional office for the registration of eco-label products in Spain. According to the stakeholders, this has led not only to an increase in transparency and to a competitive advantage for companies, but it has also created positive economic dynamics as companies that want to obtain the EU eco-label move to Catalonia.

Alignment with national/regional SD strategies (and wider policy frameworks)

National or regional sustainable development strategies provide a framework within which sustainable development can be operationalized within a country or a region. Other relevant national and regional strategies can also provide a framework against which Cohesion Policy investments can be justified. For example, the Commission requires, as a pre-condition for funding, that major water and waste projects are included in the respective national water/waste strategies/plans. The case studies revealed a number of cases where Operational Programmes have been aligned with the Sustainable Development objectives, principles and targets of the respective Sustainable Development strategies. Elsewhere, established national and regional policy frameworks have led to the establishment of a reference framework for EU funds.

In order to strengthen the consistency between Cohesion Policy investments and other national and regional strategies, there is clearly the potential to require that NSRFs and Operational Programmes are consistent with wider relevant national and regional strategies. This would ensure that the Operational Programme is at least consistent with the respective strategies and linking these strategic documents to the respective sustainable development strategies potentially overcomes some of the barriers associated with operationalizing sustainable development. The requirement that NSRFs and Operational Programmes need to be consistent with the respective strategies, including those relating to sustainable development, needs to be set out in the new version of Community Strategic Guidelines on Cohesion covering the 2014-2020 programming period. However, the wording in the Guidelines should ensure that there is the potential for the NSRFs and particularly the Operational Programmes to go beyond the respective strategies. This is important in order to pre-empt the situation in which a relevant strategy, for example, a sustainable development strategy, might not be consistent with the underlying principles of sustainable development.

In a number of case studies the national or regional sustainable development strategies have been underlined as important instruments that have aligned the Operational Programmes with sustainable development objectives, principles and targets. For example, the strategic alignment of the Operational Programme of the ***Catalonia region*** was underpinned by its Sustainable Development Strategy. The Generalitat de Catalonia (regional government) has developed the inter-departmental 2026 Strategy for the Sustainable Development of Catalonia. This strategy establishes a roadmap of key objectives and orientations to guarantee Catalonia's transition towards a safe, eco-efficient low-carbon economy. The strategic alignment establishes a correspondence between the objectives identified in the Strategy for Sustainable Development and those identified in the Operational Programme

The condition that major water and waste projects should be included in the relevant national strategies or plans, otherwise they would not be eligible for Cohesion Policy funds, could be extended to all major projects. For example, road and rail projects would only be eligible for Cohesion Policy funding if they are included in national transport plans or strategies. It is to be hoped that such an approach would ensure that transport investments that are sought would be as appropriate to national priorities and needs as European ones, thus rebalancing the situation at the moment where the TEN-T framework tends to drive the transport infrastructure in which the new Member States in particular invest. Such a conditionality requirement could be implemented in the same way in which the water/waste projects. A general requirement that major projects need to be included in respective national strategies or plans should be explicitly stated within the revised Guidelines. Additionally, with respect to transport, the need to support less carbon-intensive transport that supports national and regional needs within Member States should be made more explicit, along with a rewording of the text with respect to the TEN-Ts, in order to attempt to rebalance transport investment towards the less carbon-intensive modes, such as railways and water-borne transport.

6.2 Procedural instruments

Strategic Environmental Assessment (SEA)

SEA is one of the most prominently recognised tools for environmental policy integration at the strategic level of planning and decision-making. The General EU Funds Regulation sets out the requirement for Member States to conduct ex-ante, on-going and ex-post evaluations of the Operational Programmes which should take into account 'the objective of sustainable

development and of the relevant Community legislation concerning environmental impact and strategic environmental assessment' (Article 47). The EU SEA Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment provides the legal framework for the application of SEA on plans and programmes, among which the Operational Programmes governing EU funds. Approval of the Programmes by the Commission was made conditional to compliance with the requirements of the SEA Directive.[124] Despite of this, the practice of applying SEA to the current Operational Programmes varies significantly. For instance, some countries set out special coordination committees or working groups to carry out the process of SEA of Operational Programmes in a consistent manner ***(Italy, Latvia, Belgium***), some have developed common methodology for checklists to aid the SEAs (***France***) while others established a single SEA process for all Operational Programmes, which resulted in one single report at the end (***Portugal***).[125] Arguably, the application of the SEAs in the 2007-2013 EU Funds programmes has had a number of positive effects in terms of integrating environmental concerns in the programming process. For example, they have facilitated the involvement of environmental authorities in all phases of the decision-making process regarding Operational Programmes [126] and aided the identification and establishment of environmentally relevant project selection criteria and indicator and monitoring systems[127]. At the same time, however, common challenges in applying SEA to the Operational Programmes in the current period included short timelines which often resulted in lower level of public participation and also varying quality of the environmental reports. Furthermore, SEAs were found to generally focus on potential synergies (win-wins) between economic development and environmental protection, and less on trade-offs.[128] Therefore, the use of SEA needs to be strengthened by enhancing institutional capacities and methodological approaches to carrying out SEA in view of aiding managing authorities responsible for Operational Programmes management.

In order to improve the application of SEA within Cohesion Policy, the existing Handbook on SEA for Cohesion Policy[129] could be revisited and promoted while the development of national and regional guidance documents should be encouraged by tailoring them to the specific context of characteristics of the programmes (in this case investment programmes), administrative levels and geographies. Additionally, the working document on the use of SEA as part of the ex ante evaluation[130] could be reviewed in order to ensure that SEA is appropriately applied, eg to remove the uncertainty over its application that emerged in the current programming period with respect to its application to Operational Programmes that did not contain major projects.

---

124 CEC. Report by the Commission on the application and effectiveness of the Directive on Strategic Environmental Assessment (Directive 2001/42/EC), (COM(2009)469), Brussels, 14.9.2009

125 ENEA. 2008. Draft report of the working group on Cohesion and SEA. 22/05/2008, http://ec.europa.eu/environment/integration/pdf/sea.pdf

126 CEC. Report by the Commission on the application and effectiveness of the Directive on Strategic Environmental Assessment (Directive 2001/42/EC), (COM(2009)469), Brussels, 14.9.2009

127 Nordregio.

128 Nordregio. European Policies Research Centre, Austrian Institute for Spatial Planning (ÖIR) and SWECO (2009) The potential of regional development instruments 2007-2013 to contribute to the Lisbon and Goteborg objectives for growth, jobs and sustainable development. Final report for the European Commission, DG Regional Policy, Evaluation Unit, July 2009

129 GRDP. 2006. SEA Handbook . http://ec.europa.eu/regional_policy/sources/docoffic/working/doc/sea_handbook_final_foreword.pdf

130 http://ec.europa.eu/regional_policy/sources/docoffic/2007/working/wd1_exante_en.pdf

At the same time, the legal provisions in the EU SEA Directive prescribe that the SEA should focus on preventing significant negative impacts on the environment. In order to fully exploit the potential of SEA to serve as a planning tool for environmental policy integration, this approach to SEA enshrined in the EU SEA Directive might be considered relatively narrow. An SEA could act as a *promoter of sustainable development*[131], a tool that identifies not only adverse but also positive impacts in terms of win-win opportunities for environmental, social and economic domains. Furthermore, SEAs could be widened to take more formal account of the inter-action between economic development and environmental protection, and including more explicit consideration of human and social capital as appraisal criteria given their importance both as a rationale for Cohesion Policy, but also because they are one of the driving forces for environmental pressures. This could be done by reviewing the legal provisions of SEA and revisiting the common methodology or could be encouraged at lower level of governance in a more bottom up manner.

The *process* of carrying the SEA is also of critical importance. Its end result is often seen as delivering a product – the SEA report. The SEA, however, should be considered more as an evolving process which takes place in parallel to the programming process itself by offering 'a rolling integration of the findings of the SEA' into the programming[132]. Also, rather than having a separate consultation on the SEA, the SEA would frame the overall assessment and consultation – mainstreaming environmental considerations from the start of the process, and maintaining it throughout the design and delivery process. For instance, the SEA Handbook for Cohesion Policy outlines the links between the programming process and corresponding SEA steps arguing that they are interdependent and that 'both processes can be seen as mutually reinforcing tools within one robust planning system for more sustainable development'[133]. As was evident from some of the case studies, eg those in ***Piemonte, South West England and Southern Finland*** , SEAs have been used as part of an evolving process within the current programme, but this practice does not appear to be widespread in spite of the current Handbook. Consequently, this is clearly an area in which the Handbook and other relevant guidance (e.g. that on ex ante evaluation) would benefit from development and further dissemination.

The experiences across Member States and regions vary significantly in terms of the scope, timeliness, methodology, effectiveness and impact on programme/project innovation. In several countries (***Northern Ireland, Bulgaria*** and ***Denmark*** among others), there was general uncertainty if Operational Programmes which do not foresee big infrastructure investments with unlikely negative impacts on the environment, should be subject to an SEA. This uncertainty resulted in some delay of the procedure, which meant that the SEA came relatively late in the planning process, provided relatively limited opportunities for public participation or had insignificant impact on the OP priorities and objectives.

In spite of this fact, there are a number of positive developments or even innovative applications of SEA. The SEA for the Operational Programme Infrastructure and Environment in ***Poland*** for example resulted in adding some indicators related to the modal

131 Aalbue et al. 1999.When Policy Regimes meet: Structural Funds in the Nordic Countries 1994-1999, Report 3. Nordregio: Stockholm.

132 Bafors, A. and Schmidtbauer, J. 2002. *Swedish guidelines for strategic environmental assessment for EU Structural Funds*. European Environment, 12 (35-48).

133 GRDP. 2006. SEA Handbook. http://ec.europa.eu/regional_policy/sources/docoffic/working/doc/sea_handbook_final_foreword.pdf

share of 'environmentally friendly' transport and in ***Bulgaria*** – into the establishment of environmental criteria for project selection within a number of Operational Programmes.

The ***Via Baltica*** case study in Poland presents another interesting example of the application of SEA, where the SEA was used as a tool to reconcile trade-offs between transport development and environmental sustainability. Applying SEA facilitated a multi-variant analysis and helped solve the problem of possible collisions with Natura 2000 sites through the re-routing of elements of a key trans-European transport corridor.

