



The European Union's IPA 2007 Programme for the Republic of Serbia

Technical Assistance for Development of a national  
Environmental Approximation Strategy (EAS)  
(EUROPEAID/127462/C/SER/RS)

# NATIONAL ENVIRONMENTAL APPROXIMATION STRATEGY FOR THE REPUBLIC OF SERBIA

Serbia  
(Final Draft 29 June 2011)  
CRIS number 07SER01/29/11



This project is funded by  
The European Union



A project implemented by Eptisa Servicios de  
Ingeniería S.L. (CONTRACTOR) in Consortium  
with PM





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<b>Project title:</b>	Technical Assistance for Development of a national Environmental Approximation Strategy (EAS)	
<b>Project number:</b>	EuropeAid/127462/C/SER/RS; contract no. 07/SER01/29/11	
<b>Country:</b>	Republic of Serbia	
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Issue	DESCRIPTION	DATE	ORIGIN	SIGN-OFF EPTISA	ADVISE STEERING COMMITTEE	SIGN-OFF BENE-FICIARY	SIGN-OFF CLIENT
A	Draft 1 for the beneficiary's comments	20-03-11					
B	Draft 2	25-03-11					
C	Draft 3 Comments from MEMSP, SEIO and EUD	27-05-11					
D	Final draft	16-6-11					
E	Final draft revised	29-6-11					

## FOREWORD

This document represents the final draft National Environmental Approximation Strategy for the Republic of Serbia prepared by the Consultant following a process of working groups and peer platform meetings.

Please note that in its present form, it represents neither the policy nor views of the Serbian Government. The proposals contained in it have still to be fully assessed and amended accordingly by the Ministry of Environment, Mining and Spatial Planning prior to finalising its strategy for the approximation of the environmental Acquis.



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## LIST OF ABBREVIATIONS

ADMIN	Administration
AP	Autonomous Province
ATS	Accreditation Board of Serbia
CAPEX	Capital Expenditures
CBA	Cost Benefit Analysis
Chapter 27	Environment Chapter of the EU Acquis
CSO	Civil Society Organisation
C&S	Control and Surveillance
DIS	Decentralised Implementation System
DW	Drinking Water
EAS	Environmental Approximation Strategy
EAS Project	Technical assistance project for 'Development of a national Environmental Approximation Strategy', EuropeAid/127462/C/SER/RS, funded by the EU
EBRD	European Bank for Reconstruction and Development
EC	European Commission
EIA	Environmental Impact Assessment
EIB	European Investment Bank
EMAS	Environmental Management and Audit Scheme
EPU	Economic Policy Unit
ESR	Environmental Sector Representative
EU	European Union
GDP	Gross Domestic Product
GHG	Greenhouse Gases
GMO	Genetically Modified Organism
HHI	Household Income
HR	Human Resource
IED	Industrial Emissions Directive
IFI	International Financing Institution
INSPIRE	EU Directive 2007/2/EC, laying down a general framework for spatial data infrastructure
IPA	Instrument for Pre-Accession Assistance
IPPC	Integrated Pollution Prevention and Control
IQ	Implementation Questionnaire
KfW	Kreditanstalt für Wiederaufbau
LCP	Large Combustion Plant
LSG	Local Self Government
MAT	Maximal Affordable Tariff
MATFWM	Ministry of Agriculture, Trade, Forestry, and Water Management
MEMSP	Ministry of Environment, Mining and Spatial Planning
MIE	Ministry of Infrastructure and Energy
MSW	Municipal Solid Waste
NEAS	National Environmental Approximation Strategy
NIP	National Investment Plan

NPEP	National Programme for Environmental Protection
NPI	National Programme for EU Integration
NPV	Net Present Value
NSDS	National Sustainable Development Strategy
OPEX	Operating Expenditures
p.e.	Population Equivalent
PHI	Public Health Institute
POP	Persistent Organic Pollutants
PUC	Public Utility Company
RGA	Republic Geodetic Authority
RHSS	Republic Hydro-meteorological Service of Serbia
SAA	Stabilisation and Association Agreement
SEA	Strategic Environmental Assessment
SEIO	Serbian Office for EU Integration
SEPA	Serbian Environmental Protection Agency
SEPF	Serbian Environmental Protection Fund
UWW	Urban Waste Water
VOC	Volatile Organic Compounds
WEEE	Waste Electrical and Electronic Equipment

## EXECUTIVE SUMMARY

Towards the end of 2011, Serbia will reach a milestone in its effort to accede to the European Union (EU). After the publication of the European Commission's opinion on the state of preparedness of Serbia for EU accession, the European Council may decide to grant the status of Candidate Country to Serbia and also to open the accession negotiations. While there will be a plethora of factors influencing these outstanding decisions, it is up to each part of the Serbian administration to demonstrate full understanding of what EU membership will imply and how to ensure full assumption of the membership obligations between now and the actual accession to the EU.

The EU environmental policy (technically called Chapter 27) is not an exception in this respect. On the contrary, it is a very extensive set of European legislation (so-called Acquis) that has developed over several decades and has become globally the most complex system of environmental regulation. A high level of environmental protection is one of the basic objectives enshrined in the EU Treaty, together with the principles of sustainable development and the integration of environmental protection into all policies. Its cross-cutting character is also confirmed by the fact that, in Serbia, as much as 43 per cent of the Directives, Regulations and Decisions that form the environmental Acquis are in the competence of other institutions than the Ministry of Environment, Mining and Spatial Planning (MEMSP).

Reflection on the last wave of EU enlargements shows that **negotiations** on Chapter 27 are amongst the most difficult ones. The sheer volume of legislation and its cross-cutting character are not the only reasons. Taking into consideration the

extent of environmental problems in Serbia and the state of environmental infrastructure, this arguably will be the most expensive part of the Acquis to implement. Serbia will need to negotiate a number of transitional periods to address this economic challenge. And the chapter also has its politically sensitive aspects, such as the response to transboundary pollution, relations to the internal market rules and external trade issues.

The **objectives** of this National Environmental Approximation Strategy (NEAS) are twofold: firstly, to address the complexity of the challenge to apply EU environmental legislation in Serbia and secondly, to provide a sound basis for the accession negotiations on Chapter 27. It aims to address the challenges approximation will pose to legislation (including the response to deficiencies in the current legislative process in Serbia), the extent of change that will be required in organizing and operating institutions responsible for environmental protection, and the approach to closing the economic gap between business as usual and full compliance with the Acquis.

The production of the NEAS was inspired by **recent EU enlargements**: the approaches taken by the new EU Member States for their accession, the way EU-related work was organized, the establishment of realistic implementation scenarios, best practices and lessons learned throughout the process. Similarities in the political, economic and environmental challenges faced by the recently acceding countries provide such inspiration.

The NEAS builds on the results of the EU-funded project "Technical Assistance for Development of a national Environmental

Approximation Strategy for the Republic of Serbia (EuropeAid/127462/C/SER/RS)" (hereinafter "the EAS Project"), but is now in full ownership of the MEMSP, which has the lead for Chapter 27 approximation, and ultimately for the accession negotiations on this chapter. The project, executed in close interaction with MEMSP and other relevant institutions, has delivered abundant supporting documentation that is referred to in the NEAS.

The present Strategy builds on the National Programme for EU Integration (NPI), the National Programme for Environmental Protection (NPEP) and the National Sustainable Development Strategy (NSDS).

**Three overarching policies** are proposed in order to successfully negotiate on Chapter 27 and to achieve full compliance with the environmental Acquis at the earliest possible moment.

- Serbian legislation should mirror the EU Acquis; no less, no more – any additional requirements or stricter standards would only be deployed when environmentally and economically justifiable and not contradicting EU laws;
- Use of donor funds should be maximised – this involves establishment of appropriate absorption capacity, i.e. adequate institutions and pipeline of projects. Private Sector involvement should be further stimulated by creating favourable conditions to attract investment. A balanced economic strategy that will in turn minimise the needed intervention from Serbian public budgets, should be maintained;
- Implementation should focus on EU requirements – work on approximation and on implementation of the Acquis should have an absolute priority over other national agendas; financial and

staff resources should be reallocated to reflect this preference, especially in consideration of the restrictions of budgetary expenditures and staff levels.

An important element for the planning of requests for transitional periods and for economic planning of approximation overall, is **the date of accession**. Since setting such a (reference) date is still premature, a tentative accession date of 1st January 2019 has been assumed by the NEAS solely for the purposes of economic and financial planning and for setting a dividing line for potential transitional periods.

While transposition of the environmental Acquis has progressed well, the **legislative challenge** remains significant. The legislative practice should change in order to separate policy making from drafting of legal texts, to ensure for inclusion of stakeholders and civil society in the process and to lead to a coherent set of environmental legislation that provides for full transposition of the Acquis and at the same time is clear, unambiguous, not over-prescriptive and straightforward. Moreover, the Acquis is a moving target and new directives that will be adopted up to the date of Serbia's accession also need to be transposed.

The **economic challenge** of environmental approximation is enormous. Based on the state of environmental infrastructure in Serbia and extrapolation from the situation in countries that recently acceded to the EU, it is estimated that the total cost of meeting the requirements of the environmental Acquis will be around €10.6 billion (between now and 2030), the most demanding sectors being water (€ 5.6 billion), waste (€2.8 billion) and industrial pollution (€1.3 billion). An important part of the costs are operational ones, which cannot be covered by international sources and will have to be financed from public

budgets, private sources or charges. The need of additional financing from Serbian public budgets is estimated to peak at around €360 million in 2018 and should steadily decrease thereafter until about 2025, when full cost recovery can be achieved. Meeting of all these projections successfully is predicated on the development of a robust economic capacity in MEMSP and the optimised use of the economic instruments. On the other side of the balance, the direct economic benefits arising from environmental compliance over the same period should outweigh the costs by the factor of approximately 2.4.

The **institutional challenge** is also significant. An absolute priority should be given to approximation to the Acquis and its implementation. Optimally, competencies of MEMSP should mirror the extent of the environmental Acquis and implementation should be devolved to an executive agency, as is the case in many EU Member States, thus allowing MEMSP to strengthen legislation and policy making. In the current institutional architecture of the Serbian central government, successful implementation will require significant enhancement of current intra- and inter-ministerial coordination and cooperation channels, a situation comparable to the Czech Republic for example. The structure of the Chapter 27 Sub-working group, chaired by a State Secretary of the MEMSP, will be very instrumental for this purpose and can effectively link approximation planning, support negotiations and coordinate implementation. It will be complemented by working groups for the implementation of individual directives, chaired typically by heads of department and reporting to the Chapter 27 Sub-working group, which in turn should serve as a platform for resolution of inter-ministerial disputes,

before they require intervention at the ministerial level.

At the end of accession negotiations, **transitional periods** will be agreed for the implementation of selected heavy investment directives. With the currently available economic knowledge, and subject to its further specification in the directive-specific implementation plans and economic strategies, urban wastewater treatment plants, waste storage facilities required under the Nitrates Directive, municipal solid waste facilities and selected industrial installations would be the candidates for a transitional period. For all other components of the Acquis, full compliance by the date of accession seems to be realistic.

This NEAS provides a framework for future work, with two further levels of planning instruments being anticipated: **strategies for individual environmental sectors** and directive-specific implementation plans. The sector strategies are largely completed and implementation plans should be finalised before accession negotiations on chapter 27 commence, to feed in the information that is required. Both of these lower levels of planning should provide more flexible and living documents when compared with the NEAS, and that is also the reason why they are not considered for Government approval, at least at this stage.

Application of the environmental legislation of the EU in Serbia will be neither easy, nor cheap. It will also not happen instantly, and it is in fact more important to do it properly rather than fast. But this complex exercise should bear its fruits. The introduction of EU environmental legislation in Serbia is not just a formal obligation prescribed by Brussels; it is a programme for achieving a better state of the environment and a better quality of life for all Serbian citizens.

## 1 SCOPE AND METHODOLOGY OF THE STRATEGY

### 1.1 Scope of the Strategy

The National Environmental Approximation Strategy (NEAS) is focussed on Chapter 27 of the Acquis<sup>1</sup> and aimed at ensuring that Serbia can prepare in the most effective way for the negotiations to be conducted with the Commission and EU Council and can meet its obligations arising from membership.

The NEAS considers the full range of institutions involved with Chapter 27 at national, provincial and local levels with priority given to the national level.

### 1.2 Methodology for Development of the Strategy

The NEAS was developed with reference to the National Programme for EU Integration (NPI), the National Programme for Environmental Protection (NPEP) and the National Sustainable Development Strategy (NSDS). In addition the “Handbook on the Implementation of EC Environmental Legislation” and the responses to the Accession Questionnaire (submitted to the EU, 31<sup>st</sup> January 2011) were consulted.

The EAS Project has held more than 30 workshops (Approximation Working Groups) in six environmental sectors at which legal, economic and institutional arrangements for the implementation of Chapter 27 of the Acquis were discussed. 15 Peer Platform meetings with a focus on the three cross-sectoral aspects (legal, economic and institutional) were also held. In the Approximation Working Groups and

in the Peer Platforms, the relevant institutions, the business sector and Civil Society Organisations (CSOs) were represented.

The legal section of the NEAS was prepared by reviewing the Tables of Concordance (TOCs) and Implementation Questionnaires (IQs) prepared by the MEMSP to chart progress in transposition of the environmental Acquis. Legal opinions of the Serbian Office for EU Integration (SEIO) were also taken into account, as well as recent judgements from the European Court of Justice (ECJ). National legislation, both laws and by-laws, was reviewed for conformity with the Acquis. The Legal Gap Analysis was performed on this basis and discussed with the Legal Peer Platforms and the Approximation Working Groups set up under the EAS Project.

The legal section also considered law drafting practices that have been commonly adopted across the EU and compared with the Serbian practice. The results of these efforts were laid down in the Legal Gap Analysis.

The economic section establishes current service levels for the Heavy Investment Directives and calculates the required investment (CAPEX), operating (OPEX) and additional administrative (ADMIN) costs necessary to bridge the gap to full compliance. The economic model that was developed allows evaluation of different or changing scenarios to identify the optimum economic path towards approximation. Effective use of this model requires the provision and development of specific skills in economics within the MEMSP.

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<sup>1</sup> The ‘Civil Protection’ sector under Chapter 27 is not included in this strategy as it only includes implementation measures that fall to the sole competence of the Ministry of Interior.

Preparation of the institutional section of the NEAS commenced with circulation of a questionnaire to the different institutions involved and the returns were evaluated<sup>2</sup>. This was followed by carrying out a prioritisation for implementation of the Acquis, based on the methodology adopted in the National Programme for Environmental Protection.

Two reports on the current institutional arrangements in Serbia were prepared in support of the NEAS. The first report, the Responsibilities of Institutions within the System of Environment Protection, describes the arrangements on a factual basis, and the second one, the Institutional Gap Analysis, makes recommendations to close the gaps.

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<sup>2</sup> Returns were obtained from a limited number of institutions.

## 2 OVERVIEW OF CURRENT SITUATION

### 2.1 Background

The Republic of Serbia made a formal application to join the European Union on 22<sup>nd</sup> December 2009. This application marks the start of the accession process by which Serbia will move towards membership of the EU. An important part of the accession process is approximation, the process by which Serbia aligns its legislation, institutional structures and work practices with the requirements of the European legislation, more commonly known as the Acquis.