The case studies have found some complementary examples of the SEA application as an integration instrument in Operational Programmes. One such example is the in-house ongoing SEA applied to the Operation Programme on rural development in ***Piemonte***. Here the SEA ensures broader participation and better coordination in the evaluation of the environmental dimension of the programme. In this framework, the SEA is not only carried out exclusively before the programming phase, but it is also carried out during the implementation period. In this way, the ongoing SEA ensures the existence of a feedback mechanism into the implementation of the Operational Programme and it influences the implementation phase of the programming. Moreover, it guarantees the involvement of evaluators with a better understanding of the context and overcome the lack of necessary technical and environmental expertise.

The ***South-West of England*** has improved monitoring and evaluation systems of SEAs through a monitoring strategy developed by the Regional Development Agency (RDA). One idea, given the weaknesses of monitoring in SEAs, is a review or a bi-annual update to the SEA and consequently SEAs could become increasingly prominent in the mid-term of the EU Funds programmes.

Stakeholders in the south west of England have emphasised the benefits of a robust and continuing monitoring system as follows:

- recommendations can be incorporated in alterations to the programme, heightening efficiency and ensuring continuous improvement;
- in-house and external expertise will be drawn upon which will ensure continuing engagement with relevant actors;
- there will be broader participation and better coordination in the evaluation of the programme.

Assessing the environmental impacts of projects, which will be submitted under an Operationa Programme, is not normally done in any form in relation to SEAs, which focuses on impacts only at a programme level. However, an innovative approach towards this has been used in the ***Southern Finland*** Operational Programme. The main part of the SEA is a table where possible impacts are assessed for each priority. These impact categories addressed in the SEA have been adapted to better suit the relevant issues in the Operational Programmes as well as the aims of SDS. This SEA is supported by an assessment of the environmental impacts of project proposals, which is gathered during the project application stage. The applicant is required to assess the environmental impacts of the project proposal by filling in a table and indicate whether a project is environmentally neutral, environmentally beneficial or environmentally harmful. The categories assessed cover broadly those of the SEA with some exemptions/additions. However, the project may also have indirect environmental impacts, such as increase in traffic, and hence the funding

authority has to also consider the SEA and its categories in the assessment of project proposals. Therefore, the SEA and its impact categories have a continuous role to play as they are also used in the assessment of projects.

While the experience with SEA and EIA in EU Funds programmes and projects has grown significantly in the 2007-2013 programming period, the case studies identified some regional quite innovative tools particularly in relationship with the carbon neutrality objective. The French government decided that climate change concerns should be taken into account at every stage of the design and implementation of regional investment projects. For this reason they introduced the NECATER Carbon proofing tool. The objective is that planning or development programmes co-financed by EU Funds have to be at least neutral with respect to GHG emissions.

Environmental Impact Assessment (EIA)

The EU EIA Directive 2003/35/EEC prescribes that prior to receiving 'development consent', certain public and private projects likely to have significant environmental effects by virtue, *inter alia*, of their nature, size or location are made subject to an EIA. The EIA is an important instrument for environmental integration at a project level and therefore is relevant to examining approaches to greening investment project financed by EU funds. So far, all Member States have transposed the EIA Directive and established comprehensive regulatory frameworks in this regard, although the performance varies across countries.

Similarly to the SEA, the EIA is associated with a number of benefits in terms of ensuring that environmental considerations are taken into account early in the decision-making process and that the public concerned in consulted. Concretely, with regard to Cohesion Policy, the effective application of EIA has been useful in the case of major projects where in addition to the general benefits, the EIAs have improved the project design.[134] Therefore, the EIA is one of the issues that JASPERS, the technical assistance instruments aimed to aid new Member States are improving project design of major project, is concerned with overseeing and assisting in improving its application.

Major projects (the total cost of which is above €50 million) funded by Cohesion Policy are subject to an EIA in line with the EIA Directive 2003/35/EEC. The Regulation covering the 2007-2013 programming period requires Member States to submit 'an analysis of the environmental impact' of major projects to the European Commission, which means that the Commission could decide not to approve the project as a result of issues in relation to the EIA. However, there are currently issues with respect to the way in which EIAs are undertaken for major projects funded by Cohesion Policy, including a lack of consideration of cumulative effects, insufficient quantification of the impacts, and issues associated with the risk analysis and environmental management plans.[135]

In ***Denmark***, an EIA has to be submitted with all project applications. Even though this EIA has to be undertaken only by the applicant and that the EIA does not have to be consistent with the EIA Directive, the requirement has improved the environmental performance of

134 CEC. http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2009:0378:FIN:EN:PDF

135 JASPERS. Regional Office for Central Europe, Vienna. Major project development in the Framework of CF and ERDF funds , Presented at an InterAct Danube Region Strategy workshop on 17 March 2010 in Bratislava

projects. Additionally, the environmental performance of projects is a consideration underlying which projects eventually receive funding, as projects with a higher level of environmental performance are favoured. Additionally, certain types of environmental performance are favoured over other as, for example, projects with positive effects on GHG emissions are favoured over projects with other positive environmental effects.

Given the issues that exist with applying EIAs to major projects in the 2007-2013 programming period, there is a case for revisiting existing guidance on EIAs in order to improve the performance of EIAs for the 2014-2020 programming period. The success of the compulsory EIA for all project applications in Denmark suggests that requiring an EIA (even one that does not completely come up to the standards of the Directive) to be developed for all project proposals might be a useful means of ensuring that project applicants consider the environmental performance of their projects while developing these. Combining such a requirement with a clear commitment to using the anticipated environmental performance of the project as a selection criterion would reinforce the message. If it were to apply to all projects funded by Cohesion Policy, this requirement would have to appear in the Strategic Guidelines and repeated within the NSRFs and Operational Programmes. However, if it was left to each country to decide whether to adopt such an approach, then there would not necessarily need to be any reference to this approach in delivery mechanisms above the national level.

A particular challenge for the application of both SEA and EIA are the *lists of indicative major projects*, which form part of the Operational Programmes, but do not fall in the scope of SEA. This is particularly the case in new Member States, where these major projects are to a large extent a result of political ambitions and there is often strong pressure for their implement. They are subject to obligatory EIAs but only after their inclusion in the list of indicative major project, while the inclusion itself is an indication of a preference for certain projects despite their likely environmental impacts. Therefore, as it appears from the case study on ***Poland***, there needs to be some solution so that the SEA at an early stage includes in its scope the list of indicative projects and consider alternative projects and mitigation measures already at a planning stage.

The ***Polish*** transport case studies also display some considerable positive developments with regard to EIAs of major projects. Importantly, the implementation of Cohesion Policy investments in Poland, particularly in the field of transport, led to institutional reforms enabling smoother and higher quality EIA procedures. In 2008, the General Directorate for Environmental Protection was established, together with 16 Regional Directorates. One of the primary tasks of these institutions is carrying out EIA procedures and management of Natura 2000 sites. The creation of these new, independent institutions ensured extra capacities to deal with EIAs for transport projects. In fact one of the aims of the institutional reform was to facilitate implementation of transport investments funded by the EU, which before had been delayed due to problems with environmental procedures. In view of this, it is being considered that the quality of EIA and even the specific assessment according to Art. 6 of Habitats Directive have improved. Moreover, it also appears that public participation in the transport infrastructure development field has also improved. This applies especially to major transport projects designed to be co-financed by the EU.

Another innovation with the application of EIA in the ***South of Finland*** Operational Programmes is the establishment of a governance mechanism to ensure quality control of the EIAs for project proposals that are provisionally approved by the funding authority. The EIA

panel assesses the quality of the environmental impact assessment done by the applicant and in case of any inconsistencies/concerns about the quality will inform the funding authority accordingly.

Territorial Impact Assessment (TIA)

TIA is a relatively new instrument that examines the impacts of and has the potential to coordinate the spatial aspects of different sectoral policies, both in terms of the three dimensions of sustainability (people, planet, profit) as well as across different layers of governance and for different territorial categories of regions (e.g. urban, rural, flat, arid, coastal, mountainous). In this respect, it is clearly an instrument that is of potential relevance to improving the sustainability of Cohesion Policy.

At this point of TIA development it is uncertain what role this instrument can play; there is no formal requirement, nor is there an agreed-upon methodology. ESPON has been very active in producing ex-post and ex-ante TIAs. Typically these take the form of quantitative analyses which produce figures at the NUTS 2 or 3 level for a single European policy measure. In theory TIAs could assist in enhancing the understanding of the impacts of Cohesion Policy, either at the EU level or at the Member State level (e.g. Operational Programmes). On the other hand, a TIA would be superfluous as a separate policy instrument if these concerns were brought on board in other – required – assessments such as the IA and the SEA. As far as the IA is concerned, the 2009 guidelines show much promise. Although there is no separate section on territorial matters, many of the questions do address territorial issues. There is however a difference between the questions in the guidelines and actual IA practice; it remains to be seen whether this is a sufficient substitute for a separate TIA. Another option would be to integrate the TIA into the SEA. This would require broadening the scope to encompass economic and social issues, and to reflect on governance. Moreover, the SEA analysts would need to become more conscious about how impacts will vary according to the type of region. So, not only would this add additional substantive knowledge requirements, it would also entail a change in methodology as well. As a start, a requirement could be included in the SEA to consider whether different regional categories will experience different kinds of effects or impact on land use (territorial sensitivity), but not the additional assessments for economic and social matters. In this way, the SEA would become more useful for spatial planners seeking to achieve balanced development.

Ex ante evaluations and SWOT

Ex ante evaluations are the responsibility of Member States and are developed in parallel to the OPs. SEAs are also conducted as an integral part of ex ante evaluations, while SWOT analyses are also a widely used instrument. Ex ante evaluations have proved themselves to be a useful instrument in aligning OPs to the relevant EU strategies in the 2007-2013 programming period, and are likely to play the same role post 2013 programming period. The fact that they are developed in parallel to the OP is perceived as an opportunity to learn and reflect within the programming process. Still, their application should be strengthened to reflect the new overarching objectives for sustainable growth and therefore a proper practice need to be developed in support for ex-ante and SWOT to take the environment into account. Furthermore, better incorporation of the SEA into the ex-ante evaluations should be pursuit in view of establishing the practice of integrated sustainability appraisals aimed to assess the economic, social and environmental pressures and impacts ex ante. Such assessments could be useful tools for the European Commission in the context of the partnership contracts and

operational programmes in order to get a better understanding of the drivers and impacts of the planned investments, as well as their interlinkages to the Europe 2020 Strategy.

The classical SWOT analysis, looking at strengths, weaknesses, opportunities and threats, was used in the ***SURF Interreg*** project as relatively simple and straightforward tool to engage stakeholders in the definition of problems and potential solutions. It was used to ensure that the project considers the wider opinion and that it meets its overall objectives. In this respect, the SWOT had a corrective function, which could lead to changes in emphasis within the project. The SWOT is also assessed to have helped develop a mutual understanding of the issues and solutions.

Cost-benefit analysis (CBA)

Article 40 of the General EU Funds Regulation outlines the information which should be submitted to the Commission with regard to major project based on which an approval of the project is to be granted. A cost-benefits analysis (CBA) is one of the compulsory analyses, which should include risk assessment and the foreseeable impact on the sector concerned and the socio-economic impacts for the country/regions considered. DG Regio has published a common guide to CBA[136], which is aimed to aid managing authorities, public administrators and their advisors in the Member States, when they examine project ideas or pre-feasibility studies at an early stage of the project cycle.

The guide explicitly stipulates that the 'economic analysis' should take into account externalities and give them monetary value. Externalities in this case could include social costs associated with adverse environmental impacts of the planned project. CBA also includes an analysis of options for the realisation of project, which usually assess different locations of the project but could also consider the implementation of energy efficiency measures instead of the construction of energy production plants.[137]

The CBA includes a risk assessment, which currently focuses on identifying and mitigating risks associated with economic and financial performance of the project. Severe and unforeseen impacts of climate change however could pose significant risk in terms of costs of damage repair in the case of infrastructure projects. Therefore, the costs of preventive climate adaptation measures should be integrated more rigorously in future CBA in terms of designing more financially sustainable but also climate resilient projects.

Environmental project selection criteria

A number of countries have applied different approaches to enhance environmental integration during the process of ***project selection***. These approaches might seem often very technical but if applied robustly they could facilitate some cost-effective outcomes for the environment. Such approaches could include some informative instruments e.g. ***formulating the calls*** for proposals in a way that they steer a positive approach to taking environmental consideration into account, highlighting the environmental requirements of the programme, providing additional information to project proponents on how to comply with environmental requirement of the programme, etc. [138]

136 http://ec.europa.eu/regional_policy/sources/docgener/guides/cost/guide2008_en.pd

137 Ibid.

138 REC-ENEA. 2009

The establishment of explicit environmental criteria and assigning sufficient weight to it could be seen as the most straightforward way to stimulate environmentally sound projects. Some countries have established environmental criteria, granting up to 20 per cent weight to it in the project selection process (***Bulgaria, Malta and Finland***). Sometimes the identification of environmental criteria was a result of a successful application of the SEA which recommended the development of specific criteria to provide the right signal to beneficiaries and favour more environmentally sound project. For instance, the Polish authorities introduced energy efficiency as a horizontal principle in all OPs and this was subsequently reflected in the project selection criteria.[139]

In some countries, the selection of projects based on environmental criteria is carried out through the establishment of appropriate institutional structure or coordination mechanisms where environmental expertise could aid the selection process. In ***Denmark*** for instance, the spectrum of actors involved in the project application process was broadened so to include professionals from the regional administration and expert groups, etc. In this way, professionals and the expert groups could contribute with their skills in areas such as environmental protection, green energy and environment technology.[140] A dedicated governance structure, so called environmental commissions (composed by regional council officers), was created to participate in the process of project selection in ***Basse-Normandie***. After a project has been submitted by a client/project manager, two commissions - a sectoral commission and a sustainable development commission - proceed with the evaluation of the project on a sequential basis. The projects are selected according mainly to environmental criteria specified in Operational Programme and in other programmes, at regional or national level (*Plan Climat*, Agenda 21, etc.). Such governance mechanism could facilitate integration of sustainable development into Cohesion Policy, as the project selection procedure is based on eco-conditionality.

Another interesting practice in the ***Danish Operational Programme*** is related to the role and approach taken by regional authorities in the evaluation of applications. The applications selection process in (the Midtjylland Region in) Denmark also focuses on facilitating the integration of economic considerations into environmental projects. In order to do so, the regional authorities guide the applicants in the development of the business case for their environmental projects, providing feedback and assistance during the drafting of the preliminary project outline documents. This approach not only promotes environmental projects that would not otherwise comply with the criteria of Cohesion Policy (because they lack economic justification), but it also promotes the development and commercialisation of environmental technologies and services.

Another interesting example is that of ***Southern Finland,*** which this suggests that the environmental prioritisation for environmentally friendly projects has had an impact on the proportion of environmentally positive projects funded (see Section 3).

Monitoring and environmental indicators

Indicators are an important planning and monitoring tools. In the 2007-2013 period, the use of indicators is set out in two working documents developed by DG Regio which establish an output-result-impact indicator system. Typical output indicators refer to 'number of project'

139 DG Regional Policy. Poland: results of the negotiations for Cohesion Policy strategies and programmes 2007-2013, http://ec.europa.eu/regional_policy/sources/docoffic/official/communic/negociation/country_pl_en.pdf

140 COWI 2009: 19

and result indicators relate to the effects of the intervention, for instance the number of households connected to water supply systems. Impact indicators are linked to longer term targets to which the intervention would contribute achieving, for instance, by 2013 the average rate of ICT usage in Danish businesses is at least 75% compared to 56% baseline in 2005. According to the Nordregio[141] study the development of impact indicators linked to sustainable development has been difficult to apply as often these are conceived as less tangible.

Member States are also encouraged to report on 'core indicators' (these include output and result indicators) which were agreed between the Commission and Member States as a set of minimum reporting requirements linked to strategic objectives that could be aggregated at EU level. Many programmes included core indicators systems specifically to measure and monitor effects with regard to CO_2 emissions (13 out of 27 Member States[142]). However, it has been found that there are discrepancies in the measurement unit (CO_2, CO_2 equivalent) used in the different countries and hence the data could not be aggregated at EU level. The set of core indicators can therefore in the future benefit from establishing a common approach to unified monitoring system. This might entail the provision of further technical guidance to managing authorities in that respect.

Beyond the set of core indicators, proper monitoring of environmental impacts of EU Funds programmes and projects is in a process of maturation, however, it is still an exception rather than the norm. Some Member States developed innovative indicator systems concerning wider environmental interventions and their impacts. An EEA report has found that ***Italy*** introduced an effective indicators system in the 2007-2013 period, which links a performance-based reward system to pre-established targets in order to provide a better assessment of the link between spending and the extent to which they help the attainment of results under the urban wastewater treatment Directive.[143] Developing an appropriate set of indicators that establish the correlation between spending and broader impacts, for instance, spending on wastewater treatment facilities and improved water quality is however rather complex and therefore challenging.

The data from the case studies suggests that in the examined cases environmental indicators have been used on various occasions and some of them have been deployed in quite innovative ways. Climate change and energy indicators are predominant in the examined case studies while fewer examples of biodiversity or resource use indicators could be found. Also, the examined case studies indicate richer experience with the deployment of environmental indicators among EU15 compared to EU12 Member States. Good examples of the application of environmental indicators in the case studies is given in Box 6.

[141] Nordregio. 2009.

[142] Nordregio. 2009.

[143] EEA. 2009. Analysis of environmental aspects of the EU Cohesion Policy in selected countries. EEA technical report 10/2009.

Box 6. Good practice examples of environmental indicators applied by different MS/Regions

Climate change

- Reduction of GHG emission in CO2 or CO2 equivalents (in 35 of Competitiveness programmes and 19 of Convergence programmes)
- Energy consumption of households (Basque Country)
- Capacity of renewable energy production (Northern Ireland)

Nature

- Ecosystem Services (TIDE INTERREG)
- Restoring water surface levels and species reintroduction (Lake Karla)

Waste and natural resources

- Levels of waste management, recycling and recovery (Northern Ireland)
- Waste reduction (South West England)

Sustainable consumption and production

- Number of enterprises with certified ISO 14001 or EMAS/ECOLABEL registrations (Spain, Italy, Germany, France)
- Green Public Procurement progress indicators (Basque Country)
- R&D activities to improve environmental sustainability of production processes (Piemonte)

The traditional focus of Cohesion Policy on economic and social cohesion, most notably in view of the criteria for allocating funds, has arguably led to granting more importance to the development and refining of indicators reflecting how the programmes and projects contribute to delivering social and economic outcomes, possibly at the expense of the development and use of environmental indicators. The allocation of funds under the next programming period needs to be better informed by a systematic/consistent use of complementary environmental indicators.

A set of environmental indicators need to be developed and rigorously applied in all member States and regions to ensure comprehensiveness and comparability of data. There are potentially two important stages of the Cohesion Policy cycle where environmental indicators could play a critical role for environmental integration – during the programming (when environmental indicators are designed and geared to concrete objectives/targets) and during monitoring when they are applied for the purpose of measuring performance. It is essential that some of these indicators are included in the list of 'core' indicators based on which Member States could annual report to the European Commission and allow for the aggregation of data at EU level. Environmental indicators should also be introduced more formally in the project cycle in view of measuring environmental performance of projects.

The development and application of environmental indicators can be arranged through a number of delivery mechanisms in the current and also post-2013 Cohesion Policy. For example, they can be explicitly stipulated in the foreseen development and investment partnership contracts, which will be negotiated between Member States and the European

Commission. Systematically measuring environmental impacts through the use of a given set of indicators in these delivery mechanisms would result in increasing the opportunities for a better consideration of environmental pressures and impacts. It is important that these opportunities are not missed and environmental indicators be better used at an ex-ante stages of the policy process in order to increase a region's/Member State's awareness of its natural assets and the impacts of their proposed programmes and projects.

A **closer look into the use of indicators in Cohesion Policy** in the context of this study has revealed that:

- GDP, employment and competitiveness indicators are by far the **most influential indicators** in Cohesion Policy. Some of the **environmental indicators most commonly used** include greenhouse gas emissions, number of passenger per transport mode, municipal waste generation per capita, PM emissions and emission of other main air pollutants, share of the different energy sources in overall energy consumption/production. These indicators are used most frequently at the stages of monitoring and reporting as well as evaluation. According to practitioners in the field, there should be some scope for using the composite **Index for environmental pressures** in Cohesion Policy. In addition, the index, as well as the ecological footprint could be suitable indicators for communicating on sustainability related issues in cohesion policy. Among the **ecosystem indicators** which could be of use in Cohesion policy but have so far not been sufficiently considered are the moderation of extreme weather events and the total economic value of services provided by ecosystems. There is a need for indicators allowing for a **reporting on the level of cost recovery** of natural resource use.

- There could be **scope for using wider natural capital accounts and/or economic & environmental accounts** and associated indicators in Cohesion policy.