For current Candidate Countries, the Acquis has been divided into thirty five chapters for negotiation, with each chapter being negotiated separately. The National Environmental Approximation Strategy is focussed on Chapter 27 “Environment”. The Minister of Environment, Mining and Spatial Planning is politically responsible for this chapter.<sup>3</sup>

Based on the experience of the ten countries that became Member States on 1<sup>st</sup> May 2004 and the two on 1<sup>st</sup> January 2007, it is likely that the accession process could last between eight and ten years. The length of the accession process will depend in part on the effectiveness of the negotiations conducted by Serbia with the EU but also on political considerations, both internal and external. As Chapter 27 represents approximately one third of the Acquis and the bulk of the required investments, it is logical that it deserves more than average political and administrative attention.

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<sup>3</sup> Decision on the Establishment of the Coordination Body for the EU Accession Process, Official Journal 95/2007, 5/2010 and 87/2010

Purely for purposes of planning, a tentative accession date of 1<sup>st</sup> January 2019 has therefore been assumed in this document. Similarly it has been assumed that Serbia will have obtained the official status of “Candidate Country” by 1<sup>st</sup> January 2012. After accession, Serbia will be able to obtain much greater funding.<sup>4</sup>

### 2.2 Milestones in Development

The Stabilisation and Association Process started in 2001. Subsequently, the Government adopted the ‘Action Plan for Harmonization of draft legislation with the laws of the EU’ in July 2003, identifying the scope of laws that needed to be adopted in line with the EU requirements. This Action Plan also included justification of the need to adopt certain laws, the institutions in charge of implementation, and other elements of significance for the harmonization of the national legal system with the EU Acquis.

On 14 October 2004 the Serbian National Assembly adopted the ‘Resolution on EU Accession’, for the first time mentioning the formal obligation to harmonize the legal framework with the Acquis. The Resolution stipulated that harmonization of laws with the Acquis would have priority in the work of the National Assembly. It was accompanied by special procedures to increase the efficiency of this process.

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<sup>4</sup> This is because upon accession EU structural funds will increase and with them the complementary IFI finance, the domestic sourced finance and the credit rating of Serbia itself and its sub-national borrowers will improve facilitating access to credit markets. This is due to the twin boost to security that 1) large grants for infrastructure services to be cost recovered will imply and 2) the added security that EU membership and discipline implies for international lenders. To a lesser extent, this will apply to achievement of the Candidate Country status.

The most crucial step on the path of accession so far was the signing of the Stabilisation and Association Agreement (SAA) on 29<sup>th</sup> April 2008. The Serbian government has shown continuing commitment by developing a detailed National Programme for EU Integration (NPI). This NPI was adopted by the National Assembly in October 2008, with Chapter 3.27 dealing with the environment<sup>5</sup>. All of the environmental *Acquis* is covered in this NPI chapter, providing a detailed overview of the state of transposition and implementation, as well as of planned law drafting, institutional developments, staff requirements and estimated budgets required to ensure appropriate execution of public administration. The NPI was updated in December 2009.

On the basis of the NPI and pursuant to the Law on Environmental Protection (article 64), the MEMSP prepared the National Programme for Environmental Protection (NPEP), which was approved by the Government on 10<sup>th</sup> March 2010<sup>6</sup>. The NPEP is based on the principles of sustainable development and reflects the EU's 6th Environment Action Programme. It was prepared with donor assistance and revised, bringing it largely in line with the NPI.

The NPI also refers to the 2008 Sustainable Development Strategy for Serbia which already had been adopted at the time of approval of the NPI. The NPI states that '*no cost assessment for approximation with the Acquis in the field of the environment has been made in the Republic of Serbia*'. It states that an elaborated cost estimate for harmonization with EU legal requirements in the environment sector is to be provided.

In order to complement the process of aligning the legislation with the *Acquis*, and to provide financial background for the requirements of transposition and implementation of legislation, multiannual programming documents have been prepared and adopted by the Serbian Government. These include "Needs of the Republic of Serbia for the International Assistance in the period 2011-2013", as well as the EU planning document, the Multiannual Indicative Planning Document (MIPD). In addition, the draft Operational Programme Economic Development, which provides the framework for planning and absorption of IPA III component has been prepared and submitted to the EC (DG Regio).

The National Strategy on Waste Management 2010-2019 was adopted in May 2010<sup>7</sup>. The Strategy on Biodiversity, for the period 2011-2018,<sup>8</sup> was adopted in 2011 and the National Strategy for Sustainable Use of Natural Resources and the Air Protection Strategy are under development, and expected to be adopted by the end of 2011. Serbia's First (Initial) National Communication under the United Nations Framework Convention on Climate Change submitted to the Secretariat of the Convention in 2010, and preparation of the Second National Communication is ongoing. The National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants was adopted in 2009<sup>9</sup>.

As already stated above, the formal application to join the European Union was submitted on 22<sup>nd</sup> December 2009. It marks the start of the formal process by which Serbia aims at accession to the EU. On 31<sup>st</sup> January 2011 Serbia submitted its answers to the Accession Questionnaire.

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<sup>5</sup> Referring to articles 111 and 97 (agriculture, forestry and water management) of the SAA

<sup>6</sup> Official Journal 12/10, 10<sup>th</sup> March 2010

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<sup>7</sup> Official Journal 29/10, 2<sup>nd</sup> May 2010

<sup>8</sup> Official Journal 13/11, 1<sup>st</sup> March 2011

<sup>9</sup> 24<sup>th</sup> of December 2009

## 2.3 The Path Ahead

Serbia's path towards accession has entered a critical phase. On 12<sup>th</sup> October 2011 the European Commission is expected to publish its opinion on Serbia's application for EU membership. It is realistic that Serbia may gain the official status of "Candidate Country" before 1<sup>st</sup> January 2012.

After receiving candidate status, negotiations with the EU may be opened. The negotiations on Chapter 27 may take several years. The time required will depend on the speed of the negotiation progress, which is determined by Serbia's capacity to present its position skilfully and to make coherent requests for transition periods backed by well researched evidence.

The process of negotiation includes multilateral and bilateral screening followed by the submission of a position paper by Serbia. This position paper will be considered by the EU Council followed by its common position being expressed. Serbia will be asked to provide additional information which will lead to a revised common position being adopted by the EU Council. This information and position exchange may be repeated several times. Once all aspects have been cleared, the negotiations on the environment chapter will be provisionally closed.

After closing the negotiations on all the chapters, the European Council will decide on accession. After accession Serbia must fully implement the Acquis in accordance with the results of negotiation (which includes all transition periods).

## 2.4 Current State of Approximation: Legislative, Economic and Institutional

The approximation process consists of transposition of EU legislation into Serbian legislation and its subsequent implementation and enforcement. Implementation will require the development of sub-strategies and plans that identify what resources are needed and how they can be mobilised to complete the implementation of the Acquis.

The Government has established the target date of 31<sup>st</sup> December 2012 for full transposition of the Acquis which is set out in the NPI. This deadline is well ahead of the expiry of the 6-year term of the signature of the Stabilisation and Association Agreement in 2008.

### 2.4.1 Legislation

Serbia's commitment to transpose environmental legislation is mentioned, or referred to, in several texts:

1. The Stabilisation and Association Agreement (SAA) – not yet fully ratified – article 72(2) states that approximation shall start on the date of signing of the SAA.
2. The European Partnership<sup>10</sup> with two short term priorities:
  - a. to accelerate approximation of legislation and standards to the Acquis, and
  - b. to implement the adopted legislation.
3. The NPI, according to which all transposition work must be completed by December 2012.

The yearly **Progress Reports** of the European Commission assess progress in

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<sup>10</sup> Council Decision 2008/213/EC

all policy areas. Concerning legislative developments the 'Serbia 2010 Progress Report'<sup>11</sup> notes that good progress has been achieved in the area of the environment. It however points out that there is a lack of public consultation and that the quality of laws should be improved. It also advocates monitoring implementation of legislation.

The yearly **Progress Monitoring Reports** contracted by the EC, using Tables of Concordance and Implementation Questionnaires, compare Serbian and EU law on a one-to-one basis (one Directive – one law).

The aforementioned reports show that considerable progress has been made in transposition of the environmental Acquis. The rapid pace of transposition however has inevitably left its mark. A number of crucial environmental Laws adopted in 2009 had to be amended in 2010 and notwithstanding, some legal gaps still remain.

The current state of transposition in Serbia in the area of Chapter 27 has been examined in a report prepared by the EAS Project, the Legal Gap Analysis, that sets out the state of transposition<sup>12</sup> and includes recommendations for improved law drafting practice.

So far, transposition is most advanced in the horizontal and the chemical sectors. Great progress has also been achieved in the nature and the waste sectors. In the air sector, some fundamental policy decisions relating to national emissions ceilings have to be made before transposition work in this area can continue. In the water sector, the adoption of the Water Law 2010 is a first

step towards transposition. Transposition work on the industrial pollution sector has now to be updated to address the Industrial Emissions Directive of December 2010.

Although all these efforts are undeniable, they have occasionally been conducive to over-regulation, mostly through the establishment of procedures that are more elaborate than required by the Acquis. Overregulation comes at a cost and is not without risk. The Treaty on the Functioning of the European Union (TFEU) allows Member States to be stricter than the Acquis, but requires them to report such cases to the Commission who will check for compliance with EU law (e.g. prohibition of competition distortion or hindrance of inter-state trade).

This strategy establishes the policy that full compliance with the environmental Acquis must be achieved, but not beyond, unless there is a compelling environmental reason and harmony with the single market requirements of the EU is maintained.

At present environmental legislation is initiated by ad-hoc working groups within MEMSP. Other line ministries and stakeholders may participate in such groups. After a law is drafted, it is submitted by the group to the Department for Harmonization of Environmental Legislation of MEMSP, and then to the Minister, who will consult the Republic Secretariat for Legislation, the SEIO, the Ministry of Finance and other line ministries, with each party having twenty days to react. After this consultation, the Minister will bring the revised law to the Government and subsequently to the National Assembly.

There is a general dissatisfaction with the law drafting process. Tight deadlines do not allow law drafters to produce a text of sufficient quality. Lack of skilled law drafters and poor coordination with stakeholders are

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<sup>11</sup> Last available report (SEC (2010) 1330 – Commission staff working document "Serbia 2010 Progress Report" accompanying Communication [...] COM (2010) 660)

<sup>12</sup> Cutting date 29 November 2010

other reasons for concern that are often voiced. As a consequence of this state of affairs, many laws have to be revised soon after their adoption.

Proposed improvements in the law drafting process relate mainly to the role and the manner of embedding the law drafting process within the public administration, and the legislative techniques used. Transposition work is a moving target, as new EU legislation will be adopted during accession negotiations and thereafter. Thus, the new approach to law drafting should be applied to review past laws and to carry out ongoing and future transposition work, also after accession. The achievement of coherence, stability and effectiveness of the legislation is the ultimate objective of this process.

## 2.4.2 Economics and Finance

In meeting the requirements of the Acquis, Serbia, and specifically the MEMSP, faces a strong challenge in the field of economics and finance.

### 2.4.2.1 Capacity Building in Economics and Financial Planning

The experience of the new EU Member States (2004 & 2007) is a clear warning sign of what Serbia must attempt to avoid. After their accession in 2007 Romania and Bulgaria became net contributors to the EU Budget on account of the slow mobilisation of EU grants. This has been caused by inadequate financial planning and poor grant programming, which has led to below 10% of available funds being drawn down over their first three years of membership, as reported in the most recent Eurostat report (April 2011).

Economic and financial planning capacity is as yet developed to a relatively low level

within MEMSP and to nothing like the scale and degree of specialisation that will be required for rapid and successful mobilisation of EU grants. Additional staff with a strong economic background will be required in the Ministry to ensure economic and financial analysis and planning capacities, as required by the Decentralized Implementation System for IPA<sup>13</sup> III, IV and V. Failure to develop this in anticipation will slow down and impair the efficiency of the mobilisation of the key EU grant support and the necessary cost recovery from user charges and economic instruments. Given the magnitude of the figures involved, the opportunity cost to Serbia of inefficiency in these areas can be very high. Additional staff with a strong economic background is required in the Ministry.

### 2.4.2.2 Cost of Approximation

The adoption of the Acquis and, especially, its implementation, requires large investments in infrastructure over an extended period of time.

The cost of approximation is the cost for Serbia of adopting the Acquis, not to be confused with the total environmental expenditures of Serbia, which include components that are incurred on account of national policies. The time required by Serbia to achieve full compliance with the Acquis is determined by several constraints:

- The present condition of the environmental infrastructure and starting service levels;

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<sup>13</sup> IPA stands for 'Instrument for Pre-Accession Assistance'.

- Affordability at consumer level which determines the amount of cost that can be recovered from end users;
- Affordability at national level which is the percentage of Gross Domestic Product (GDP) that Serbia can allocate to environmental projects;
- The capacity of the administration to effectively legislate and to subsequently plan financially and programme optimally all financial resources available.

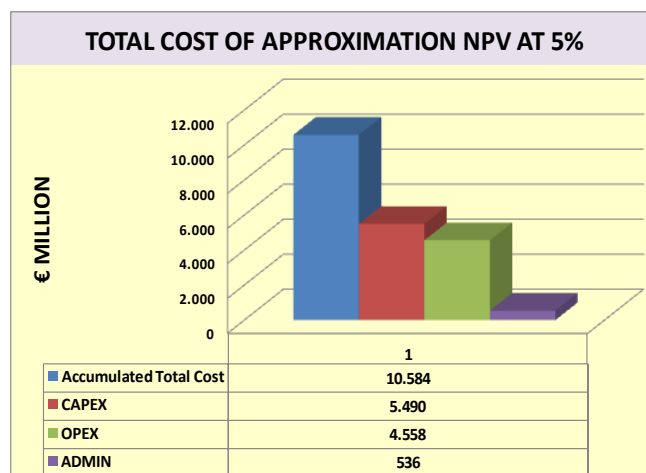


Figure 1: Cost of Approximation in € Million discounted at 5%

The first step, and in fact the cornerstone, of any strategy is to evaluate the cost. This has been calculated by:

- Collecting available data and studies (see Annex 2), both Serbian and international, and processing them through a Cost/Finance Model that permits sensitivity analysis to variations in the target dates for full compliance of the Acquis;
- The resulting multi-annual cost flows have been discounted back to 2010 values in Euros. This is the Net Present Value (NPV), which is a standard practice to eliminate time distortion. The selected discount rate of 5% corresponds to that used in large infrastructure projects by the EU.

The results are summarised in figure 1 for CAPEX, OPEX and ADMIN. CAPEX are all Capital Expenditures required, OPEX are all the Operating Expenditures, including replacement and maintenance of the CAPEX, and ADMIN includes all costs associated with staff increases, including salaries, all related contributions, overheads, training needs and technical studies required.

The total cost of approximation, comprising the three components above, is estimated at € 10.6 billion.

The cost calculations have largely focused on the “Heavy Investment Directives”, which are:

1. Urban Waste Water (UWW);
2. Drinking Water (DW);
3. Nitrates;
4. Municipal Solid Waste (MSW) which bundles the Landfill, Packaging, Waste Electrical and Electronic Equipment (WEEE) and Batteries Directives;
5. Large Combustion Plants (LCPs) which includes both Thermal Power Plants (TPPs) and Heating Plants.