A **great majority of environmental indicators are used at project level** and when these indicators are used, this will often be in the context of environmental interventions and the more particularly reporting on the project's activity and output. These indicators will therefore tend to be very project output oriented and focused on the project's objective (e.g. km of wastewater treatment pipes constructed) rather than impact oriented (e.g. improvement of water quality in the region's water bodies). The programmes and projects in which environmental indicators play a steering role are rather limited. Although a few good practice examples exist (e.g. NECATER) the very little evidence on the use of **biodiversity indicators** in cohesion policy has been striking, suggesting the extent to which the spending of the structural funds has been linked to biodiversity is far from reaching desirable levels. This is the case even though some relatively simple indicators may exist in this area, such as the indicator of resources allocated to support Natura 2000 sites, suggested by the EEA (i.e. resources made available to municipalities with 75% or more of their territory covered by the Natura 2000 sites) (EEA, 2009).[144]

Even when there is willingness to report and monitor indicators, the **lack of capacity** prevents programming bodies and project applicants to develop and adequately monitor

144 EEA (2009) Territorial cohesion – Analysis of environmental aspects of the EU Cohesion Policy in selected countries, EEA Technical report No 10/2009

environmental indicators – calling for **more in technical support** being targeted at the building of the necessary capacities. **Operational programmes** should be the prime target of efforts to better integrate the environment through the use of environmental indicators. Operational programmes in particular bear the potential to serve as learning exercise and authorities concerned with their development could be the prime target for technical assistance. This would probably the most appropriate level at which to require consistent reporting with regard to environmental impact and/or performance in the annual implementation reports. An enhanced funding for such **capacity building** needs however to meet a demand from the regions, which is unlikely to exist given current policy priorities.

In the absence of strong political commitment of this type, a **de minima use of a set of core indicators** appears to be necessary to ensure overall policy coherence and support MS in complying with EU's environmental legislative acquis and the targets it sets out. Cohesion Policy spending should more clearly reflect the need to support the implementation of EU policies, acknowledging more explicitly that one of the added values of EU funding is its contribution to greening the MS's economies. This could be achieved by providing funding only where environmental criteria are above standards. This would not necessarily require regions to invest extensive resources in reporting on environmental indicators but requirements could include concentrating environmental reporting on a few indicators for which data is easy to collect. This could in particular include indicators on the number of projects related with renewable energies, additional capacity for the production of renewable energy, additional population connected to wastewater treatment, km^2 or rehabilitated (formerly contaminated) land, reduction of greenhouse gas emissions, number of projects for prevention of natural risk, number of people that have been affected by flood prevention measures. Although "softer" than real impact indicators, these indicators can nonetheless serve a valuable purpose in providing a means for projects to highlight their achievements, and so to show the breadth of horizontal integration (GRDP, 2006).[145] Finally, the **Strategy for the Baltic Sea Region (EC, 2009)[146] and the Strategy for the Danube Region (EC, 2010)** point to new opportunities to promote the use of environmental indicators in more context-specific ways, which would also be more consistent with the approach promoted by the Commission's 2008 **Green Paper on Territorial Cohesion (EC, 2008)**.[147]

Ex post Evaluation and reporting

There are a number of requirements for reporting on the implementation of EU funds programmes and projects. Managing authorities are required to submit *annual implementation reports* for the first time in 2008 and then by 30 June each year; with a final implementation report due by 31 March 2017. The Commission has two months to express an opinion on the content of the report from the date of its receipt. Based on the annual implementation reports, the Commission prepares an overall Annual Progress Reports to the

---

145 GRDP (2006) Greening projects for Growth and Jobs – Guidance on integrating the environment within regional development programmes and their projects, URL: http://www.interreg3c.net/sixcms/media.php/5/Greening+Projects+for+Growth+and+Jobs+(GRDP).pdf

146 EC (2009) Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions concerning the European Union Strategy for the Baltic Sea Region - COM(2009) 248 final, URL: http://ec.europa.eu/regional_policy/sources/docoffic/official/communic/baltic/com_baltic_en.pdf

147 EC (2008) Communication from the Commission to the Council, the European Parliament, the Committee of the regions and the European economic and social committee – Green Paper on Territorial Cohesion, Turning territorial diversity into strength – COM(2008) 616 final, URL: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2008:0616:FIN:EN:PDF

Spring European Council.

Member States are also required to submit to the Commission two *strategic reports*, with the second to be submitted by the end of 2012. These reports should demonstrate how the implementation of the OPs contributes to attaining the objectives of Cohesion Policy and to the priorities set out in the Community Strategic Guidelines in line with the Integrated Guidelines for growth and jobs. Furthermore, these reports elaborate on the socio-economic situation and trends; achievements, challenges and future prospects and provide good practice examples. Based on the national strategic reports, the Commission prepares a strategic report (first one due in spring 2010), which is transmitted to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions.

However, these reports are focused on 'core' indicators (often basic socio-economic indicators), which the Commission is able to aggregate at EU level. For instance, the 2010 Strategic report states that based on the submissions from different member States, 13 countries have approved programmes/projects which will contribute to the creation of 351,300 gross jobs, while 8 Member States already report the creation of 55,900 gross jobs.[148] Similar core indicators should be made compulsory with regards to environment outcomes.

Evaluations are useful management instruments aimed to measure the outcome and results from spending programmes and spur learning. There are four types of evaluations carried out within the current Cohesion Policy. Ex-ante evaluations are a responsibility of the Member States and are conducted parallel to the development of the Operational Programmes. SEAs were also conducted as integral part of the ex-ante evaluations. The current experience with ex-ante evaluation is found useful in terms of aligning the OPs to the EU Lisbon and Goteborg Strategies. They were also perceived as an opportunity to reflect and learn along the programming process itself.[149]

The ex-post evaluations are a responsibility of the European Commission. To do this, they are carried out several years after the completion of the programming period. For example, the ex-post evaluations of the 2000-2006 period were completed towards the end of 2009, which is two years after the start of the new programming period. In this sense, they cannot influence the next programming cycle and provide valuable lessons learned. They are more likely, however, to provide valuable input to the post-2013 programming period.

The on-going evaluations, which replaced the previous mid-term evaluations, therefore become critical not only in view of evaluating the first results of the implementation of the current EU funds programmes but also in view of providing valuable input into the programming of the post-2013 programming period. While the ongoing evaluations offer some flexibility in terms of their scope and timing depending on domestic circumstances and the actual need for an assessment, they could constitute a challenge to new Member States which rarely possess in-house expertise and culture on policy evaluations. For example,

148 European Commission. 2010. Strategic report. (COM(2010)

149 Nordregio.

Estonia and Bulgaria are planning to undertake mid-term evaluations[150] as there is more clarity on what these should be. Further guidelines and instructions from the Commission would be critical in order to aid the managing authorities in these countries. Particular guidance would be useful in terms of the environmental dimensions of such evaluations. For instance, the SEA reporting requirement under article 10 of the EU SEA Directive needs to be integrated into the reporting system of EU funds but there is no practical guidelines on how this could be done. In the case of Member States this lack of experience and knowledge how to carry further the evaluations will inevitably result in delays and might affect the management of funds overall.

The European Commission could also carry out thematic and strategic evaluations at any time of the policy cycle with the aim to improve the understanding of concrete issues and drivers for these within Cohesion Policy hence strengthening the knowledge base for policy-making and spur learning. Such evaluations but focused on the interlinkages between Cohesion Policy, sustainable development and green economy could be extremely useful tools during the preparations of the policy framework for the future policy but also during the implementation of operational programmes. Ensuring a result-driven EU spending is being recognised as a key principle in the EU budget review and calls have been made for the future Cohesion Policy to improve the effectiveness and quality of spending. Therefore, the role of thematic evaluation is likely to increase in order to measures drivers, barriers, outcomes and challenges in the implementation of EU funds.

Rewarding performance, including reserve fund

Within Cohesion Policy, there are mechanisms to reward performance. The General EU funds Regulation allows for 3 per cent of the structural funds allocated to any Member State be retained in a national reserve fund in order to reward performance. In this respect, the fund acts as a performance-based financial incentive for regions to improve the implementation of programmes and projects. However, to date the reserve funds have not been used significantly to date.

Importantly, such an incentive could be used in the future to tie the performance of the funds to the achievement of concrete environmental results. However, this tool should be used in a way to stimulate a performance beyond compliance with EU environmental legislation and related targets.

Case study examples of performance rewards include the ***Piemonte*** Region which assigns extra funds to SMEs that can demonstrate that the innovation projects for which they require financing (under one of the Priority Axes of the OP) has a positive environmental impact *(maggiorazione ambientale)*. Funds are allocated only on the basis of very specific and demanding environmental indicators, which will also be used in the monitoring phase. The role of the environmental authority and its involvement in the evaluation of applications is crucial. Positive results have already been attained: 40 per cent of the SMEs that applied for funding under that priority axis have obtained extra funding and they are thus likely to implement measures that benefit the environment.

150 Applica and Ismeri Europa. 2010. Evaluation network delivering policy analysis on the performance of Cohesion Policy 2007-2013. Synthesis of national reports. December 2010.
http://ec.europa.eu/regional_policy/sources/docgener/evaluation/pdf/eval2007/cohesion_policy_synthesis_report_final_en.pdf

Technical assistance

It objectives include building up the sector capacity Joint Assistance in Supporting Projects in European Regions (JASPERS) is a novel instrument developed for the 2007-2013 Cohesion Policy in cooperation with the European Investment bank (EIB), the European Bank for Reconstruction and Development (EBRD) and KfW. It is designed to provide technical assistance to new Member States at different stages of the project management cycle (project preparation, selection and implementation). to prepare and implement projects, full absorption of EU funds, fulfilment of EU requirements and Application of international standards.[151] The focus of the technical assistance is usually on major projects, which total cost is above €50 million (371 projects), however, there are a number of other smaller scale projects that JASPERS has been involved up to now – horizontal initiatives e.g. combining EU grants with public private partnerships, CBA/application guidelines, training workshops (38 projects) and small projects e.g. urban infrastructure (32 projects).

With regards to environmental issues, JASPERS carries out three types of assessments[152]: assessment of the technical documents (application form for major projects; EIA report and non-technical summary, if applicable; and Appropriate Assessment, if applicable); assessment of the procedural aspects on implementation of EIA and Habitat Directives; and overall assessment of project compliance with environmental *acquis* (IPPC, LCP, Habitat and Birds, SEA, etc.). Therefore, JASPERS plays already a key role in aiding managing authorities in new Member States to address a number of environmental integration requirements at the preparatory and development stages of major projects.

It appears that JASPERS have been a useful instrument, which in the future could be geared even further to the needs of environmental integration. The mandate of the technical assistance to address environmental issues could be enlarged, including the production of supporting studies, maps of climate change vulnerabilities, potentials of natural assets among other things. Technical assistance for major projects could also extend to providing climate adaptation expertise, or provide help particularly in the assessment of alterative options including options based on natural capital.

A case study based in ***Denmark*** also revealed a more proactive means of intervening in order to ensure that environmental projects are funded. Here, regional authorities work with applicants of environmental projects in order to help them develop the business or the economic case for their projects. This leads to environmental projects being funded that would not otherwise have been funded, which in turn helps to develop and commercialise environmental technologies.

Financial engineering

Within our non-representative sample of case studies, **financial engineering instruments** are not widely used to support Cohesion Policy interventions. Among our case studies financial engineering instruments are used in Lithuania and the City of Barcelona, where JESSICA and ELENA are employed respectively. In the first two cases, Cohesion Funds have been allocated to support the introduction and implementation of these instruments. In the City of Barcelona, the ERDF has not yet been used to support the implementation of the Strategic

151 JASPERS web page, http://www.jaspers-europa-info.org/index.php/about-us.html

152 Ibid.

Energy Action Plans, via ELENA[153]. While the European Commission does not exclude the possibility of using ERDF to finance these plans, the decision is ultimately in the hand of local municipalities, which have not yet applied for funds under ERDF.

In all three cases, financial engineering instruments are considered helpful because, in addition to revolving financial contributions, they also provide technical expertise and assistance to the managing authorities. Moreover, stakeholders believe that these instruments will be effective in attracting resources and in playing a catalyst role[154].

Proofing tools

There is an emerging body of literature dedicated to climate proofing investment programmes. A genuine 'proofing' approach in view of integration instruments would require the development of similar tools for biodiversity and the use of resources. Existing instruments are not sufficient, as, for example, the SEA and EIA Directives themselves do not currently provide a sufficient framework for determining the likely climate change and biodiversity impacts of plans, programmes and projects and hence improve policy coherence.

Under the EIA Directive, impacts from climate change are limited to CO_2 and other GHG emissions from industry and transport, while the cumulative effects of climate change and adaptation measures are not taken into account. The issue is particularly relevant with regard to sectoral programmes and major projects in the energy and transport domains and further methodological guidance linked to EU Funds programmes would be helpful to managing authorities and at the same time offer a new tool to 'climate- and biodiversity proof' these programmes/projects.

The principles of carbon neutrality and no net loss of biodiversity should be included as guiding principles for the next Cohesion Policy programming period. In this respect, it will be important that the relevant proofing tools are applied in order to operationalize these principles at the programming stage in a consistent manner and in a way that is in line with current good practice. For example, as discussed in Section3.2, the NECATAR tool is potentially transferable to regional OPs in other Member States, as long as there are sufficient data available at the necessary levels. In this respect, it would be useful for guidelines to be developed at the European level on the development and application of such tools. Additionally, as noted in Section 2.3.2, such tools are still being developed, so progress until 2014 will have to be captured in these guidelines. Additionally, given the fact that good practice with the tools is likely to develop significantly in the course of the next programming period, it might be appropriate to have a website containing such good practice.

Linked to the discussion on carbon neutrality, climate resilience, resource efficiency and biodiversity no net loss, EU Cohesion Policy should develop a screening tool which should be applied ex-ante with the purpose of measuring the likely environmental impacts Operational Programmes can induce, assess the vulnerability to climate change impacts and their potential to enhance the most resource efficient options. Similar recommendations have been recently been made in the Commission Communication on the contribution of EU Regional Policy to sustainable growth. In order to be able to tackle environmental issues, one

[153] In the City of Barcelona, the European Investment Bank and DG ENERGY in the EC finance ELENA

[154] Unfortunately, there is little hard evidence about this catalytic role in the case studies primarily because implementation is still at an early stage.

need to understand what the drivers and pressures are on the environment, for which s greening instrument would be useful. Furthermore, such a screening tool could be a valuable instrument which will ensure environmental effectiveness but also improved economic efficiency.

During the case studies, the only example of a proofing tool we came across in the selected case studies is the Necater Carbon tool introduced in Basse Normandie and in other regions in France. The French government decided that climate change concerns should be taken into account at every stage of the design and implementation of regional investment projects. The principle of carbon neutrality of regional investments has been stated in an official communication dating back to 2006. For this reason it has introduced the **Necater Carbon Proofing tool.** The objective is that planning or development programmes co-financed by the state have to be at least neutral with respect to GHG emissions. Thus, emissions of greenhouse gases generated by specific projects have to be offset by increased efforts in terms of control of energy demand, investments in renewable energies, energy efficiency and transportation modes.

6.3 Organisational instruments

Partnership and capacity for environmental action

The partnership principle sets out the requirement for Member States to organise close cooperation with socio-economic partners and non-governmental organisations during the preparation, implementation, monitoring and evaluation of Operational Programmes (Article 11 of the General EU Funds Regulation 1083/2006/EC). Still, the partnership principle as stipulated in the General Regulation for a first time explicitly refers to environmental organizations as equal partners to other socio-economic ones. It many ways, it provides a platform for environmental actors to institutionalize their participation in the programming process through *working groups* and *steering committees*. During the implementation stage, the formally established Monitoring Committees ensure that the partnership principle is applied by accommodating broad representation of a range of different policy actors, including environmental authorities and NGOs. Arguably, EU funds programmes and projects have had an important indirect positive impact on domestic management and implementation systems in recipient countries.[155] This has happened not only through strengthening of existing environmental authorities and their involvement in the policy-making process but also through building in environmental expertise in the managing authorities themselves.

The involvement of environmental authorities through coordination and communication governance mechanisms has played crucial role for integrating environmental sustainability during the programming and implementation of programmes and projects. The engagement of environmental authorities in the selection of all projects to be co-financed by EU funds has also ensured that priority is given to environmentally sound projects and fostered more positive environmental impacts. This have also ensured that environmental considerations, criteria and indicators were taken into account not only in the selection of projects to be financed under the environmental priority axes, but also in the selection of projects in purely

155 Bachtler, J. et al. 2010. Challenges, consultations and concepts: preparing for the Cohesion Policy debate. EPRC, February 2010, United Kingdom.

sectoral programmes. In most other cases, an environmental authority, which is usually part of the regional/national government, has assisted the managing authority in the evaluation of applications[156]. The creation of the Environmental Sustainability Manager as an integral part of the Regional Development Agency staff in ***South West England*** is particularly interesting in this sense.

In ***Northern Ireland***, for instance, an Environmental Working Group has been established as a method for taking forward the cross-cutting theme of sustainability, as discussed in Section 3.3.

With regard to cooperation with other bodies, the Operational Programme notes that Northern Ireland is represented on the UK Environment and Structural Funds Groups and may cooperate with the Irish Environment Co-ordinating Committee (ECC) "on issues affecting the entire island of Ireland"[157].

The South West of England has pioneered through the establishment of a range of governance mechanisms for environmental integration. For instance, there is *a Cross Programme Environmental Advisory Group* consisting of membership from environmental partners across the region including the environment agency, energy saving trust, Universities and Natural England. The Group advises the Programme board as to whether its environmental priorities and focus are fulfilling the objectives of the Operational Programme (see Section 3).

The case study on Denmark has also put a significant focus on institutional structure for environmental integration as a number of interesting practices can be observed there. The so called **Growth Forums**, for example, are a novel approach of institutionalised partnership at regional and local level, which bring stakeholders together both in the planning and in the implementation phase. Growth Forums are standing committees parallel to the regional councils and are considered a novel approach of institutionalised partnership at regional and local level with members being representatives of regional and local authorities, businesses, research and higher education as well as social partners. This constitutes a body responsible for the planning of programmes as well as in the evaluation of the applications. This ensures the inclusion of a broad range of stakeholders, e.g. stakeholders from industry, research and public authorities, which ensure access to local knowledge and participation of important stakeholders already at strategic level.

At project level, some Growth Forums take a very active role in engaging important regional stakeholders such as private businesses and research institutions. In this way, they define a detailed thematic scope for the projects application and they engage actively in developing the content of the projects. These authorities have (often) extensive in-house technical expertise (including expert councils), which can help develop the content of the projects.

Environmental networks

In 2003, a European wide network of environmental and managing authorities (ENEA-MA) of EU funds programmes and projects was also set up. It is coordinated by DG Environment

156 This is for instance the case in the Piemonte region. However, in that case, the environmental authority has complained that its participation is required only in the evaluation of projects that have a clear direct environmental aspect.

157 See OP, pp. 49

and meets twice a year. Its purpose is to bridge the exchange of knowhow and ideas among managing authorities on how to integrate environmental considerations into Cohesion Policy. The network usually establishes ad-hoc internal Working Groups on different topic areas. For the 2008-2010, there were three active working groups focusing on reporting good practices and experience across Member States concerning climate change, SEA and biodiversity.[158] Currently, a new working group has been established on the future Cohesion Policy, which aims to provide input to the negotiations on the future EU Funds Regulations from the perspective of environmental integration.

Networks of national and regional environmental authorities are being established at national level as a coordination mechanism aimed at ensuring that environmental concerns are taken into account during the management of various EU funded projects. The aim of these networks is to establish common approaches to environmental investments and integration[159]. At national level such environmental networks were created in a number of Member States, such as Spain, Italy and Poland. Some of them have been actively involved in environmental integration efforts, for instance, the network in Italy drafted common guidelines on the ex-ante environmental evaluation in Objective 1 regions for the 2000–2006 cycle.[160] In Poland, the network was set up as a result of the negotiations of the OP Infrastructure and Environment upon the explicit request of the European Commission. Their planned activities focus primarily on information sharing and knowledge management by preparing different expertise, guidelines, procedures and reports.[161]

Monitoring committees

According to Article 63 of the General Regulation 1083/2006/EC Member States are required to establish Monitoring Committees for the Operational Programmes, which are chaired by the managing authorities and include representatives of other relevant authorities, socio-economic and environmental partners. Members of the European Commission are also members of these committees but together with environmental NGOs (what is this) they usually have the status of observers and do not hold voting rights. Importantly, the Monitoring Committee are tasked with deciding upon the project selection criteria, reviewing periodically progress made towards achieving the targets of the Operational Programmes, examining the results of the Operational Programmes interventions, approving the annual and final reports on implementation and in principle can play an important role in facilitating policy coordination and environmental integration.