Together, these account for € 8.7 billion, or almost 83% of the total cost of approximation. The first three are in the Water Sector, the fourth in the Waste Sector and following the advent of the Industrial Emissions Directive, the fifth is now in the Industrial Pollution and Noise Sector.

Table 1: Cost of Approximation by Environmental Sector

APPROXIMATION COST DISTRIBUTION BY SECTORS – NPV AT 5% IN € MILLION				
ENVIRONMENTAL SECTORS	CAPEX	OPEX	ADMIN	TOTAL
WATER	3.505	1.901	146	5.552
WASTE	555	2.071	171	2.796
INDUSTRIAL POLLUTION AND NOISE	1.101	145	93	1.340
NATURE PROTECTION	56	73	10	139
AIR QUALITY AND CLIMATE CHANGE	214	344	93	652
CHEMICALS AND GMOs	59	23	23	105
HORIZONTAL	-	-	-	-
<b>TOTAL</b>	<b>5.490</b>	<b>4.558</b>	<b>536</b>	<b>10.584</b>

As is a constant with environmental issues, these Directives have impacts across more than one sector. Part of the challenge of the Industrial Pollution and Noise Sector is, for instance, solved by MSW, or by the UWW Directive. This is why it is standard practice to focus on the Heavy Investment Directives and to calculate what is “left over” for the specific sectors.

prior experience in other transition economies.

The highest cost will be in the Water Sector, amounting to €5.6 billion, followed by the Waste Sector with €2.8 billion and the Industrial Pollution and Noise Sector with €1.3 billion.

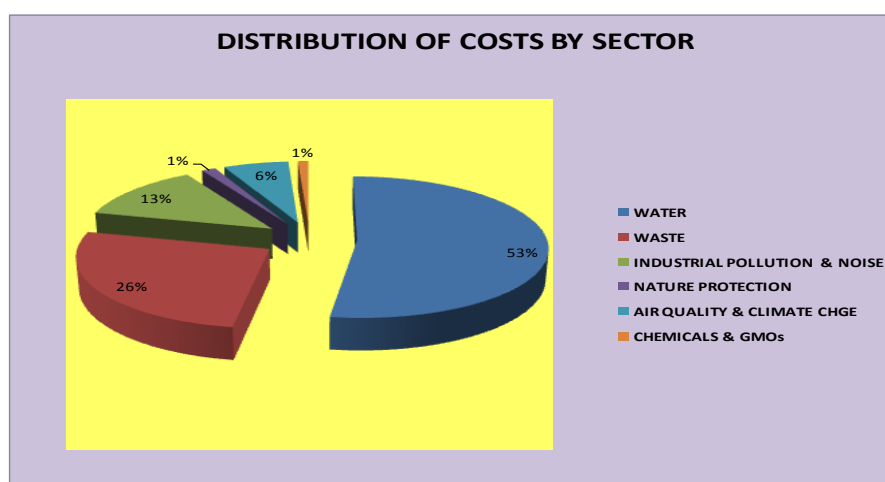


Figure 2: Distribution of Costs by Sector

Some of the Administrative expenses estimated for the environmental sectors will be incurred in the Horizontal Sector. A more precise calculation of administrative costs can be made once the institutions dealing with the various issues regarding approximation are more clearly defined. For the purposes of the present Strategy, these costs have been estimated on the basis of

The total cost is €1.400/capita, somewhat higher than the average of €1.150/capita (in € 2010 terms) estimated by the EU for the preceding wave of Accession Countries. This reflects the low level of existing infrastructure and service standards in the field of water, particularly Urban Waste Water, which will require massive investments to reach the levels required by the Acquis.

The model tool provides annual cost outlays for investment (CAPEX), operating and management costs (OPEX) and administrative costs (ADMIN). These costs are the actual multiannual undiscounted costs in 2010 €.

A cleaner environment is not an expensive luxury that a Candidate Country must incur. Lower environmental standards and an excessive delay in the introduction of the requirements of the Acquis imply *hidden economic costs* to society which must be

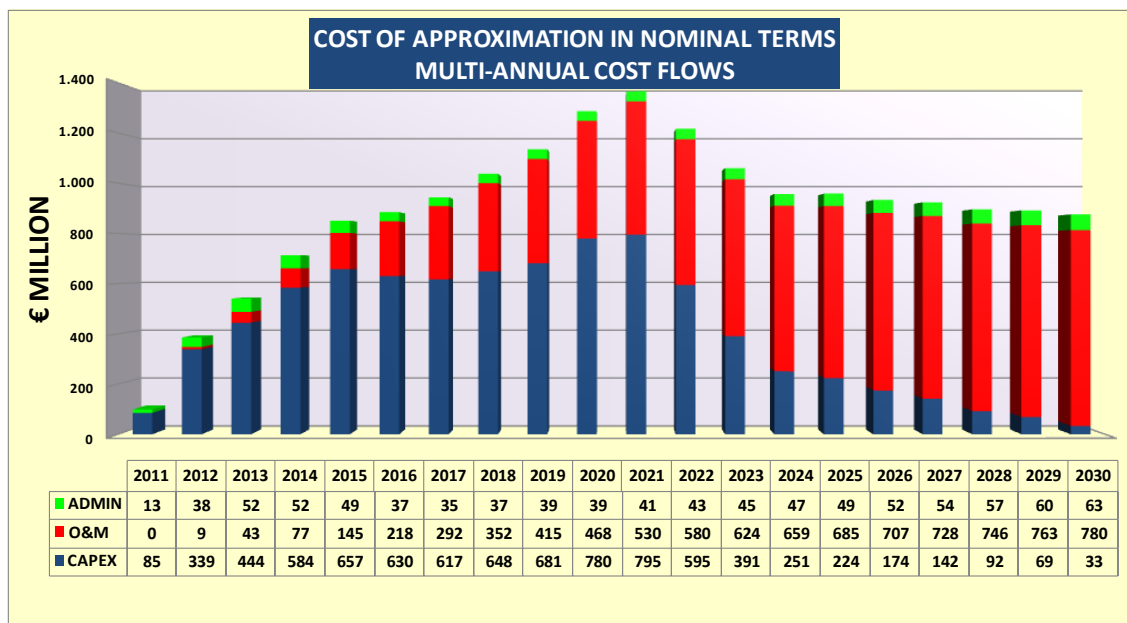


Figure 3: Multiannual Cost Flows

These flows are calculated taking into account short term committed investments (the implementation of the National Strategy on Waste Management has a strong impact) and a sequential distribution that avoids OPEX exceeding the Affordability constraint. Annual costs peak at between €1.1 and 1.4 billion in the period 2019 to 2023. 2019 is assumed to be the first year of EU membership for Serbia, when higher EU support will be forthcoming and an intensification of the investment effort can be expected.

#### 2.4.2.3 Benefits of Approximation

The political implications of joining the EU and its general economic impacts are not the subject of the NEAS. What is calculated in this section are the direct economic benefits to Serbia of applying the environmental Acquis.

calculated. Not to avoid such “hidden costs” is akin to ignoring asset maintenance and replacement and is incompatible with the basic tenet of ‘Sustainability’.

The main benefits of applying the Acquis are:

1. Damage avoided to life (reduced mortality);
2. Damage avoided to health (reduced morbidity);
3. Damage avoided to property and agricultural production;
4. Benefits to the ecosystem.

The following calculation methodology, which is based on the standard practice derived from the body of knowledge in this field, has been applied:

- The analysis has been performed using a combination of the preceding techniques, applying parameters tested in more advanced economies to Serbia, through a 'Benefit Transfer Equation' when no Serbian data was available;
- Dose-responses are derived from the Environmental Cost Assessment and Investment Plan (ECAIP) Study developed for Romania in 2005 and adapted to 2010 Serbian conditions;
- Benefits have been calculated for the same period as the costs, 2011-2030, although they will continue to accrue at an increased rate whilst costs will diminish when the investment component is completed.

Table 2: Methods and Techniques to Monetise Benefits

METHODS	TECHNIQUES
1. Unit Pollution Damage Costs 2. Unit Receptor Damage Costs 3. Dose-Response Functions	A. Willingness to pay B. Benefits Transfer Value C. Value of Life (Mortality) D. Value of Health (Morbidity)

Table 3: Summary of Monetised Benefits

SUMMARY OF MONETISED BENEFITS				
SECTOR	MONETISED CONCEPTS (not fully aligned with Directives)	RANGE OF BENEFITS € MILLION PER ANNUM		
		LOW	MEDIUM	HIGH
WATER	Drinking Water	28	84	167
	Surface Water	8	23	46
	River Ecosystems	6	17	35
WASTE	Wastewater Treatment	235	457	679
	Methane Capture	15	23	33
	Energy from Methane	2	9	22
	Carbon Dioxide Capture	0	0	1
	Leachate & Disamenity from Landfills	4	13	25
	Recycling & Composting	47	331	758
AIR & INDUSTRIAL POLLUTION	Reduction in Mortality	654	1.299	1.944
	Reduction in Morbidity	131	225	318
	Agriculture	17	62	106
	Construction & Materials	62	113	164
<b>TOTAL ANNUAL MONETISED BENEFITS</b>		<b>973</b>	<b>2.198</b>	<b>3.620</b>

Table 4: Summary of the Cost Benefit Analysis of Applying the Acquis

COST-BENEFIT RESULTS OF APPLYING THE ACQUIS		
	Based on Medium Range Benefits and EAS Project Cost Assessment expressed in € million	
	BENEFITS	COSTS
WATER	7.891	5.552
WASTE	2.705	2.796
AIR & INDUSTRIAL POLLUTION	14.737	1.992
ALL OTHER	NOT MONETISED	244
<b>TOTAL BENEFITS</b>	<b>25.333</b>	<b>10.584</b>

This conservative estimate indicates that over the period to 2030, benefits would outweigh the costs by a factor of approximately 2.4.

It must be noted that although the overall benefits calculations have a strong scientific foundation, their distribution into the different environmental sectors is open to some challenge due to differences in the calculation methodology for costs (based on CAPEX/OPEX) and benefits (based on dose-response functions that tend to concentrate on air).

### 2.4.3 Institutions

Responsibility for the environmental Acquis is divided among seven ministries. Based on the number of directives assigned, the MEMSP has direct responsibility for about 57% of the Acquis, with the remaining 43% being split among five other ministries:

- Ministry of Agriculture, Trade, Forestry, and Water Management;
- Ministry of Health;
- Ministry of Infrastructure and Energy;
- Ministry of Economy and Regional Development;
- Ministry of Interior.

The Ministry of Finance has an indirect role in the implementation of the Acquis as all implementation has to be financed.

In addition under the draft Law of Public Utility Companies a ministry will be designated as competent for Public Utility Company (PUC) activities. The current proposal is that MEMSP will be the designated ministry but a government decision remains pending.

No “physical gaps” exist in the current institutional arrangements as responsibility has been assigned to institutions for each EU Regulation, Directive and Decision (except for the relatively unimportant, in the Serbian context, Directive 2000/59/EC on Port Reception Facilities for Ship-generated Waste from Cargo Residues).

The main gap is in staff numbers under the present institutional arrangements. The NPI estimates that the total staffing in MEMSP should be doubled from existing levels and overall this appears to be a reasonable estimate. However the current budgetary restrictions in Serbia agreed with the International Monetary Fund (IMF) mean that staff numbers in MEMSP had to be cut by 10% from January 2010. Rationalising and prioritisation of the use of staff can help to resolve this difficulty, and the transfer of 55 staff from Republic Hydro-meteorological Service of Serbia (RHSS) to the Serbian Environmental Protection Agency (SEPA) in early 2011 was a promising step in this direction.

With the current system of transposition of directives the devolution of **responsibility for implementation** is not always clear. An important case in point is the establishment of a system for Greenhouse Gas (GHG) Emissions Trading where the competent authorities have yet to be designated<sup>14</sup>. This and other cases are described in the sectoral strategies.

Currently coordination between ministries takes place via the Chapter 27 sub-working group chaired by a State-Secretary from the MEMSP. This sub-working group meets from time to time, with the most recent meeting held in early autumn 2010 to coordinate the response to the EU Accession Questionnaire.

The fact that no “physical gaps” exist means that the current institutional arrangements can provide for implementation of the Acquis, but if this route (of no institutional change) is chosen, major improvements need to be made in the area of “soft skills”. In particular all institutions that are involved need to see themselves as part of a team working together for the successful negotiation and approximation of Chapter 27. This spirit must be developed and fostered by the hierarchy of MEMSP, together with the other ministries and institutions that are involved, particularly via the programme of the Chapter 27 sub-working group. The areas that need to be covered include improvements such as:

- effective delegation of authority and responsibility;
- management of resource available within the institutions;
- coordination and cooperation between and within institutions;
- communication between and within institutions;

- avoidance of overlap between existing national legislation and the one transposing the Acquis;
- human resource management systems;
- transparency in budgeting for institutions;
- flexibility in staff assignment to reflect changing priorities;

The specific requirements are set out in more detail in the sectoral strategies and brought together in the overall institutional strategy (section 4.3).

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<sup>14</sup> Directive 2009/29/EC

### 3 STRATEGIC DIRECTION

The overall strategic objective for Serbia is to attain EU membership. In order to achieve this objective Serbia has to complete the approximation process of transposing, implementing and enforcing all the chapters of the EU Acquis, including Chapter 27 on environment.

Transposition, implementation and enforcement activities on the path to EU membership require a strategic direction. This chapter of the NEAS defines the overarching policies proposed to guide every step and every decision taken during the approximation process. In the framework of these policies a limited number of strategic goals have been set.

The policy goals form the heart of the NEAS. This NEAS provides an outline for an operational framework required for Serbia's negotiations for EU Membership and justification of the transition periods that are required in the environment sector.

Annex 3 to this NEAS contains the 'Strategic Approximation Pyramid' showing in descending order the different levels of aggregation within the NEAS.

#### 3.1 Overall Strategy

The overall strategy of the approximation process follows the main steps set previously in the NPI and NPEP. The strategy also accepts the mission, vision and values statements<sup>15</sup> of the Ministry of Environment<sup>16</sup> first stated in 2005.

The mission is 'To implement Serbian environmental legislation in consideration of the national priorities of current and future generations'.

The vision is 'To be a competent, credible and national authority taking care of the Serbian environment in full harmony with EU environmental principles'.

In its Communication Strategy, covering the period 2005-2007 and built on its mission and vision, the MEMSP intends to ensure that it develops as a transparent organisation with enhanced external and internal communication, in harmony with EU environmental policy from an organisational, judicial and procedural perspective. The MEMSP expresses its values by the intention to operate with 'openness, competence and transparency'.

This NEAS aims at supporting the Serbian Government in its objective to approximate to the environmental Acquis. It is recommended that the Government of Serbia adopts three basic strategic policies. These policies are particularly relevant in the environment sector but are in fact applicable across the entire Acquis. These three policies are apparently simple but if followed will provide clear direction and benefits to the country. These policies are reflected in table 5 below:

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<sup>15</sup>'Communication Strategy' – a Dialogue for 2005 – 2006, Strengthening Environmental Management at the Directorate for Environmental Protection, SIDA, May 2005

<sup>16</sup> As developed by the MEMSP predecessor, the Directorate of Environmental Protection under the then Ministry of Science and Environmental Protection.