Member States and regions have established such, however, the practical implications of their functioning show very mixed results across Member States. Some of the early experiences in new Member States, for example, suggest that they often tend to be a pro forma mechanism to legitimise decisions already made by the managing authorities. This appears to be particularly the case in ***new MS***, where the Monitoring Committee tends to be dominated in numbers by members of the central administration with usually only one representative of the Ministry of Environment. Environmental NGOs are often part of the Monitoring Committee but they do not have voting power and act as observers. In the case of ***Bulgaria*** for example, the lack of voting power coupled often with relatively limited capacity of the environmental

158 CEC (2009) ENEA and cohesion policy

159 IEEP (2010) Manual of European Environmental Policy. Earthscan

160 IEEP, (2010), Manual for European Environmental Policy, Earthscan.

161 Piotr Otawski, The National Network of Environmental Authorities and Management Authorities for European funds „Partnership: The Environment for Development", Presentation at ENEA meeting, 26 May 2010, Warsaw

NGOs themselves to constructively engage in a number of economic topics, have discouraged active participation of these organisations in the Monitoring Committee.

Yet, there are also examples where Monitoring Committees have played more substantial role for environmental integration. For example, in ***Bremen***, a Monitoring Committee (Begleitausschuss)[162] was set up by the Lander to accompany the implementation of the 2007 – 2013 Cohesion programmes. It checks whether the selection criteria are fulfilled, assesses the project progress and the achievement of the objectives, and approves the annual reports. The composition of the Monitoring Committee ensures that environmental objectives are reasonably considered. Environmental players from the government and non-governmental sector are involved. They include: Ministry for environment and construction) and Gesamtverband für Natur- und Umweltschutz Unterweser e.V. (GNNU, non-governmental organisation for nature conservation). The Monitoring Committee meets once or twice a year and visits ERDF projects once a year.

The ***South West of England*** has established a range of governance mechanisms for environmental integration. During implementation phases the *Programme Monitoring Committee* **(PMC)** retains a strategic steer over the programme and becomes involved in investment decisions if a project in question is particularly novel or contentious. In addition a stakeholder who sits on the PMC noted an increased acknowledgement of environmental issues in recent years, partly as a result of the changes in thinking across all levels of government with respect to the climate change agenda and recognition of green jobs and environmental technologies as a potential growth area.

Public participation and consultation

Tools such as the SEA, the ex-ante evaluation and project assessment ensure public participation in decision-making and thereby strengthen the quality of decisions. In particular, the authorities in charge of these tools facilitate engagement with different environmental and economic stakeholders. In the Polish railway case study for example it was established that even though public consultation for this type of projects is not required by Polish law, the Ministry of Regional Development advised applicants to carry out public consultations. Thus, the beneficiary organised four meetings in the municipalities across the rail line, during the initial phase of the project. The responses to public consultation were analysed and collected in a report drafted by an NGO that collaborates with the beneficiary company. However, people responsible for the consultation procedure concluded that it attracted less attention than expected: few people participated and they mostly raised non-environmental concerns. They also concluded that EIA are more effective in ensuring environmental protection than public consultations.

As part of the SEA of the **Interreg Programme in Finland (Natureship)**, each country and the region of Åland nominated an **environmental contact person** that acted as a link for consultation in their respective country. In the first stage of the SEA procedure, the draft Scoping Report was prepared by the evaluator and sent out for consultation to national environmental authorities via the environmental contact persons. At the second stage of the environmental consultations, the draft Environmental Report was subject to a three week public consultation. This system appears to be better structured than in most other Member States and regions, analysed as part of the case studies. The result of the consultation

[162] http://www.efre-bremen.de/sixcms/detail.php?gsid=bremen59.c.2930.de

procedures are then incorporated in the SEA, which is effectively taken into consideration in the development of the programme. The programme in fact includes a detailed table on how mitigation measures have or have not been incorporated.

In Malta, the preparation of the programme involved a lengthy process with extensive public dialogues and consultation. Throughout the consultation process, the environment was addressed as a vertical issue, and not as an horizontal priority. The outcome of the consultations was an agreement on investing in the upgrading of roads; human resources and education (with specific reference to investment in further and higher education to promote R&I); environmental infrastructure (where issues such as sewage, floods and waste were specifically mentioned); health (particularly in Gozo); tourism (particularly cultural heritage), as well as support competiveness of Maltese enterprises.

During the development of the Warsaw-Lodz Railway upgrade project in Poland, the managing authority, PKP PLK S.A., organised direct consultation through four public meetings in municipalities along the railway route and it collected and responded to public proposals concerning environmental issues. The entire process was summarised in a report by an NGO, which was advising PKP PLK S.A.. According to other NGO experts (Zielone Mazowsze association), the managing authority carried out the public consultation in a way which can be considered a good practice in Poland. At the same time, officials from the managing authority claim that its consultations attracted fewer people than expected and brought in mostly non-environmental contributions.

The ***Lower Austria*** region has created Ecoplus, a publicly funded business agency that manages the implementation of its eco-innovation cluster programme. This agency contributes to the effective integration of eco-innovation measures and the implementation of projects. It bridges the gap between these SMEs and regional, national and supranational policy makers, primarily by facilitating the understanding of policy initiatives and channelling financial incentives and funds. It also coordinates interactions between the companies and research institutes, to make sure that they cooperate in the development and submission of high quality project proposals. It often also acts as project manager of complicated and large investments that involve both companies and research institutions. Finally, the cluster management bridges the gap between policy makers and research institutes to assist them in the development of technological specialisation and in the applications for funds.

Eco-communities (***Basque Country***) are collaboration between research centres and social stakeholders. The objective of these communities is to guide eco-innovation of regional economic and social systems and to help them exploit new opportunities and synergies to improve sustainability and secure long-term economic and social benefits. According to the evaluators, they generate important knowledge and information spill-overs, which ensure eco-innovation across a wide range of projects.

Growth forums (***Denmark***)(see **Error! Reference source not found.**) are a novel approach of institutionalised partnership at regional and local level, which bring stakeholders together both in the planning and in the implementation phase. Growth Forums apply the triple helix model to ensure the institutionalised inclusion of stakeholders from industry, research and public authorities. In this way social partners are involved in the programming phase. Growth Forums might also take a very active role in engaging important regional stakeholders (top-down approach), defining a thematic scope for the projects application. This ensures that

Sustainable Development is taken into consideration in the programming and implementation phase of Cohesion Policy.

Box 7 Danish Growth Forums

In Denmark, Growth Forums integrate EU Structural Funds into their regional business development strategies. Growth Forums are considered a novel approach of institutionalised partnership at regional and local level, which bring all stakeholders together in the planning as well as in the implementation phase. This institutionalised approach of involving stakeholders from industry, research and public authorities is called 'triple helix model'; it is acknowledged to be the basis for the stimulation of knowledge-based economic development[163] by ensuring that representatives of regional and local authorities, businesses, research and higher education, social partners are involved in the evaluation of the applications.

In particular, some Growth Forums take a very active role in engaging important regional stakeholders such as private businesses and research institutions (top-down approach). Through this, they define a detailed thematic scope for the projects application and they engage actively in developing the content of the projects. These authorities have (often) extensive in-house technical expertise (including expert councils), which can help develop the content of the projects. The organisation of the Growth Forums allows the inclusion of a broad range of stakeholders.

Negotiations between the Commission and Member States

The negotiation process between the Commission and Member States preceding the approval of the national/regional Operational Programmes could be seen as an important coordination mechanism for introducing informal recommendations/requirements with regards to environmental integration. It appears that especially in new Member States, the negotiations process resulted in the articulation of better objectives for environmental protection and the integration of environmental concerns horizontally across EU funds programmes.

For instance, in ***Slovakia***, the negotiations allowed them to identify and prioritise better investments in the water sector which resulted in establishing concrete targets for increasing the number of people connected to public sewers to 4.4 million, the percentage of population connected to waste water treatment plants to 81% and the proportion of the population supplied with drinking water from public water supply networks to 91%.164 In ***Finland***, as a result of the negotiation process, some environmental indicators were added to the programmes to be followed up during implementation.[165]

Therefore, it should be noted that the negotiations and informal communication between the EC and new MS can be considered as an important tool for policy learning, transfer of good practices and generally – an incentive for stepping up additional efforts for environmental integrations. Of course, the capacity of the EC to engage actively with MS is fairly limited,

163 Etzkowitz, Henry; Leydesdorff, Loet (2000): The dynamics of innovation: from National Systems and ''Mode 2'' to a Triple Helix of university–industry–government relations. Research Policy 29 (2000). 109–123

164 DG Regional Policy. Slovakia: results from the negotiations for the Cohesion Policy strategies and programmes 2007-2013, http://ec.europa.eu/regional_policy/sources/docoffic/official/communic/negociation/country_sk_en.pdf

165 DG Regional Policy. Finland: results from the negotiations for the Cohesion Policy strategies and programmes 2007-2013, http://ec.europa.eu/regional_policy/sources/docoffic/official/communic/negociation/country_fi_en.pdf

however, it should be noted that early and active engagement is likely to produce more ambitious objectives and more effective planning, which results are likely to outweigh the cost of active communication and coordination.

6.4 Summary of the review of available instruments for environmental integration

The different chapters of this report show that there has been a **significant evolution in the way Cohesion Policy has pursued sustainable development and enhanced environmental sustainability.** This evolutionary process entailed the development and application of a wide range of integration instruments, tools and mechanisms, which manifest themselves within the complex multi-level governance system that the EU Cohesion Policy operates in. Many of the explored tools are already embedded into the existing regulatory basis of Cohesion Policy, whereas others have been developed in a bottom up manner by the managing authorities in the respective Member States and regions. The latter were reviewed based on the 26 case studies undertaken under Supporting Paper 4.

We have categorised these integration instruments into three broad categories – **strategic, procedural and organisational instruments** in line with the evaluation approach to environmental policy integration adopted in Supporting Paper 2. In this way, we managed to capture the diversity and complexity of the mix of available instruments. It should be noted also that the different instruments have different functions and scope of application and therefore - different capacity to facilitate environmental sustainability. In this sense, these instruments are not exclusive but should be seen as complementary to one another. In this sense, the optimal outcome for sustainability might entail different mixes of instruments in view of the diverse policy contexts and administrative settings; the appropriate stage of the policy cycle; and the level of governance and specific territorial features.

The research also showed that **there is considerable variation in the actual application and operationalisation** of most instruments under the shared management by the respective managing authorities. These often depended on the maturity of administrative systems and decision-making traditions, the capacity and skills of the managing authorities and environmental actors as well as the political commitment for environmental sustainability. For example, the *strategic alignment* of Operational Programmes to the renewed Lisbon Strategy for growth and jobs appears to have been stronger through the explicit *earmarking* mechanism embedded in the General EU Funds Regulations compared to the alignment to the *EU SDS* or *the 6EAP*. Most Member States have articulated *explicit environmental objectives* in their Operational Programmes and identified *concrete environmental measures*. Much of the environmental measures have been driven by the requirements for the *compliance of EU environmental acquis* particularly in the field of wastewater, water supply, waste management and to a lesser degree climate change and nature conservation.

The operationalisation of *sustainable development as a horizontal principle* however appears to be more challenging. The same could be said regarding fundamental principles that should guide the environmental integration in EU Funds programmes and projects. The *polluter pays principle* for example has been to some extent incorporated into the practices of cost-benefits analysis for major projects, however, its 'extensions' such as '*full cost recovery*' has had a fairly limited application in the context of Cohesion Policy. Similarly, the *carbon neutrality* principle has been pioneered and operationalized effectively in French regions, but it did not enjoy much popularity elsewhere.

Most procedural instruments (*SEA* and *EIA*) are well established tools for 'environmental proofing' of EU Cohesion Policy. Yet, their implementation and capacity to really 'green' the decision-making is not always so straightforward. In this sense, it is reasonable to argue that while these instruments are already in place, much greater efforts are necessary to improve their performance and relevance to the decision-making process both at programme and project levels. *Cost-benefit analysis* (CBA) is also largely used but its utility in view of considering environmental costs and benefits could be further strengthened in the case of major projects. Further to this, a *cost-effectiveness analysis* could be made complementary to the CBA as far as proper consideration of costs against the effectiveness and quality of spending is concerned.

Institutional mechanisms for integration underpin the establishment and functioning of a good governance system for sustainable development in the context of Cohesion Policy. The 2007-2013 programming period institutionalised the *partnership* principle and set out explicitly the *Monitoring committees* in view of enhancing participation of environmental actors. It is fairly early, however, to assess objectively the effectiveness of these institutional mechanisms for integration. At the same time, other successful practices and institutional innovations could be observed across countries and regions, for example *working groups, environmental networks, steering committees, sustainability managers, growth forums* and *eco-communities*.

The analysis of the case studies and additional literature suggests that there are a number of instruments which have significant potential to steer environmental integration such as *inter alia proofing tools, conditionality, green public procurement, environmental project selection criteria, environmental indicators, user charges* and *robust thematic evaluation*. However, majority of these remain limited to few Member States or regions. It is important to seek ways in which some of these good practices and policy innovations could be formally institutionalised and diffused in other countries and regions.

7 CONCLUSIONS AND RECOMMENDATIONS

7.1 Strengthening the application of existing instruments

7.1.1 Framing environmental investments as win-win solutions

Framing environmental investments as drivers for economic development and social cohesion has been called for already in the 2007-2013 Community Strategic Guidelines. While such a perspective does not appear to have been entirely popular and not fully embraced by Member States and regions back in 2007, it still offers an important discourse in the changing political realities and priorities of the European Union. REC-ENEA's study for example shows that there is often insufficient knowledge about and limited experience with taking up the opportunities offered by climate-related projects which means that there is a need for more guidance, capacity building and close cooperation between managing and environmental authorities. This is especially true for projects related to climate change adaptation for which the possibility to fund low or no regret investments exists, i.e. investments that provide direct and indirect economic benefits regardless of the climate regime.

The new overarching Strategy 'Europe 2020' sets out an explicit objective for green growth that is coupled with the 20/20/20 climate and energy targets, which in turn present a new venue for framing environmental action as a source of win-win solutions. Therefore, devising the right frame for environmental action could be considered an instrument for environmental integration. It could also facilitate an understanding of the future Cohesion Policy closely linked to the issue of resource use in the context of the 4 capitals (natural, man-made, social and human) and guarantee a balanced investment portfolio. A good example of this could be found during the changes undertaken of Cohesion Policy in contribution to the European Economic Recovery Plan, when the link between environmental and particularly climate change interventions and greener and smarter sources of growth was underlined. Swift changes in the regulatory basis of Cohesion Policy coupled with intense work with managing authorities led to the reallocation of funds in 2009 in 14 Member States towards enhancing support for energy efficiency in housing.[166]

The success of this approach will however, strongly depend on the ambition of the respective Flagship Initiatives and forthcoming Roadmaps under the umbrella of the Europe 2020 Strategy, as well as the future EU SDS and 7th Environment Action Programme. For example, the Flagship Initiative 'Innovation Union' contains only few references to environmental technologies and services as sources of innovation, which sends a relatively vague signal to the different stakeholders. Therefore, the future strategic frameworks need to incorporate a much stronger language with regard to a 'win-win' opportunities stemming from environmental actions. Similarly, it should be better incorporated in the Common Strategic Framework as well as the development and investment partnership contract in the context of the post 2013 Cohesion Policy.

---

166 European Commission. Staff working document, Cohesion Policy helping economic recovery, http://ec.europa.eu/regional_policy/sources/docoffic/2007/working/economic_crisis_sec20101291.pdf

7.1.2 Improving the application of SEA and EIA

SEA is one of the most prominently recognised tools for environmental policy integration at strategic level of planning and decision-making. The EU SEA Directive provides the legal framework for the application of SEA on plans and programmes, among which the Operational Programmes governing EU funds. Although the legal framework has been well established at EU level and transposed effectively in most Member States, the practical application of this assessment tool varies significantly across countries. Therefore, the use of SEA needs to be strengthened by ***enhancing institutional capacities and methodological approaches*** to carrying out SEA in view of aiding managing authorities responsible for OPs management. The existing ***Handbook on SEA for Cohesion Policy***[167] could be revisited and promoted while the development of ***national and regional guidance documents*** should be encouraged by tailoring them to the specific context of characteristics of the programmes (in this case investment programmes), administrative levels and geographies.

At the same time, the legal provisions in the EU SEA Directive prescribe that the SEA should focus on preventing significant negative impacts on the environment. In order to fully exploit the potential of SEA to serve as a planning tool for environmental policy integration, this approach to SEA enshrined in the EU SEA Directive might be considered relatively narrow. An SEA could act as a ***promoter of sustainable development***[168], a tool that identifies not only adverse but also positive impacts in terms of win-win opportunities for environmental, social and economic domains. Furthermore, SEAs could be widened to take more formal account of the inter-action between economic development and environmental protection, and including more explicit consideration of human and social capital as appraisal criteria given their importance both as a rationale for Cohesion Policy, but also because they are one of the driving forces for environmental pressures. This could be done by reviewing the legal provisions of SEA and revisiting the common methodology or could be encouraged at lower level of governance in a more bottom up manner.

The *process* of carrying the SEA is also of critical importance. Its end result is often seen as delivering a product – the SEA report. The SEA, however, should be considered more as an evolving process which takes place in parallel to the programming process itself by offering 'a rolling integration of the findings of the SEA' into the programming[169]. Also, rather than having a separate consultation on the SEA, the SEA/SA would frame the overall assessment and consultation – mainstreaming environmental considerations from the start of the process, and maintaining it throughout the design and delivery process. For instance, the SEA Handbook for Cohesion Policy outlines the links between the programming process and corresponding SEA steps arguing that they are interdependent and that 'both processes can be seen as mutually reinforcing tools within one robust planning system for more sustainable development'[170].

167 GRDP. 2006. SEA Handbook .
http://ec.europa.eu/regional_policy/sources/docoffic/working/doc/sea_handbook_final_foreword.pdf
168 Aalbue et al. 1999.When Policy Regimes meet: Structural Funds in the Nordic Countries 1994-1999, Report 3. Nordregio: Stockholm.
169 Bafors, A. and Schmidtbauer, J. 2002. *Swedish guidelines for strategic environmental assessment for EU Structural Funds*. European Environment, 12 (35-48).
170 GRDP. 2006. SEA Handbook.
http://ec.europa.eu/regional_policy/sources/docoffic/working/doc/sea_handbook_final_foreword.pdf

Table 2.1. Logical links between steps of the programming process and SEA

Typical programming steps	Logically corresponding SEA steps
Determine the overall objectives of the programming document and the main issues it should address	Determine environmental issues, objectives and indicators that should be considered during the SEA process
Possible consultations with other relevant competent authorities	Compulsory consultations with environmental authorities Consultations with concerned public recommended
Analysis of the development context	Evaluate the current situation and trends and their likely evolution if the programming document is not implemented
Propose development objectives and priorities	Assess proposed development objectives and priorities
Propose measures and eligible actions	Assess proposed measures and eligible actions Assess cumulative effects of the entire programming document
Propose evaluation criteria and monitoring system	Evaluate proposed evaluation criteria system Evaluate proposed monitoring system
Compile the proposed programming document and hold consultations with authorities and stakeholders	Compile the Environmental Report and hold consultations with environmental authorities and the public
Formal decision on the programming document and inform public about the decision	Take into account Environmental Report and results of consultation in decision-making Inform environmental authorities and the public on how the outcomes of the SEA have been taken into account

Source: GRDP 2006[171]

Such a process will have significant implications in terms of organising a robust planning process and will require the clear division of the roles between the managing and environmental authorities, which can have some impact on increasing administrative costs. Still, the approach will facilitate a communicative and coordination process that can foster the identification of win-wins and addressing potential trade-offs between competing environmental and economic objectives and measures. Therefore, it is important to work with national and regional administrations to improve their perception and ownership of this tool, so that it is not considered as a burdensome procedure that one needs to comply with, but rather see it as a useful planning tool that can strengthen the sustainability of investment programmes.

7.1.3 Deploying robust environmental indicators

The traditional focus of Cohesion Policy on economic and social cohesion, most notably in view of the criteria for allocating funds, has arguably led to granting more importance to the development and refining of indicators reflecting how the programmes and projects contribute to delivering social and economic outcomes, possibly at the expense of the development and use of environmental indicators. The allocation of funds under the next programming period needs to be better informed by a systematic/consistent use of complementary environmental indicators.

A set of environmental indicators need to be developed and rigorously applied in all member States and regions to ensure comprehensiveness and comparability of data. There are

[171] http://ec.europa.eu/regional_policy/sources/docoffic/working/doc/sea_handbook_final_foreword.pdf

potentially two important stages of the Cohesion policy cycle where environmental indicators could play a critical role for environmental integration – during the programming (when environmental indicators are designed and geared to concrete objectives/targets) and during monitoring when they are applied for the purpose of measuring performance. It is essential that some of these indicators are included in the list of 'core' indicators based on which Member States could annual report to the European Commission and allow for the aggregation of data at EU level. Environmental indicators should also be introduced more formally in the project cycle in view of measuring environmental performance of projects.