Table 5: Leading and Overarching Strategic Policies

<b>LEADING AND OVERARCHING STRATEGIC POLICIES</b>	
1.	<b>Serbian legislation should mirror EU Acquis</b> ; no less, no more – any additional requirements or stricter standards would only be deployed when environmentally and economically justifiable and not contradicting EU laws. This will reduce the cost of compliance.
2.	<b>Use of donor funds should be maximised</b> – this involves establishment of appropriate absorption capacity, i.e. adequate institutions and pipeline of projects, and maintenance of balanced economic strategy that will in turn minimise the needed intervention from Serbian public budgets. This would minimise the costs to be borne by Serbia.
3.	<b>Implementation should focus on EU requirements</b> – work on approximation and on implementation of the Acquis should have an absolute priority over other national agendas; financial and staff resources should be reallocated to reflect this preference, especially in consideration of the restrictions of budgetary expenditures and staff levels. This would maximise use of existing financial and staff resources.

These three policies are at the highest aggregation level of the developed strategy. They are the leading and overarching strategic concepts of the NEAS. All further strategic ideas and actions in the area of environmental protection should be interpreted in line with these principles.

This strategy contributes to fulfilling these conditions by setting a number of key goals and the means necessary to achieve them (see Table 6 below).

Regarding the strategic goal on institutional arrangements, it is generally considered more appropriate for ministries to be

Table 6: Key Goals

GOALS	MEANS
<ul style="list-style-type: none"> <li>• Full and high quality transposition of the EU environmental Acquis</li> </ul>	<ul style="list-style-type: none"> <li>• Realistic and comprehensive legislative programme</li> <li>• Improved law drafting practice</li> </ul>
<ul style="list-style-type: none"> <li>• Maintenance of effective and affordable environmental infrastructure and services</li> </ul>	<ul style="list-style-type: none"> <li>• Maximization of cost recovery within affordability constraints</li> <li>• Anticipation of co-financing needs and securing of necessary funds</li> <li>• PUCs reform to attract grants for feasible large infrastructure projects</li> </ul>
<ul style="list-style-type: none"> <li>• Institutional arrangements for efficient and effective approximation</li> </ul>	<ul style="list-style-type: none"> <li>• Institutional reform</li> </ul>

In principle all accession countries need very extensive financial resources to implement the environmental Acquis.

Through the EU and other donors funding (grants, loans) can be obtained. Drawing down the funds however requires a number of specific well-functioning institutional, administrative and legal arrangements.

involved solely in ‘policy’ and legislative issues and that implementation of legislation is devolved to other institutions. ‘Policy’ in this context includes the development of strategies, programmes (including investment ones), plans and standards to be adopted by government. Implementation relates to activities such as monitoring, permitting, inspection,

enforcement and communication (campaigns).

assumed accession). Transposition activities will basically be completed in the short term period.

### 3.2 Timeframe for the Strategy

As described earlier, various deadlines for approximation have been set, by the NPI, the SAA and other policy documents. The period of 6 years from the signing of SAA (28 April 2008), is the most pertinent one. All efforts to transpose and implement the current Acquis should be targeted. In reality, there will be longer timeframes needed for more complex tasks (including but not limited to heavy investment directives), as well as new Acquis, on which work will have to continue between 2014 and the actual accession, and in the case of transitional periods even beyond the anticipated accession date.

The deadline of 2012 for transposition set in the NPI should be extended to 2014 to allow time for re-assessment of assigned responsibilities, for ensuring mutual compatibility of the major environmental laws and for filling all remaining legislative gaps. This extended time should also be used to reflect any new Acquis recently adopted or close to adoption. The period 2011 - 2014 is deemed “short term”, as by the end of this period transposition of the environmental Acquis should be completed, and that the activities of implementation and enforcement have significantly progressed. Implementation and enforcement can then be expected to be fully in place before 2019 and thus the period 2015-2018 is viewed as medium term.

Given the above prospects, the Strategy identifies the following three time periods:

- Short term (until 2014);
- Medium term (2015 - 2018), and
- Long term (2019 - 2030).

The final period 2019 to 2030 is designated as long term with the main additional activity being in the field of investment to complete the implementation of the most costly directives, in particular the Urban Waste Water Treatment Directive.

The three time horizons will set the pace of the sector strategies and directive-specific implementation plans: short (2011 – 2014), medium (2015 – 2018) and long term (after

Table 7: Time Schedule to Achieve Strategic Goals NEAS

GOALS \ TIMELINE	SHORT TERM				MEDIUM TERM					LONG TERM	
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020 - 2025	2025 - 2030
Transposition	■										
Full cost-recovery tariffs		■									
Reformed PUCs		■									
Secured co-financing	■										
Reformed institutions		■									

## 4 STRATEGY FOR ENVIRONMENTAL APPROXIMATION

In this chapter, an approach to approximation is detailed in relation to the three components of work – legal, economic and financial and institutional, to first describe the main orientations in their context and then to formulate concrete actions to be undertaken in short, medium and long term.

### 4.1 The Strategy for Legal Approximation

There are two issues that have to be considered in relation to transposition, i.e. drafting and adoption of national legislation that satisfies the requirements of the Acquis:

1. How to organize the transposition process; and
2. How to ensure, *de jure* and *de facto*, that the requirements of the Acquis are satisfied.

A traditional tendency of law drafting in Serbia (but by no means only here) has been to try to cover every possible case in the law. But achieving exhaustiveness of regulation will always prove elusive. A balance must be struck between generic requirements placed in legislation, and case-specific requirements imposed pursuant to good practice or judgment. Institutionally separating policy design and legal drafting from executive tasks may enhance that equilibrium and stem the flight to regulation.

The practice of drafting of by-laws after the adoption of a primary law, while existing by-laws remain in force, must be discontinued in order to avoid long transitional periods before new laws are fully and effectively implemented and institutional setup defined.

This would eliminate the recurrent need for amendments of the Law identified during the preparation of by-laws. It would significantly improve the clarity, certainty and predictability of legislation for the regulated community and society in general.

From an approximation perspective, legal certainty is a prime criterion for compliance with the Acquis. If a law is unconstitutional, inconsistent, or in contradiction with other laws that may take precedence, then the Acquis cannot be considered to be fully transposed.

### Proposed Actions

#### Short term (2011-2014)

- On a short term basis, the whole Acquis should be transposed
- Current legislation should be screened for inconsistencies with the Acquis.
- The Guide for Environmental Approximation should be developed and implemented (containing all short term actions listed below)
- Policy development should be separated from law drafting and precede it. Policy makers should consider the implementation options available, select the most suitable one, and design appropriate implementation and enforcement mechanisms. Only thereafter should the actual law-drafting begin.
- Stakeholders should be consulted at an early stage to provide policy developers and law drafters with greater insight in the issues at stake. In addition the stakeholders will become more aware of legal developments. Discussion of change leads to greater acceptance by the stakeholders being regulated and

allows a greater timeframe to prepare for compliance.

- Laws should be drafted simultaneously with by-laws. This will avoid inconsistencies and also stem the flight to unnecessary legislation.
- Final drafts of laws should pass a set of quality tests; some relating to compliance with the Acquis, others to consistency with set policies, and yet others to strictly legal matters.
- Law drafters should draw up an explanatory memorandum, containing the rationale of the law and an assessment of its impact and of its quality. The memorandum should demonstrate that the law and its implementation arrangements will, *de jure* and *de facto*, implement the Acquis.
- Once laws have been adopted, their implementation should be monitored, with feedback to the legislator, allowing, if needed, redeployment of policies and legislative amendments.

#### **Medium-term (2015-2019)**

- Transposition activities will continue to bridge remaining legislative gaps and to incorporate the new Acquis
- The Law on Environmental Protection should be reviewed in terms of its objectives and relationship to other environmental laws, and potentially as the vehicle for institutional reform

## **4.2 Strategy for Economic and Financial Approximation**

To define the funding mechanisms required to meet the multi-annual stream of costs provided in paragraph 2.4.2, the following steps have been taken:

- Calculation of the cost recovery component, i.e. the amount of the costs

that can be recovered from the end users. This requires prior calculation of the Affordability Constraints;

- Estimate of reasonable Transition Periods for full compliance of the Acquis;
- Definition of the Financing Sources;
- Calculation of the Funding Gap;
- Formulation of a Plan to Finance the Gap.

The Funding Gap after cost recovery must be covered by a mix of instruments, including:

- EU Grants. IPA funds during the Candidate phase and Structural Funds after membership;
- Financing Institutions (Kreditanstalt für Wiederaufbau (KfW), European Bank for Reconstruction and Development (EBRD), European Investment Bank (EIB) and others);
- Direct support from Project Donors including Technical Assistance;
- Industry/Commercial direct investments and Private Investors;
- Public Sector including Central Budget; Local Self-Government Budgets; economic instruments, e.g. Serbian Environmental Protection Fund (SEPF), water fees collected by Water Directorate and Regional Water Bodies and the Water Fund.

### **4.2.1 Affordability Constraints**

Affordability constraints limit the amount of the costs that can be recovered from end users through tariffs and other charges (“Cost Recovery”).

After full compliance, and in accordance with the “Polluter Pays Principle”, cost recovery should be 100%. Until then, cost recovery should at least cover OPEX costs

so as not to compromise the capacity to attract grants (as only investment costs are eligible and projects must be financially sustainable) and gain support from International Finance Institutions (IFIs).

mobilised to support the approximation effort (i.e. the rate of mobilisation of the cost recovery component).

The results of these analyses are

Table 8: Evolution of available affordability for Cost Recovery

EVOLUTION OF TOTAL AFFORDABILITY FOR COST RECOVERY ON BASIS 25% HHI + 6,87% COMMERCIAL (27,47% p.e.)															
Units	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030	
<b>HHI Average</b>	€/HH/p.a.	5.964	5.208	5.445	5.803	6.215	6.689	7.234	7.823	8.461	9.150	9.896	10.703	14.097	18.025
<b>Upper Limit of Affordability (31,87%)</b>	€/HH/p.a.			1.735	1.849	1.981	2.132	2.305	2.493	2.696	2.916	3.154	3.411	4.493	5.745
<b>No. of Households Estimated</b>	In million	2,52	2,51	2,50	2,49	2,47	2,46	2,45	2,44	2,43	2,41	2,40	2,39	2,35	2,30
<b>Maximum Annual Domestic Affordability</b>	In € million			4.381	4.645	4.950	5.301	5.705	6.139	6.606	7.108	7.649	8.231	10.573	13.185
<b>Present Costs HH (16,1%) comm (6%) = 22,1%</b>	In € million			3.038	3.221	3.433	3.676	3.956	4.257	4.581	4.929	5.304	5.708	7.332	9.143
<b>% of Available Affordability Tapped</b>	%			69,34	69,69	70,21	70,92	71,98	73,06	74,16	75,27	76,02	76,78	78,91	79,91
<b>MAX. AVAILABLE FOR COST RECOVERY</b>	In € million			0	16	43	83	150	228	318	421	511	612	1.012	1.393

The calculation of cost recovery includes:

- Collecting data on Household Income (HHI) distributed in Income Deciles<sup>17</sup>;
- Projecting such data in accordance with GDP expected growth and adjustment indexes to account from typically faster than GDP growth in HHI;
- Estimating the industrial/commercial component;
- Calculating the present level of affordability used for utility payments. This part is supporting the existing system and is not available for support of the *incremental* approximation effort;
- Calculating the component of untapped affordability that can sequentially be

summarised in a simplified format above.

The maximum available for new investments and their OPEX is based on the average HHI.

In NPV terms cost recovery will amount to € 5.7 billion. Total costs are estimated at € 10.6 billion (see chapter 2.4.2). The cost recovery component amounts to 54.4% of the approximation effort.

This figure is in line with the magnitudes observed for other transition countries. It must be noted that at lower levels of affordability than average, cost recovery constraints are considerable. This indicates that it will be necessary to apply block or progressive tariffs in the process of reaching full cost recovery tariffs (up to

<sup>17</sup> 10% segments from the 10% richest to the 10% poorest.

2030 for UWW), so as to avoid a collapse of revenue collection capacity at PUC level.

#### 4.2.2 Setting-up of Target-dates for Full Compliance

In order to plan when full compliance can be realistically achieved for the heavy investment directives, and to identify those for which requests for transitional periods will need to be made, a model tool has been prepared. The following parameters have been integrated into this model tool:

- The multiannual cost flows on a directive/sector basis;
- The multiannual potential cost recovery on a directive/sector basis;
- Assumptions on macroeconomic and socio-economic parameters;
- Mobilisation rates for cost recovery;
- Assumptions on EU grant mobilisation rates and donor funding;
- Projection of domestic finance resources;
- Projections of finance from IFIs, other project finance and private investment;
- Other technical parameters necessary for making the model operative.

The specific assumptions made for each directive/bundle of directives are available

in the technical documentation and are based on the multiple sources of data referred to in Annex 2.

The model tool is designed to adjust all flows to variations in any of the inputs, notably to target dates for full compliance.

Wherever possible the action plans of existing national strategies (e.g. on waste and energy) have been respected. When such action plans imply periods that do not comply with the affordability constraint for OPEX (Waste), or even are more stringent than required for EU Member States (LCP Directive), the target dates have been lengthened to provide plausible and reasonable implementation periods from the economic point of view.

This Sensitivity Analysis has been performed to determine reasonable transition periods for full compliance of the different directives/sectors. It is expected that, as has been the case with previous accessions, transition periods will only be granted in the case of Heavy Investment Directives. Results are shown in table 9 below for these directives. Drinking Water is absent from this list because compliance with the Acquis only requires that quality standards are met and this is expected to be achieved prior to accession.

Table 9: Transition Periods for Heavy Investment Directives

SECTOR/HEAVY INVESTMENT DIRECTIVE	ACCESSION	TRANSITION PERIOD										
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
WATER												
Urban Waste Water												
Nitrates												
WASTE												
MSW (Landfill + Packaging + Batteries + WEEE)												
INDUSTRIAL POLLUTION & NOISE												
Large Combustion Plants												

### 4.2.3 Impact on Serbia

The impact on Serbia, i.e. the burden of Approximation, is evaluated from the perspective of:

- Consumers, both households and industrial/commercial;
- Serbia as a country, by measuring the additional GDP that must be dedicated to the approximation effort.

It must be noted that the positive indirect economic impacts, i.e. greater GDP growth on account of accession to the EU market in favourable conditions, estimated in other studies at approximately 2% additional GDP growth per annum, have not been included in the NEAS.

The Benefits of Compliance have been calculated in section 2.4.2.3 and should not be disregarded as “intangible” as they are real positive impacts that have been tested in the United States and Western Europe for an extended period. They constitute an important part of the economic evaluation process in all large infrastructure projects.

### Burden on Consumers

The capacity to pay for OPEX is shown below. OPEX is limited to what is affordable at national level. This is one of the “constraints” defined above.

This means that this strategy is viable but strains capacity to the maximum in the period to 2017.

Below, in figure 4, the inter-annual relationship between OPEX and affordability has been illustrated.

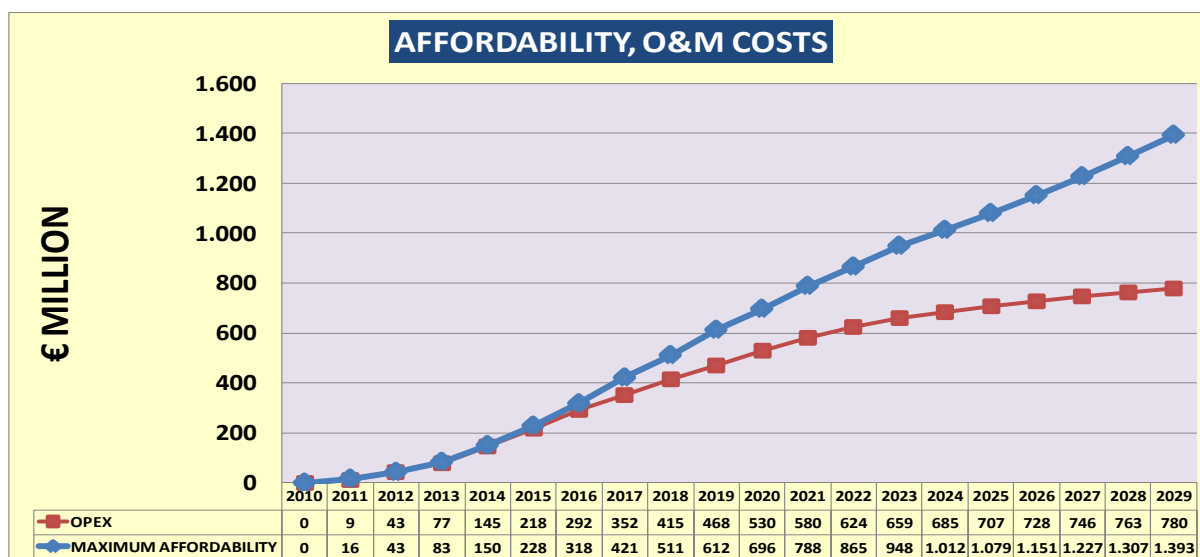


Figure 4: Capacity to pay Operation and Management Costs

The action plans of the strategies prepared for Waste and for Large Combustion Plants imply compliance targets that have been elongated so as to provide an achievable mix with actions in the other sectors. Environmental sectors are integrated across the environment and across all economic sectors and thus sustainable planning cannot be done for one sector in isolation.

The capacity of consumers to pay for total costs is shown in the figure below.

It is evident that there is a large “Funding Gap” because part of the cost is not recoverable from user charges until 2024.

This is further elaborated in the following sections.

### Burden on Serbia

At present 0.4% of GDP is allocated to the environment sector, according to the estimates contained in the NPEP and the report “Needs of the Republic of Serbia for the International Assistance in the period 2011-2013”. While the actual allocation of GDP for the environment in Serbia is probably higher, possibly up to 0.9% of GDP, due to unaccounted for local, industrial and private contributions, there is no specific and sufficient evidence available to correct the 0.4% figure.

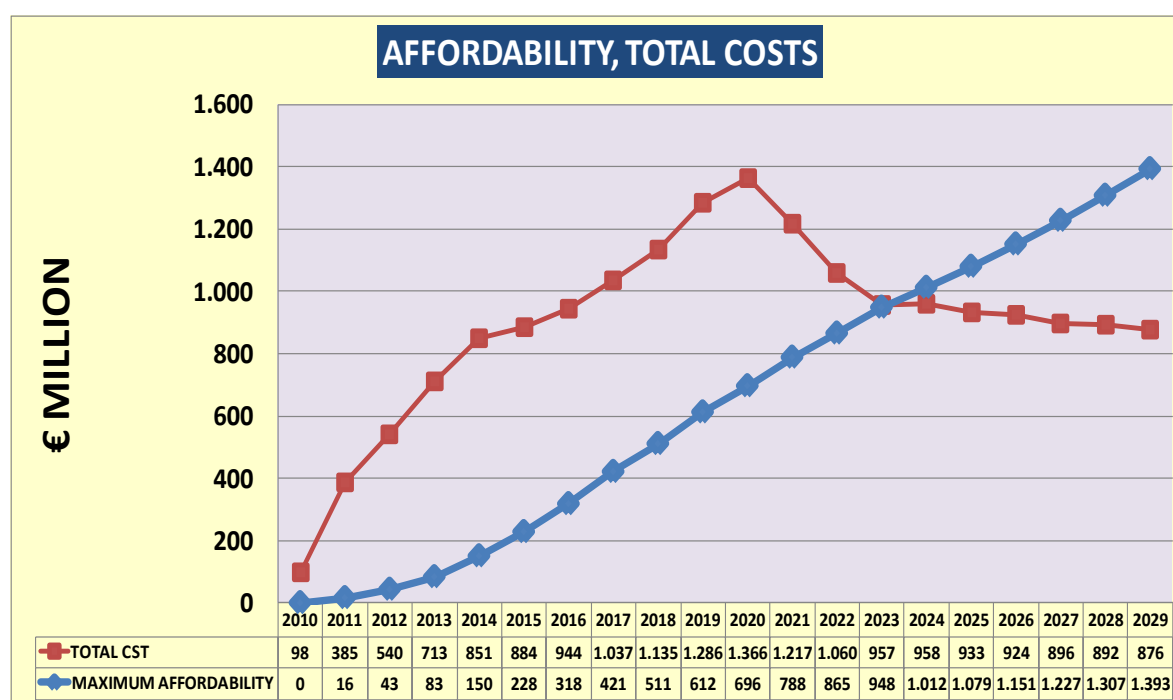


Figure 5: Capacity to pay Total Costs

The impact of the approximation effort on Serbia's GDP is shown below.

which can be developed at a later stage, using improved statistical data and

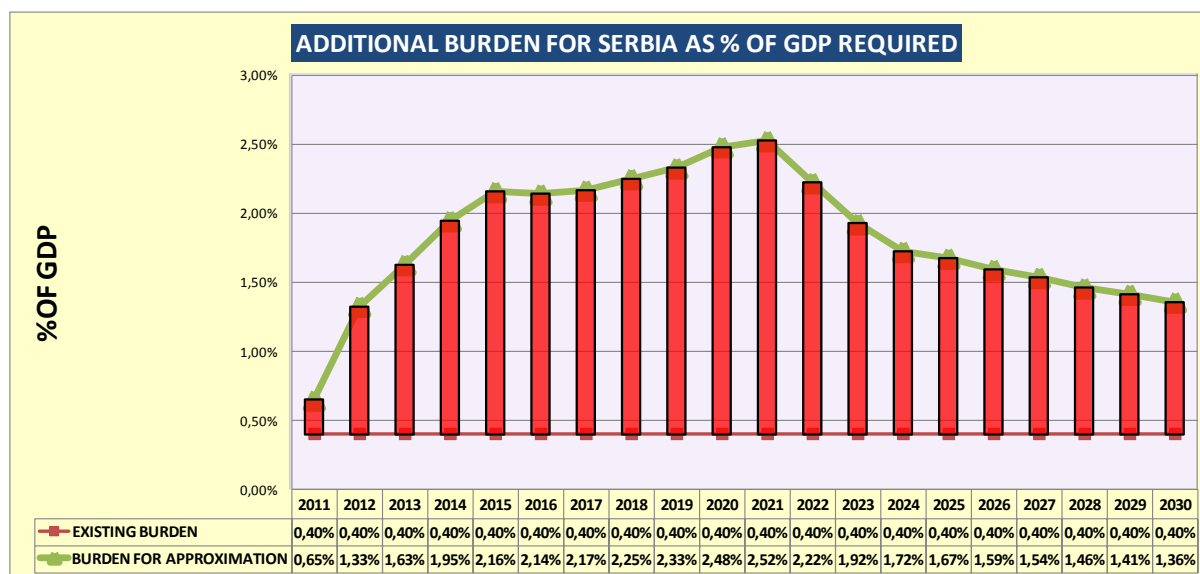


Figure 6: Burden on Serbia as % GDP

Additional GDP allocated to the environment sector will reach 2.1% in 2021, for a total of 2.5%, including the present 0.4%. If the true figure of the present GDP going to environment is closer to the 0.9% as suggested above, the total burden could reach 3%. This is still a manageable figure and in line with the experience in other transition economies.

#### 4.2.4 The Funding Gap

A simplified macro-economic financial plan has been elaborated so as to provide basic indications regarding magnitudes and core methodology for a more detailed model

employing greater resources.

For the objectives of this NEAS, it constitutes a **reasonable, simplified but complete Financial Plan**, taking into account the major elements that affect multi-annual programming for the approximation effort.

The first calculation that must be made in order to prepare a Financing Plan is the "Funding Gap", defined as the amount of cost that cannot be recovered from user charges. This will be the difference between total cost and affordability. It is defined, on an annual basis in Figure 7.

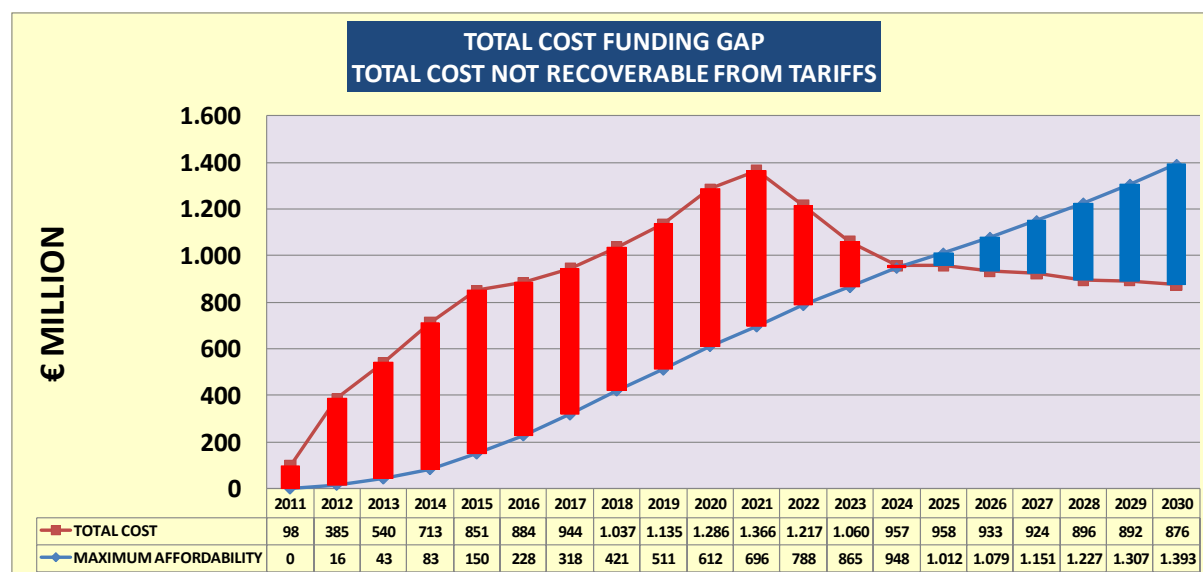


Figure 7: Funding Gap

This implies that Serbia will require external support until 2024, when affordability will be able to generate sufficient funds to offset all costs and to commence repayment of the non-grant support required until that date.

#### 4.2.5 Financing the Gap

The funding gap after cost recovery must be covered by a mix of instruments, including:

- EU grants. IPA III, IV and V during the Candidate phase, which is estimated to commence in 2012 and to finalise in 2019 (the assumed date of accession), when Structural Funds would become available. This assumption is needed for the Financial Plan as the amounts of grants will increase substantially upon achieving the membership status.
- Net Financing without recourse to Government. This includes a mix of IFIs, domestic and other commercial banks, Project Finance from KfW and other specialised sources, direct loans to projects (EBRD, EIB, etc.) without recourse to government, i.e. no direct state guarantee or other forms of support that imply that the risk is totally

or partially allocated to the public sector. Based on prior experience in other approximation processes (most notably and recently in Romania), this is estimated at 22% of investments, with repayment schedules of 15 years, a grace period of three years and average interest rates of 6%.

- Other donors. This includes direct support from project donors, TA and specific project components. Such sources amount to approximately 4% of the effort.
- Industry/commercial direct investments and private investors. Industry is expected to contribute 6.9% of cost on the basis of the overall industrial/commercial share in expenses on utilities of 27.5% of total Household Income. Private investment is a variable factor, but is estimated to account for 6% of investment needs. It must be noted that private sector investments have a strong dynamising effect and special emphasis should be made to create favourable conditions, especially in sectors such as waste, where project viability is higher and public sector support should be minimised.

- The remaining gap will have to be financed by the public sector through a variety of instruments, which include:
  - a. Central Budget;
  - b. Local Self-Government Budgets;
  - c. Other public sector institutions (SEPA, National Investment Plan (NIP));
  - d. Economic instruments, most prominently the SEPF and the water fees collected by the Water Directorate and Regional Water Bodies.

The portion remaining after these contributions will also have to be financed by the Public Sector, this time through financial instruments (for example, an EBRD line for environmental projects co-financing).

The Financing Plan is summarised in table 10 below to provide an indication of the magnitudes involved.

The results indicate a need for a relatively strong public sector support. This need is further detailed in table 11 below.

Table 10: Summarised Financial Plan

FINANCIAL GAP COVER													
€ million	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030	
<b>TOTAL COST</b>	<b>98</b>	<b>385</b>	<b>540</b>	<b>713</b>	<b>851</b>	<b>884</b>	<b>944</b>	<b>1.037</b>	<b>1.135</b>	<b>1.286</b>	<b>958</b>	<b>876</b>	
<b>COST RECOVERY (INCREMENTAL)</b>	0	16	43	83	150	228	318	421	511	612	958	876	
<b>EFFECTIVE EU GRANTS RECEIVED</b>	12	20	28	33	41	50	50	50	117	185	252	630	
<b>NET FINANCING (NO GOVT. RECOURSE)</b>	19	75	98	127	137	123	109	105	102	114	-48	-73	
<b>OTHER DONORS</b>	7	27	36	47	53	50	49	52	54	62	18	3	
<b>COMMERCIAL &amp; PRIVATE SECTOR</b>	11	44	57	75	85	81	79	83	88	100	29	4	
<b>REQUIRED FROM PUBLIC SECTOR</b>	<b>-50</b>	<b>-204</b>	<b>-278</b>	<b>-348</b>	<b>-385</b>	<b>-352</b>	<b>-338</b>	<b>-326</b>	<b>-264</b>	<b>-213</b>	<b>250</b>	<b>564</b>	

Table 11: Public Sector Support

PUBLIC SECTOR SUPPORT												
€ million	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
<b>REQUIRED FROM PUBLIC SECTOR</b>	<b>-50</b>	<b>-204</b>	<b>-278</b>	<b>-348</b>	<b>-385</b>	<b>-352</b>	<b>-338</b>	<b>-326</b>	<b>-264</b>	<b>-213</b>	<b>250</b>	<b>564</b>
<b>DOMESTIC FUNDING SOURCES</b>												
MEMSP	10	10	11	12	12	13	13	14	15	15	20	25
SEPA	0	0	0	0	0	0	0	0	0	0	0	0
SEPF *	63	80	97	114	120	126	132	139	146	153	195	249
LSG	45	47	50	52	55	57	60	63	66	70	89	114
NIP (OR EQUIVALENT)	4	4	4	4	5	5	5	5	6	6	8	10
WATER DIRECTORATE**	52	55	57	60	63	66	70	73	77	81	103	131
<b>PUBLIC SECTOR RESOURCES</b>	174	197	219	242	255	267	281	295	309	325	415	529
<b>PUBLIC SECTOR FINANCING NEEDS</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-48</b>	<b>-179</b>	<b>-264</b>	<b>-322</b>	<b>-354</b>	<b>-308</b>	<b>-196</b>	<b>0</b>	<b>0</b>
<b>EXCESS FUNDS CARRIED FORWARD</b>	<b>124</b>	<b>117</b>	<b>57</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2.199</b>	<b>6.201</b>

\*SEPF on basis of 2010-2012 Budget and estimated collection ratios of 50% 2011; 70% 2012; 80% for 2013 and 90% from 2014 onwards.