The development and application of environmental indicators can be arranged through a number of delivery mechanisms in the current and also post-2013 Cohesion Policy. For example, they can be explicitly stipulated in the foreseen development and investment partnership contracts, which will be negotiated between Member States and the European Commission. Systematically measuring environmental impacts through the use of a given set of indicators in these delivery mechanisms would result in increasing the opportunities for a better consideration of environmental pressures and impacts. It is important that these opportunities are not missed and environmental indicators be better used at an ex-ante stages of the policy process in order to increase a region's/Member State's awareness of its natural assets and the impacts of their proposed programmes and projects.

7.2 Promote novel integration tools

7.2.1 Introducing climate, biodiversity and SCP proofing tools

There is an emerging body of literature dedicated to climate proofing investment programme. A genuine 'proofing' approach in view of integration instruments would require the development of similar tools for biodiversity and resources use. For instance, the SEA and EIA Directives themselves need to be adapted in order to provide a framework for determining the likely climate change and biodiversity impacts of plans, programmes and projects and hence improve policy coherence. Under the EIA Directive for instance, impacts from on climate change are limited to CO_2 and other GHG emissions from industry and transport while cumulative effects of climate change and adaptation measures are not taken into account. The issue is particularly relevant with regard to sectoral programmes and major projects in the energy and transport domains and further methodological guidance linked to EU Funds programmes would be helpful to managing authorities and at the same time offer a new tool to 'climate- and biodiversity proof' these programmes/projects.

The "GEE policy troika"[172] is a good example of different policy instruments that are creating consistent and synergistic incentives for stakeholders to pursue more sustainable patterns of consumption and production. A SCP policy proofing procedure can be developed within the Cohesion Policy that is used in a way to asses policy proposals and identify the mix of existing, proposed and possible (policy and non-policy) drivers for specific groups or categories of products and services, which are perceived strategic important, i.e. the proofing procedure should identify pressures, drivers for those as well as policy responses in terms of potential drivers for the resolution of these pressures.

Creating successful policy mixes requires understanding the interaction of supply and demand drivers. Therefore, the procedure should seek to identify potential synergies across

[172] Abbreviation for Green public procurement, Ecolabel and Emas

supply- and demand-side drivers, across push and pull drivers as well as across social, behavioural, economic and technology drivers (i.e. seeking synergies between technological push and non-technological changes as pull drivers) along the product and service life-cycle stages. E.g. environmental compliance measures, the design of principles like carbon neutrality and the implementation of GPP schemes (which can function as a demand-side driver for innovations in environmental technologies) should be coordinated with measures such as investments in for example renewable energy, R&TD and financial assistance for the uptake of new technologies and know-how in the area of environmental technologies (supply-side driver).

The core issue is the synergy effects and the generation of consistent economic and regulatory dynamics which give clear signals to the stakeholders along the product and service life-cycle stages. By coordinating the range of different demand- and supply-side instruments policy makers can generate synergies between incentives and avoid conflicting incentives. A potential **SCP proofing-tool** could be incorporated at the programming stage of the Cohesion Policy cycle. In parallel, it could be also **integrated into the SEA** by evaluating the existing of conflicting incentives and possible synergies from the perspective of promoting green products as well as sustainable patterns of consumption and production. The major difference between this proofing-tool and the existing SEA, which would include an evaluation of the impact of for example the application of GPP, is the focus on the interconnection between products, services, production and consumption as well as the emphasis on synergies between the full range of different (supply- and demand-side) investment and non-investment policies.

The SCP policy-incentive-proofing procedure also differs from the SEA in terms of a clear focus on commercial products and services and not on investments in infrastructural and other construction measures. To make the SCP policy-proofing tool practical and operational a further limited focus should be defined. In general, the procedure should include key SCP areas like mobility and housing/building, which are areas traditionally covered by CP interventions and which possesses a potential for considerable improvements in energy and resource efficiency, emissions and waste generation. But the proofing procedure could also include other areas according to regional assets like specific industry or knowledge-based competences, such as eco-industries and energy-efficiency driven product innovation, for example.

7.2.2 Gearing funding to conditionality

Introducing some form of conditionality in the future Cohesion Policy is a notion proposed in the Communication presenting the conclusions of the 5th Cohesion Report. Concrete links to eco-conditionality could ensure better environmental integration and the attainment of multiple policy objectives. Concretely, such eco-conditionality could include:

- The need to apply ***GPP, EMAS and Ecolabels***, and any requirements as to their application;
- The need to use standards for the thermal insulation of buildings in a systematic way when buildings are constructed
- The need to apply, and the framework for the application of, ***user charging for transport infrastructure***, including the conditions under which charging need not be applied;
- Setting out the high level guidelines for the application of ***feed-in tariffs*** as a complementary instrument;

- Guidelines for undertaking the proposed appraisal for water investment, and the conditions under which the application of the relevant elements of the ***Water Framework Directive*** (particularly full cost recovery) could be strengthened; and
- Guidelines for the strengthening the application of existing ***biodiversity Regulations***, and the framework for the potential application of market-based instruments for biodiversity.

Such requirements could then be included in the Development and investment partnership contracts but also the respective national regulatory frameworks and subsequently in the OPs. In the national strategic frameworks, any relevant national conditions and circumstances would need to be set out. This would include any regional differences within the country, eg for the application of user charging for transport. It would also need to build on the EU-wide framework included within the Community Guidelines by developing the necessary framework within which the respective Operational Programmes could be developed. In this respect, consistency between the European level Guidelines and the Operational Programmes would be achieved. For their part, the Operational Programmes would need to be developed within the framework set out within the NSRFs, as is currently the case. Consequently, any general requirements linked to eco-conditionality would need to be set out at a high level in the revised Community Strategic Guidelines for Cohesion, with which all NSRFs and Operational Programmes would have to be consistent. This is important in order to ensure that i) these all eco-conditions are applied consistently within all Member States and regions that are recipients of Cohesion Policy funds; and ii) that the application takes into account national and regional circumstances. In this respect, some mention is needed at most stages of the Cohesion Policy cycle, but the level of detail required will be dependent on the existing EU policy frameworks that are in place and the scope for different approaches to implementation within Member States and regions. The latter will vary from instrument to instrument.

From the perspective of choosing which projects to fund, the use of selection criteria in the project application process is also important, as these could be used to reject projects that do not adequately address the environment. If the project does not sufficiently address or take account of the underlying environmental principles, the onus should be on the project to justify why it has chosen this approach. It would be perfectly justifiable for projects to claim any additional costs incurred, eg by purchasing greener products or introducing road user charging, from Cohesion Policy, as this would be part of the added value of Cohesion Policy investments in delivering sustainability. Examples of the potential use of selection criteria to require the use of specific conditional or complementary instruments include:

- Where projects led by public or semi-public organisations involve the construction of infrastructure or buildings, or the purchase of products or services, they should be required to apply GPP.
- Applicants should be required to have environmental management systems in place that are consistent with EMAS, or at least commit to putting such systems in place in the course of the project.
- Applicants should be required to use standards for the thermal insulation of buildings where projects involve the construction of buildings.
- Projects to develop transport infrastructure would need to apply user charging to this infrastructure, unless they can justify otherwise in line with the guidelines set out in the

Strategic Guidelines. Ideally where transport infrastructure is supported it should be within an OP that aims for carbon neutrality.

- Feed-in tariffs would need to be applied with respect to renewable energy, unless the project could justify why they are not in line with the guidelines set out in the Strategic Guidelines.
- Projects funding water investment would need to apply (higher levels of) water pricing if the assessment in the respective OP concludes that this is affordable.
- Projects should be checked whether lower cost alternatives that build on natural capital are available – eg for water provisioning and purification, flood control and carbon storage.
- Investment affecting biodiversity would need to demonstrate compliance with biodiversity Regulations and aim for no net loss of biodiversity.

7.3 Possible changes in Cohesion Policy investments

In summary, there are current Cohesion Policy activities that could be expanded and reduced, current Cohesion Policy activities for which a different approach to allocating funding might be more appropriate, as well as activities that might be more explicitly included in the list of Cohesion Policy activities. In summary, the following current Cohesion Policy activities could be expanded:

- Expansion of funds to assist SMEs with registration under EMAS and/or joining an Ecolabel scheme.
- Expansion of funds to set up institutions and build up the capacity needed for effective and efficient GPP schemes. This includes setting up institutions to coordinate public procurement and establishing (central) expertise pools that can support actors like purchasers.
- Investment in research activities for energy efficiency and renewables, as well as measures related to the control of energy demand, the development of renewable energies and eco-materials.
- Adaptation to climate change, risk prevention and measures to preserve the environment, both with respect to climate change and biodiversity.
- For biodiversity, support for the prevention of environmental risks, the diversification of jobs, education and capacity building, as well as transboundary cooperation.

There were also a number of current Cohesion Policy activities that could be reduced in the next Cohesion Policy funding period, ie:

- Some activities relating to clean energy and climate change adaptation, where there is the risk of crowding out.
- With respect to water, the implementation of non-investment measures to increase cost-effectiveness and cost recovery should reduce the need for Cohesion Policy funding.

Alternative approaches are needed with respect to funding EMAS and transport activities. With respect to EMAS, the type of investment should be changed to enable payments to overcome the initial costs of EMAS registration faced by SMEs, as these are often a barrier to registration, and therefore to achieving environmental benefits. With respect to funding transport activities, it needs to be recognised that increasing transport capacity will lead to increased CO_2 emissions, at least in the short-term until the energy used by transport is sufficiently decarbonised. Consequently, it is important that transport infrastructure is funded only if it contributes to economic and social objectives, while minimising environmental impacts, including CO_2 emissions. Where transport activities are funded, it might be appropriate to require carbon neutrality across an OP or within a Member State resulting from Cohesion Policy funding. Additionally, different modes will need to be given a level playing field within the new Regulation, unlike the case at the moment, where there is a barrier to funding rail infrastructure.

Finally, the following activities could be explicitly added to the list of activities that could be funded by Cohesion Policy:

- A specific spending category for institutional development and capacity building for GPP.
- With respect to clean energy and climate change mitigation, activities covering ecosystem-based mitigation, which is also relevant to biodiversity more generally, and the development of natural carbon sinks.
- With respect to transport, infrastructure that enables user charging, particularly on roads and in urban areas, and infrastructure that enables the increased use of alternative, potentially zero carbon sources of energy by transport.
- Green infrastructure and activities targeting the uptake of market-based instruments for biodiversity.