\*\* Water Directorate Funds collected are much higher, but overcommitted to maintaining public supply storage and bulk distribution networks. The € 52 million indicated in 2011 are the part of the funds collected that are earmarked for environmental projects.

The last two columns indicate, on an annual basis, the additional financing required by the public sector, “public sector financing needs”, or the excess capacity that may be generated by the domestic funding sources, “excess funds carried forward”.

#### 4.2.6 Main Conclusions

Special attention should be paid to:

- The capacity to mobilise latent affordability at domestic level

Optimising cost recovery from end polluters through user charges and the various economic instruments is not just financially desirable; it is an absolute requirement of the EU Grant Scheme.

The EU subsidises the part of an eligible investment that cannot be afforded at domestic level. The grant is the part of the investment that cannot be recovered from

user charges. User charges need to be raised to the Maximum Affordable Tariff (MAT) in the shortest time possible.

The main institutions that are involved in this process are the PUCs at LSG level. Thus, in this context, all efforts to accelerate the formation of economically and financially viable PUCs must be a central government priority as it will serve the best interests of Serbia by aiding the mobilisation of EU grants, key to improve the living standards of the Serbian people.

Capacity must be built up at EPU level to provide guidance as required regarding the setting of MATs and Full Cost Recovery Tariffs (FTC). This will require expertise within the EPU in the field of affordability calculation and in the development of tariff policy.

- The capacity to ensure rapid and full mobilisation of available EU funds

Under IPA III, IV and V a significant testing of the local institutional capacity will take place. However, it must be noted that the expected volumes will remain approximately the same (€ 200 Million per annum, overall, with some €40 Million to Environment). Projects will continue to be large, clearly prioritized and few in number. The stress will come, in 2012 and 2013, from the procedural innovation that DIS implies, from the requirements to contribute to the definition of the Operational Plan (OP) Environment and from the need to provide adequate Directive specific Implementation Plans for negotiation of Chapter 27.

As from membership onwards, however, the stress will emanate from the increase of available funds. Funding can be expected to increase from € 1.4 Bn over a 7 year period to the full €1.4 Bn per annum.

To date, we must note that this phase has caught all new 2004 EU members by “surprise” with, in many cases, not even basic capacities in programming, planning and the economic policy functions described.

The opportunity cost of such lack of anticipation, has been very high, further compounded by the lack of co-financing planning.

- Further evolution of the SEPF so as to provide a substantial boost to public sector funds for environmental projects;
- Under the predicted scenario, the public sector additional support not accruing from existing sources would require an additional € 360 million in 2018;
- As from 2019 onwards, the combination of increased grant support upon assumed EU membership and increasing affordability will provide a strong capacity to both repay prior

finance and broaden support for the environment.

#### 4.2.7 Proposed Actions

In the economic area a number of important actions are needed. The actions can be either general, or specific for the Ministry of Environment, Mining and Spatial Planning

##### **General**

##### **Short term (2011-2014)**

- Carry out an Environmental Infrastructure Audit to clearly establish the situation in Serbia regarding the state of environmental infrastructure and of utility service providers. This will clarify the “starting position” vis-à-vis the preparation of the detailed Implementation Plans for negotiation with the EU;
- Carry out an Affordability Study at national and at least regional levels so as to provide affordability references and benchmarks;
- Develop a Grant Programming Tool, with flexibility between sectors. The programming of grants must be related to external factors including alternative funding opportunities. Priorities between sectors must be established and duly programmed for planning purposes. Distribution of grants must be flexible between sectors and re-programmed on an ongoing basis;
- Restructure the SEPF in view of its high potential for revenue generation in order to avoid overpricing in some sectors (e.g. special streams of waste) and to allow flexible use of funds across subsectors and even sectors<sup>18</sup>.

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<sup>18</sup> This is in line with IPA III and the EU multiannual programming objectives.

### **Medium-term (2015-2019)**

- The public sector should contract a flexible drawdown financing line for ready co-financing of environmental projects. The Financing Plan indicates that an amount of approximately € 360 million would be sufficient. The amount and timing of this financing instrument will depend, to a large degree, on the evolution of the SEPF, which should be monitored closely.
- Reform the PUCs, which play an extremely important role in the approximation effort, since they are key for cost recovery. Increase their scale of operations, with extension and modernisation of their services. PUCs will be the recipients of the largest portion of grants.
- Eliminate the present heavy cross-subsidisation of tariffs and provide reference parameters for harmonised service charges that relate service levels to costs.
- Establish the concepts of “Maximum Affordable Tariffs” and “Full Cost Recovery Tariffs” as reference parameters for project evaluation and the setting of tariffs.

### ***Ministry of Environment, Mining and Spatial Planning***

#### **Short term (2011-2014)**

- Complete the Decentralised Implementation System (DIS) for EU funds before the end of 2011 (i.e. prior to candidate status). MEMSP will become an “Operating Structure” which entails significant additional administrative and planning expertise;
- In parallel, prepare directive-specific Implementation Plans. Target date: before the end of 2012;

- Create a small but specialised Economic Policy Unit (EPU) within the MEMSP, including a staff of at least two economists;
- Urgently request TA from IPA IV (Human Resources) in at least the following specialized areas, so as to meet the major challenges faced by MEMSP regarding the directive-specific Implementation Plans and the Chapter 27 negotiation from 2012 onwards:
  - EU grant objectives and procedures;
  - The DIS operational procedures;
  - Cost Benefit Analysis (CBA);
  - Affordability and tariff setting;
  - Financial planning and modelling.

### **Medium-term (2015-2019)**

- Create the capacity to mobilise the latent affordability at domestic level;
- Create capacity for ensuring rapid and full mobilisation of available EU funds.

### **4.3 Strategy for Institutional Approximation**

The institutional approximation strategy is designed to ensure that adequate institutional arrangements are in place for the Government of Serbia to successfully negotiate Chapter 27 of the Acquis with the EU Council, to implement and enforce the environmental legislation and to successfully draw the EU grants available to Serbia in the field of the environment.

It should be stressed that the EU legislation does not prescribe how to organise the competencies of the national authorities for implementation of the Acquis, provided that the competencies are clearly delineated and do not prevent full implementation. However commencement of the approximation process does provide a unique opportunity to review existing

institutional arrangements and consider options for improvement in performance.

Continuing “business as usual” is unlikely to be sufficient as there is unsatisfactory cooperation and coordination between institutions at present (see Institutional Gap Analysis). The strategy proposed is similar to that adopted by the Czech Republic during its accession negotiations. It is based on the revitalisation of the existing Chapter 27 sub-working group, and a series of technical working groups. This is set out in detail in chapter 5. While this strategy requires significant effort and many meetings, it will be sufficient to enable Serbia to conduct effective negotiations with the European Council. It should be noted that adoption of this strategy does not preclude subsequent adoption of more radical strategies, such as the establishment of a much larger Environmental Protection Agency than today’s SEPA in order to optimise the use of staff resources. These options will be further considered by MEMSP.

The revitalised Chapter 27 sub-working group will perform three main functions:

- Coordinate Chapter 27 *approximation* activities across all Ministries;
- Coordinate Chapter 27 *implementation* activities across all Ministries;
- Provide the information necessary to conduct the future negotiations with the EU Council (see Chapter 6).

The Chapter 27 sub-working group will be chaired by a State Secretary and meet approximately once a month. The sub-working group will compose of a representative from each environmental sector plus a representative from each of the five ministries listed in section 2.4.3, as well as a representative of the Ministry of Finance.

## Proposed Actions

### Short term (2011-2014)

- **Changes in Administrative Operations.** These are set for both inside and outside MEMSP. The main areas set for change are:
  - a. Inter-ministry coordination and cooperation. This will be managed via the Chapter 27 sub-working group described in section 4.3. The Environment Sectoral Representatives (ESR) on the sub-working group will co-ordinate the activities of the working groups in their sector, established under the seven sectoral strategies. Each ESR will arrange regular meetings of the chairpersons of the working groups in their sector. In this way the ESR will monitor progress on every piece of the environmental Acquis and be in a position to report on progress to the Chapter 27 sub-working group. The aim is that all issues of coordination and cooperation between ministries are managed at working group level and only in difficult cases brought to the Chapter 27 sub-working group for resolution. The activities of the working groups should be supplemented by the work of the Collegium and its members in issues either concerning the management of MEMSP or that are cross-sectoral in nature;
  - b. Internal Management System – Human Resources (HR). A senior assistant minister will be placed in charge of HR and budgetary issues of the MEMSP and assist coordination between assistant ministers. One focus of HR will be staff assessment which will be conducted for each staff member by

- the line manager together with an HR Representative. These assessments will relate to the level of personal performance;
- c. Internal Management System – Policy Development. One focus for the Collegium of the MEMSP will be to provide strategic policy development on issues such as: funding accession; Information Technology (IT) Applications; MEMSP Management System; change management; institutional arrangements; cooperation, communication and staff training; permits, procedures and enforcement; law drafting practices. Project groups may need to be established to examine such issues in more detail. As the MEMSP is responsible for issuing many types of permits and their enforcement, this issue will be reviewed in the short term at the strategic level, with a view to optimising the use of staff resources in this area;
- d. Staff Training. The staff assessment will include a training needs assessment (TNA). The individual TNA will be used to develop an annual training plan for all MEMSP staff.
- **Interface with Provincial Administration.** This interface will be further developed by ensuring representation of the Provincial Administration on every working group established under the sectoral strategies. Provincial issues will be addressed at every meeting to promote cooperation between the Provincial and central levels of administration. Any major difficulty encountered will be brought to the attention of the Chapter 27 sub-working group.
  - **Changes in Administrative Structures.** It is recognised that the overall numbers of staff available are probably sufficient for the implementation of the Acquis, although the allocation of staff under the current Systematisation does not make optimal use of staff resource. The meetings of the working groups will be used to develop directive-specific Implementation Plans and, as part of these plans, staff requirements will be reviewed. When beneficial, transfer of staff between institutions, such as the recent transfer of staff from RHSS to SEPA, will be undertaken.
- Medium-term (2015-2019)**
- **Interface with Local Self Government (LSG).** It is recognised that LSGs have considerable responsibilities for environmental issues devolved to them under national legislation. The working groups (established under the sectoral strategies) will review any such devolvement with representatives of certain selected, representative LSGs to ensure that adequate resources are available for the implementation of the relevant part of the Acquis. In cases where resources are inadequate, the working group will either recommend that the LSGs must provide the resources, or that responsibility should revert to national level. The working groups will also review the adequacy of training and guidance in the implementation of the Acquis for LSGs.
- Each LSG has one or more associated PUC responsible for waste, water supply and waste water collection and treatment<sup>19</sup>. Most of the PUCs, with the exception of those in the three largest

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<sup>19</sup> These PUCs are often also responsible for other municipal services such as street cleaning, cemeteries, etc.

cities, are relatively small when compared with the size of operation needed to achieve reasonable economies of scale and adequate levels of specialisation. The MEMSP will review the utility operations in the solid waste and water services of each PUC to ensure that they are of an adequate scale and capable of achieving international benchmarks for efficiency. In short each PUC must have the capacity to meet the requirements of the environmental Acquis in relation to solid waste and water services in an economically efficient manner<sup>20</sup>. In cases where such capacity does not exist, the Government and/or MEMSP will merge PUCs until the consolidated capacity is sufficient. In the case of solid waste, each single service area should have approximately 400,000 inhabitants in order to achieve suitable capacity, while in water services the threshold should be about 200,000 inhabitants per service area. It is recognised that the consolidation of PUCs activities is vital to develop a pipeline of viable projects to ensure the drawdown of EU funds.

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<sup>20</sup> The question of the financial sustainability of service operations is a key criterion applied by all funding bodies when considering the provision of support for capital investments.

## 5 STRATEGY FOR ENVIRONMENTAL APPROXIMATION BY SECTOR

### 5.1 Introduction

The NEAS represents a framework for chapter 27 Environment and is not an exhaustive manual of action. Its character and degree of formalisation (adoption by the Government of Serbia) does not allow for the kind of specificity that is needed for a more detailed action plan. Two additional levels of approximation planning in the environmental field will be available:

- Sector strategies – these focus on the specific environmental sectors and provide full detail on the scope of the Acquis, the current state of approximation in the sector, strengths and constraints, requirements for change, proposed actions, the implementation programmes, cost estimates and an investment programme, the next steps in transposition and where further technical assistance would be appropriate. The sector strategies contain a vast amount of detailed information which has been used as support for drafting the NEAS. An abstract of these sector strategies is provided further on in this chapter;
- Directive-specific Implementation Plans – for each directive, these will contain the following elements: the responsible institutions, the main objectives of the directive, the current state of implementation, the plan for meeting requirements of the directive, requirements to the date of accession, identification of problem areas, identification of stakeholders, institutional, material and personnel needs, costs and financial resources, economic impacts, and identification of support projects.

An application of the NEAS in isolation from these sector strategies and implementation plans would not be sufficient to guarantee a successful approximation and a confident position for accession negotiations. Conversely, individual piecemeal approaches, even with best intentions, would not work without the systemic changes and actions envisaged by this NEAS. The NEAS, sector strategies and ultimately directive-specific implementation plans therefore form a coherent framework, although with varying level of detail.

To establish the necessary link to sector specific approaches, this chapter provides an overview of basic features, issues, approaches and institutional settings of each of the environmental sectors. As will be evident, each environmental sector requires a different approach, although there are clearly many commonalities and interfaces between them.

The following sectors are outlined below and addressed in full by sector strategies:

- Horizontal
- Air Quality and Climate Change
- Industrial Pollution and Noise
- Nature Protection
- Chemicals and Genetically Modified Organisms (GMOs)
- Water
- Waste

Administrative costs represent relatively marginal part of overall costs, but nevertheless must be addressed and planned for by the public administration bodies. These can be specified per each environmental sector, as they will in the sector strategies, but the overall administrative costs are provided in the

following two tables, according to sectors and time distribution.

Table 12: Total administrative costs over 2011-2030

ADMINISTRATIVE COSTS	€ million
WATER	146
WASTE	171
INDUSTRIAL POLLUTION & NOISE	93
NATURE PROTECTION	10
AIR QUALITY & CLIMATE CHANGE	93
CHEMICAL & GMOs	23
HORIZONTAL	-
TOTAL ESTIMATE	536

Table 13: Distribution of estimated administrative costs

	SHORT TERM				MEDIUM TERM				
	2011	2012	2013	2014	2015	2016	2017	2018	2019
ADMIN COSTS	13	38	52	52	49	37	35	37	39

This is the total estimated cost (in millions of Euro) for the entire public administration system involved in the environmental Acquis, including the costs of studies and training.

It is planned that each item of the environmental Acquis becomes the responsibility of a Working Group that will develop an Implementation Plan for each directive, regulation or decision. Each Working Group would be chaired by a person, typically at the level of a head of department, appointed for this purpose. The exact number of Working Groups may be increased or decreased in order to meet the work load. For example it might be decided to combine the Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) working groups thereby reducing the number of groups and meetings required. Equally in the case of complex directives such as the Water Framework Directive, the establishment of a number of associated sub-working groups may be required at least on a temporary basis when the workload is heavy.

Membership of the Working Groups must be agreed, after which attendance at the Working Group meetings should be mandatory. Working Groups should meet usually about once per month, but again the frequency can be varied depending on work load.

## 5.2 Horizontal Sector

There are nine main directives that make up the horizontal Acquis. No additional staff resource is recommended to be allocated at this time to this sector.

There are legal and implementation gaps in the EIA and SEA laws that have to be rectified, to ensure these processes fit into the overall environmental planning framework. The correct transposition and application of EIA and SEA Directives is very important, since they are directly linked to programming and project preparation for the EU pre-accession as well as structural funds and their application is closely watched by the European Commission.

Transposition of the Directives on access to environmental information, environmental liability and the INSPIRE Directive still has to be completed. It might be considered to link the requirement of the Environmental Liability Directive to provide forms of 'financial security' to the tasks of the SEPF.

From the economic and financial point of view, the Horizontal Sector is not a significant issue. Costs will be incurred by

the various administrations in the necessary development of their functions but the amount will be small compared to implementation costs and much of the expense can be supported by future TA projects.

It is planned that a maximum of seven Working Groups would be established in this sector to manage the EIA, SEA, Access to Information, Access to Justice, Environmental Liability and INSPIRE Directives and the European Pollutant Release and Transfer Register (E-PRTR). Membership of the Working Groups should include MEMSP (including legal, technical and Control and Surveillance (C&S)), Water Directorate, SEPA, Republic Geodetic Authority (RGA), Public Health Institutes (PHIs), Autonomous Province (AP) Vojvodina, City of Belgrade, LSGs and PUCs.

### 5.3 Air Quality and Climate Change

The MEMSP is the lead institution in this sector through its Air and Climate Change Sections. SEPA, AP Vojvodina and the LSGs are responsible for monitoring air quality. The approximation process in relation to air quality is relatively well advanced, although in contrast work in relation to the emissions trading directive in the Climate Change sector is just starting.

There are forty four pieces of EU legislation in this area. As regards the implementation of Ambient Air Quality and Cleaner Air for Europe Directive and the Emission Trading Directive, these should be provided with additional staff resources in the MEMSP.

Preparation for transposition in the area of the National Emission Ceilings (NEC) Directive is well advanced. Prior to further transposition work on the Emissions Trading Directive some fundamental policy

issues need to be decided, including setting of emission targets for NO<sub>x</sub>, SO<sub>2</sub>, heavy metals, persistent organic pollutants (POP) and the basket of six greenhouse gases. Once decisions have been reached on these matters, Serbia should accede to the Convention on Long Range Transboundary Air Pollution (CLRTAP) Protocols to which it is not yet a Party and meet its obligations under the (post-) Kyoto Protocol.

Planning and transposition work for the Emissions Trading Directive should commence immediately with a view to Serbia entering the Emissions Trading Scheme by 2016. Meanwhile transposition of the Air Framework Directive and of its daughter should be finalised and thereafter transposition of the Emissions Ceiling Directive commenced.

The Ministry of Infrastructure and Energy (MIE) has the lead for the transposition of Directives related to the quality of fuels and to automotive emissions but MEMSP should be an active stakeholder for this work.

From the economic point of view, the greatest costs arise in the Quality of Petrol and the Volatile Organic Compounds (VOC) Directives. On a short term basis, the completion of the Inventory and the Monitoring system will have a high priority.

The cost of approximation in this Sector will be €652 million, which is 6% of the total cost of approximation in the environmental sector.

It is planned that a maximum of seven Working Groups would be established in this sector to manage the Air Quality, Emissions Ceilings, Fuel Quality, Automotive Emissions, Emissions Trading, GHG Emissions and VOCs. Membership of the working groups should include MEMSP (including legal, technical and Inspectorate),

MIE, Ministry of Agriculture, Trade, Forestry and Water Management (MATFWM), Ministry of Economy and Regional Development) (MERD), SEPA, Serbian Chemicals Agency, PHIs, Accreditation Board of Serbia (ATS), Customs Administration, AP Vojvodina, City of Belgrade and LSGs.

It has been recommended that the Large Combustion Plant Directive be handled by the Industrial Emissions Working Group, as the LCP Directive will be repealed by the Industrial Emissions Directive in January 2016.

#### 5.4 Industrial Pollution and Noise

The MEMSP is the lead institution in the sector through its IPPC and Noise Departments. MEPSP is the main institution for the issuing of IPPC Permits although both AP Vojvodina and the LSGs also have responsibility. The Noise Department has overall responsibility for noise, with SEPA having the main responsibility for noise mapping. The MEMSP is also the lead institution for the Seveso Directive, although the Ministry of Interior also has a significant role.

There are nineteen pieces of EU legislation in this sector. Additional resources should be allocated to meet the requirements of the Large Combustion Plants Directive and the Industrial Emissions Directive (recast of the Integrated Pollution Prevention and Control Directive 2008/1/EC).

Before Serbia's accession to the EU, the Industrial Emissions Directive will have repealed seven Directives, including the Large Combustion Plant and Integrated Pollution Prevention and Control (IPPC) Directives, which have long dominated the scene in this Sector. Moreover, this new directive integrates and makes binding what

used to be recommendations for environmental inspections. To adapt to this new scene, a major transposition effort is required.

Implementation of the Environmental Noise Directive is already scheduled to be completed before accession. Noise emissions from equipment, cars, railways, and aeroplanes are internal market issues where MIE has the lead role but MEMSP should be an active stakeholder.

From the economic point of view, flue gas desulphurisation of the thermal power plants will be the most expensive component with estimated investments of € 549 million. Remediation of contaminated sites will require an additional € 470 million.

The transition periods calculated for LCPs, including thermal power plants and heating plants, reach 2020 with a final 3 year extension to 2023 for closure or compliance at a productive rate of no more than 50% capacity, these dates being set in the new Industrial Emissions Directive.

The cost of approximation in this sector will be €1,340 million, which represents 13% of the total cost of environmental approximation.

It is planned that four Working Groups would be established in this sector to manage the Industrial Emissions Directive (IED), Seveso II, Environmental Management and Audit Scheme Regulation (EMAS)/Eco Labelling and Noise directives and regulations. The IED working group will have two sub-groups to specialise in LCP and water issues. The IED Working Group should also consider the other six directives that will have been repealed by IED and agree how the new IED will be implemented. The six directives are cross referenced previously in this section.

Membership of the Working Groups would include MEMSP (including legal, technical and C&S), MIE, Ministry of Interior, Water Directorate, SEPA, PHIs (Authorised Laboratories), ATS, Serbian Railways, Airport Authorities, Roads Authorities, AP Vojvodina, City of Belgrade and LSGs.

The IED and Seveso Working Groups should hold joint meetings at least once per year to assess the implementation of both directives and the important interface between the two.

The EMAS and ECO-Labeling Regulations are low priority and work can be postponed for some time in order to release resources for more urgent issues.

It is proposed that there is a single working group for noise issues chaired by MEMSP, although most of the directives fall to the MIE to transpose and implement. However given the heavy overlap between all noise directives when it comes to implementation, a single working group is recommended.

## 5.5 Nature Protection

There are ten main pieces of EU legislation in this sector.

The Law on Nature Protection should be rationalised. Natura 2000 sites should be assigned the role they deserve in the overall legal framework for protected sites. Implementation of the Birds and Habitats Directives requires an early attention, since the mapping and designation of protected sites to be included in the Natura 2000 network is a process taking several years and should not be underestimated.

Serbia is a Party to the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) Convention, and that will make

implementation of the EU Regulations on Endangered Species relatively easy. This matter should be tackled together with the issue of transposing/implementing Directives/Regulations on animal welfare and trade in species.

From the economic point of view, the main costs incurred will be in the management of the Natura 2000 sites, which up to 2030 will account for € 72 million (in NPV terms). Regarding the designation of sites, the main cost will be in transaction costs, which are the costs of purchasing, or securing by other means, control of these sites. These costs, which are highly variable from one country to another, are estimated at €46 million on the basis of the surfaces planned for the sites and prior experiences in transition economies.

Overall, the approximation cost in Nature Protection is estimated to be €139 million, which is 1.3% of the total cost. A substantial amount will be obtained from the LIFE programme<sup>21</sup> (Natura 2000).

It is planned that one working group would be established in this sector to manage the Wild Birds Directive, the Habitats Directive and all other nature protection directives. Membership of the working group would include MEMSP (including legal, spatial planning, technical and Inspection), MATFWM, Water Directorate, the Institute for Nature Conservation in Serbia, SEPA, National Parks, Public Forestry Enterprises AP Vojvodina, City of Belgrade and LSGs.

## 5.6 Chemicals and GMOs

There are twenty seven pieces of EU legislation in the sector. A need for additional resources has been identified in

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<sup>21</sup> EU financial instrument supporting environmental and nature conservation projects

relation to the Ozone Layer Depleting Substances Regulations.

In the chemicals sector, most of the EU legislation consists of Regulations. Serbia has made due diligence to adopt laws as a substitute to the direct applicability of EU Regulations. Thus, much of the post-accession work needs to be carefully prepared and will repeal any current Serbian law that may be in conflict with the “direct application” effect of EU Regulations.

The Serbian Chemicals Agency should also attune its activities towards the contribution that the European Chemicals Agency (ECHA) will require from Serbia.

The Directives on Good Laboratory Practices and on Animal Experiments need to be further transposed. Serbia has struggled to align its GMO legislation to meet both World Trade Organisation (WTO) and EU requirements. Amending legislation that would resolve these problems has been on the agenda of the National Assembly for some time now.

From the economic point of view, the main costs in this sector that are not included in others (VOCs, fuel, Remediation of contaminated sites, etc.) are for GMOs and the Asbestos Directive, which require estimated investments of € 28 million and € 25 million respectively.

Costs of approximation in this Sector will amount overall to € 105 million, which is 1% of the total costs. Caution must be used when evaluating costs of a specific sector as, by nature, environment is multi-sectoral and, as explained previously, solving the problems in one area may also reduce them in another. This applies especially to chemicals, which are present throughout the entire spectrum of industrial production.

It is planned that a maximum of three working groups would be established in this sector to manage the Regulation on Registration, Evaluation, Authorisation and restriction of Chemicals (REACH) and associated legislation, Genetically Modified Micro-organisms/GMOs directives and the Good Laboratory Practice and Animal Experimental Laboratories. Membership of the working groups would include MEMSP (including legal, technical and C&S), MATFWM, Ministry of Health, Serbian Chemicals Agency, ATS, PHIs, and Customs Administration.

The Working Group on Good Laboratory Practice should confirm that it is responsible for all of the animal laboratory welfare Acquis.

## 5.7 Water Management

There are thirteen pieces of the EU legislation in the sector. Two of them would require additional staff resources: Water Framework Directive and the Urban Waste Water Treatment Directive.

The Water Law 2010 largely transposes the Water Framework Directive but some key issues remain unresolved:

- a clear designation of the competent authorities in charge of the implementation of the river basin management plans;
- the requirement to achieve cost-recovery is insufficiently developed;
- the provisions on ownership of riparian land and land adjacent to flood protection dikes confer an exorbitant power to the authorities;
- the deadline of 15 years to achieve “good ecological status” is missing.

The Water Law only partially transposes the Directive on Flood Risks.

The water permit system is being overhauled in the Water Law 2010. This should be done in line with the Acquis, particularly with the Water Framework Directive and the IED.

The Water Law should be revised and should also transpose the Directives on Discharges of Dangerous Substances, on Fresh Waters supporting Fish Life, on Bathing Waters, on Urban Waste Water Treatment and on Nitrates, which currently have no equivalent in Serbian law.

This sector is – by far – the most costly regarding the approximation effort. Costs are estimated at € 5,552 million and include three of the five “Heavy Investment Directives”: Urban Waste Water (UWW), Drinking Water (DW) and Nitrates. Together, they account for 53% of the total cost of approximation.

This sector also has the greatest implications for other sectors, as water is the recipient of pollution from many sources and abating pollution in the aquatic element implies close interaction with the polluters and an integrated management of the water cycle and river basins.

UWW costs are estimated at € 3,204 million and the transition period calculated is to 2030. The starting position regarding service levels is very low and this implies that massive investments are required. DW has a lower priority as service levels are higher. In addition, the DW directive is focused on the quality of water provided and thus there is a “two stepped” approach regarding approximation: (i) improving water quality being presently supplied to Acquis standards and, subsequently, (ii) extending the service.

Differentiating these components is technically complicated and clashes with domestic policies, so in the cost estimates

compliance on quality and extension of the system was assumed, with a transition period to 2030. Costs will amount to € 1,275 million.

The Nitrates Directive is linked to both the IED and the UWW Directive. The costs of the Nitrates Directive are calculated at € 928 million. The transition period estimated is to 2025.

The economic strategy in the Water Sector must aim at accelerating reforms at the PUC level, so as to achieve necessary economies of scale and modernisation and specialisation of services. The latent affordability that can and must be tapped upon service extension and improvement will constitute the major component of cost recovery and this will be achieved through the PUC network.

There is a backlog of necessary investments in the bulk water sector which must be addressed before service levels to the public can be effectively extended.

It is planned that a maximum of five working groups would be established in this sector to manage the Water Framework and associated directives, Urban Waste Water Treatment Directive, Nitrates Directive, Groundwater Directive, and the Drinking & Bathing Water Directives. Membership of the working groups would include MATFWM, MEMSP (including legal, technical and C&S), Ministry of Health, Ministry of Finance, Water Directorate, SEPF, SEPA, PHIs, AP Vojvodina, City of Belgrade and LSGs and PUCs.

The group for the Urban Waste Water Treatment Directive should discuss implementation jointly with the group responsible for the Sewage Sludge Directive.

## 5.8 Waste Management

There are fifteen pieces of EU legislation in the sector. Three of them will require additional resources: the Waste Framework Directive, the Packaging and Packaging Waste Directive and the Landfill Directive.

Serbian law uses concepts that are not fully aligned with those used in EU law. The Law on Waste Management foresees too many by-laws that do not originate in the Acquis and whose usefulness is debatable. In contrast, other issues (by-products, end-of-waste, bio-waste, dealers and brokers of waste) are not addressed.

The planning provisions of the Law on Waste Management do not sufficiently address the obligation to draw up Waste Management Plans.

The Law on Waste Management should be revised in the medium term. The regulatory framework for the specific waste streams should be elaborated/revised in the medium term.

Construction of adequate EU compliant regional landfills is needed to maximise the reduction of negative environmental effects from landfilling of waste. Introducing of stringent technical rules for disposal of waste and construction of landfills is required. For big urban agglomerations (as for example Belgrade and Novi Sad) a mechanical biological treatment plant or a waste incineration plant instead of a landfill is worth serious consideration. After the commissioning of new sanitary landfills the existing dumps will be immediately closed and remediated.

In order to minimise costs for waste collection services and to improve preconditions for extension of waste services into urban areas, the existing PUCs are to be reorganised into stronger

and larger regional waste service providers with manageable fleets for waste collection. The establishment of effective waste collection systems and the installation of transfer stations are to be carried out taking into account minimisation of the total costs of collection.

The target to serve more than 90% of the Serbian population by 2019 is realistic if all available financial sources are activated in time and all existing projects for the construction of new sanitary landfills can be realised.

Separate collection of different packaging waste at the source with their pre-treatment in regional sorting plants to generate marketable recyclables should be further developed.

Furthermore a combined strategy should be prepared in the medium term to meet targets for reducing biodegradable waste going to landfills, home composting in rural areas, separate collection of bio-waste and composting of bio-waste in central composting plants in large cities. There will be no need for the latter if the choice is made for municipal waste to be treated mechanical-biologically or to be incinerated.

The “Hazardous Waste Movement Document” prescribed by the Serbian legislation is a satisfactory administrative procedure that meets the requirement for registration (“from the cradle to the grave”) for all hazardous waste.

Waste constitutes a special sector in the sense that more detailed action plans have been developed than has been the case in other sectors. The main cost will arise from establishing a fully compliant Municipal Waste Management System. Such a system includes the Landfill, Packaging, Batteries and WEEE directives and its

approximation costs are calculated at € 2,050 million.

Hazardous waste will account for € 316 million, mostly in OPEX costs. Construction waste cost is estimated at € 126 million.

The cornerstone of the National Strategy on Waste Management is the Landfill Directive with an ambitious construction programme for 26 Regional Landfills before 2019.

Overall, the approximation costs for the Waste Sector are estimated at € 2,796 million, which is 26% of the total cost of approximation in the environmental sector.

Unique to this sector is the development of effective economic instruments, the special waste streams charges, which are collected through the SEPF. There are strong indications that these charges may provide a substantial part of the finance required for the municipal solid waste system.

It is planned that one working group should be established in this sector to manage the Waste Framework Directive and all other waste directives except for the sewage sludge, waste from the extractive industries, waste incineration, Titanium Dioxide and Landfills directives. Membership of the working group would include MEMSP (including legal, technical and C&S), Ministry of Finance, Water Directorate, MATFWM, SEPF, SEPA, AP Vojvodina, City of Belgrade and LSGs and PUCs, and major retail groups and CSOs.

The Sewage Sludge Directive involves landspreading and should be discussed in the context of the Nitrates Directive. Implementation of this directive should be considered even at this stage as alternative routes for disposal of sewage sludge such as incineration or co-incineration may be attractive in some cases.

The Waste Incineration and TiO<sub>2</sub> directives will have been repealed by the IED from January 2014. New landfills already require an IPPC permit although the situation regarding existing landfills needs to be resolved. The Waste from the Extractive Industries Directive requires the issuing of permits quite similar to landfill permits. Implementation of these directives should be discussed with the Industrial Emissions Working Group in order to identify the optimum option for implementation.

## 6 FRAMEWORK FOR MONITORING APPROXIMATION PROGRESS AND FOR NEGOTIATION

The processes of approximation and accession negotiations are self-standing, yet closely linked. They have to be mutually informed about the progress of the other one, since e.g. evolution in the extent of planned transitional periods directly impacts on economic, but also legislative planning.

### 6.1 Monitoring of Approximation Progress

It is proposed that MEMSP retains overall coordination and tracking of approximation progress across the whole environmental Acquis. This will be carried out by the Chapter 27 sub-working group with the input from working groups chaired by the part<sup>22</sup> of the ministry or agency assigned to lead on the particular item of EU legislation.

These working groups will meet as frequently as necessary (indicative frequencies are included in the Sectoral Strategies) and will include representatives of every relevant stakeholder. An indicative list of stakeholders is also included in the Sectoral Strategies. The working groups will discuss progress and delays, and report to the Chapter 27 sub-working group via the relevant ESR. The chairpersons should also bring the results of the work to the attention of “their” Assistant Minister(s). The Chapter 27 sub-working group informs the negotiator for Chapter 27 (see below).

In the sector strategies, the main legal requirements and institutions involved are set out for each directive. These institutions are going to have to work together in order to ensure the process of approximation can be completed and to ensure that the

Serbian negotiator of Chapter 27 is kept fully informed of progress in transposition and implementation. Equally the negotiator must be kept informed of any delays and, if these cannot be resolved, to bring them to the attention of the Minister for resolution.

The working groups should be free to identify changes in legislation, institutional arrangements, work practice, communications, coordination practice, funding requirements and training needs. These issues should, in turn and as appropriate, be brought to the attention of the relevant Assistant Minister and the Chapter 27 sub-working group.

Each directive or regulation should have a person who is responsible for monitoring progress across all institutions in relation to that particular directive or regulation. Such persons should be appointed as the chairperson of the working group and given the authority to call regular meetings to be attended by representatives of each institution involved. Each representative should have a deputy. Failure by any institution to attend a meeting should be noted as a “delay” by the chairperson and reported to both the chairperson of the Chapter 27 sub-working group and the negotiator.

Working groups chair persons should organise meetings of all representatives usually on a monthly basis, with the frequency of such meetings either increased or decreased depending on the level of progress made and the needs of approximation planning or progress in negotiations.

The frequency of meetings and the membership of the working groups can be

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<sup>22</sup> A ‘part’ in this case can be a group, section, department, administration or directorate

changed as appropriate and in some cases it may prove more effective to combine working groups.

The ultimate responsibility for the successful performance of these working groups lies with the State Secretary that chairs the Chapter 27 sub-working group.

## 6.2 Framework for Negotiations

After receiving candidate status, negotiations with the EU may be opened. The negotiations on Chapter 27 may take several years. The speed of the negotiation process will be determined by Serbia's capacity to present its position skilfully and to make coherent requests for transition periods backed by well researched evidence.

The composition of the Republic of Serbia negotiating team will be decided by the Government, but a membership of a representative of MEMSP is likely and very appropriate. The negotiator for the environment should be a senior person in the MEMSP structure. It could be the Chairman of the Chapter 27 sub-working group but if another option is chosen, this chairman should be the deputy negotiator, to ensure the smooth interaction between the two processes.

The process of negotiation includes multilateral and bilateral screening followed by the submission of Serbia's position paper and the expression of the EU's common position. Serbia will be asked to provide additional information which will lead to a revised common position being adopted by the EU. This information and position activity may repeat over several rounds. Once all aspects have been cleared the negotiations on the environment chapter will be provisionally closed.

After closing negotiations on all the chapters of the Acquis the European Council will decide on accession. After accession Serbia will pursue full implementation in accordance with the negotiation results, i.e. with the transitional periods agreed.

As is apparent from previous EU enlargements, transitional periods in Chapter 27 will only be granted for heavy-investment directives. The requests will have to be as specific as possible, and backed by thorough implementation plans building on the state of play. While transitional periods can have a form of a general prolongation of the implementation deadline for some directives, for others intermediate targets or specific types of installations, regions, environmental parameters etc. will need to be established. To define and agree these specifications is one of the key objectives of the negotiation process.

Possible requests for transitional periods for selected cost-intensive environmental measures have been outlined through the economic model and are summarised in section 4.2.2 above. These include:

1. Urban Wastewater will require a transition period to 2030;
2. Nitrates until 2025;
3. Drinking Water will not require a transition period for reaching quality standards, achievable before 2019, the assumed accession date. Extension of the service, however, to the entire population is only expected by 2030;
4. A fully compliant MSW system which integrates the Landfill, Packaging, WEEE and Batteries directives, will require a transition period to 2024, due mainly to the impact of high OPEX costs;
5. Compliance with the Emission Values on SO<sub>2</sub> in both Thermal Power Plants

and Heating Plants is set, in accordance with the new schedule for all existing members, to 30 June 2020 with a special transition period to compliance or closure, at a reduced operating rate, for then not compliant installations, to 31 December 2023. It must be noted that compliance schedules for LCP plants are negotiated on an installation by installation basis and requires specific data for the individual plants;

6. Remediation of Industrial Pollution and Disposal of special waste from Thermal Power Plants and Heating Plants is expected to comply by 2022.

Directives that are not within the “Heavy Investment” bundles are not expected to be granted transition periods and are assumed to be complied with before the assumed accession date set for 1 January 2019.

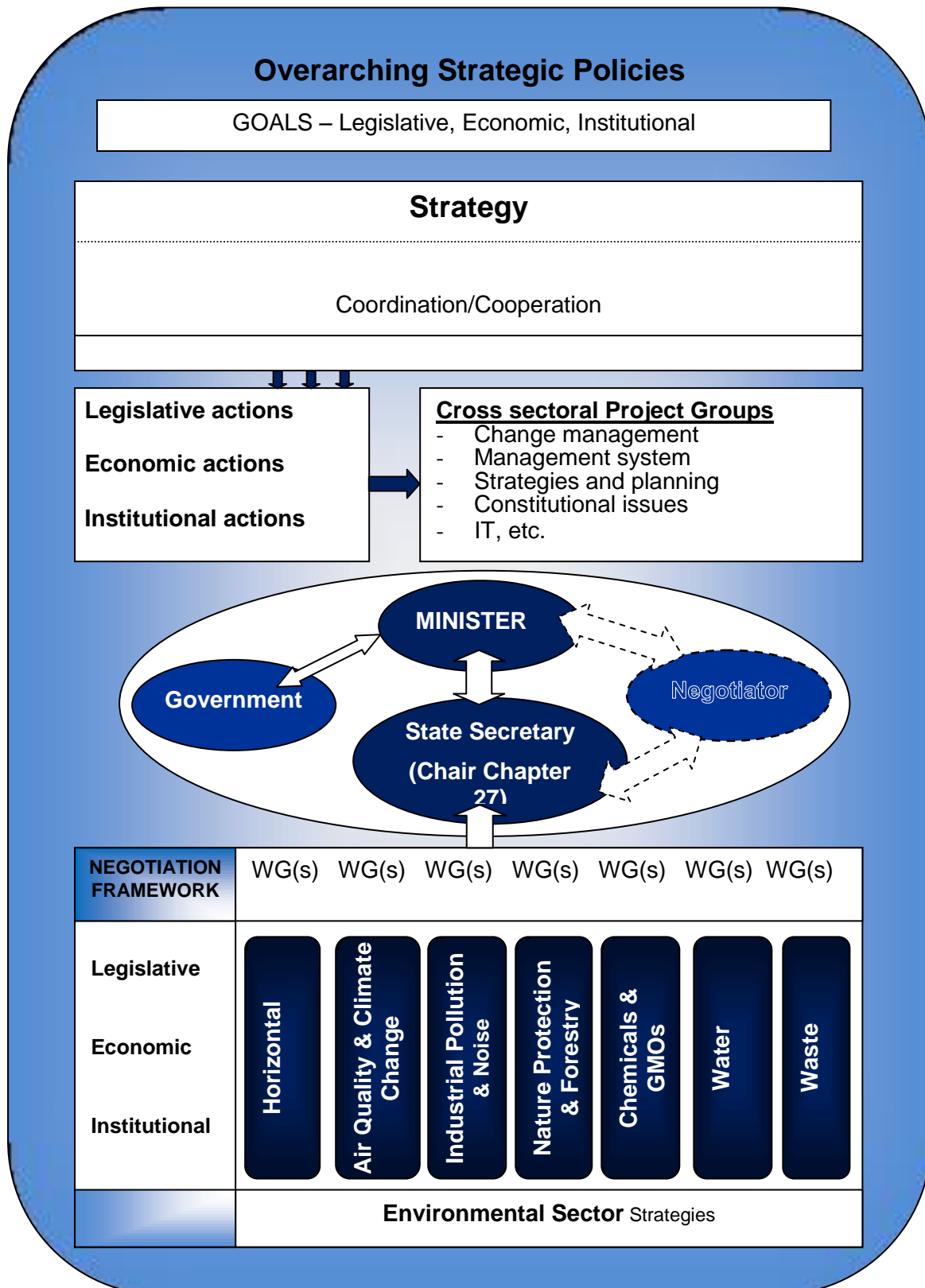
This list represents only the initial step in the process of defining and making precise the requests that will be made during the negotiations. Much clearer specification is required as regards precise provisions of the Acquis (e.g. the transitional period for municipal solid waste management stretches across several directives), the current situation and the steps to be taken in gradual implementation on the path to full compliance. It is recommended that such analytical work and drafting of Detailed Implementation Plans commence without delay after the adoption of the NEAS, rather than in reaction to the request by the EU to become more specific. Having this information in the hand of Serbia’s negotiators can significantly increase the speed of negotiations.

While transitional periods will only relate to a fraction of the environment Acquis and other work on approximation will probably be perceived as overwhelming the importance of this subject, the final

agreement on the set of transitional periods will be the prominent issue in the whole environmental negotiations and an indicator of success of the whole process, including from the political and media perspectives. It is therefore recommended that high attention is paid to the definition of transitional periods from this moment on, regardless of the seemingly long perspective envisaged for full implementation of these pieces of the Acquis.

## ANNEX 1 NEAS STRUCTURE

### OBJECTIVE: APPROXIMATION TO ENVIRONMENTAL ACQUIS



## **ANNEX 2 LIST OF DOCUMENTS CONSULTED**

Draft Sector Strategy – HORIZONTAL

Draft Sector Strategy – AIR QUALITY AND CLIMATE CHANGE

Draft Sector Strategy – INDUSTRIAL POLLUTION AND NOISE

Draft Sector Strategy – NATURE PROTECTION

Draft Sector Strategy – CHEMICALS AND GMOs

Draft Sector Strategy – WATER

Draft Sector Strategy – WASTE

Serbia's Priorities under the EU Environmental Acquis

Legal Gap Analysis

Draft Guide for Environmental Law Approximation and Stakeholder Consultations

Socio Economic Study

Financing Sources for Approximation

Institutional Responsibilities Report

Responsibilities of Institutions within the System of Environmental Protection

Approximation Communications Plan

Sources of Data	
<b>Statistical Office of the Republic of Serbia</b>	
Statistical Yearbook of Serbia 2009	<ul style="list-style-type: none"> <li>• Chapter 4. Population Table 4.7 Area, Population and Households, by censuses</li> <li>• Chapter 4. Population, Table 4.8 Settlements by size and inhabitant's number, by census 2002</li> <li>• Chapter 5. Employment and earnings, Table 5.4 Population by activity, 2008</li> <li>• Chapter 5. Employment and Earnings, Table 5.18. Average Salaries and Indices of Nominal and Real Average Salaries 2007 and 2008</li> </ul>
Municipalities of Serbia 2009, 2010	
Living Standard Measurements Study 2002-2007	
Household Budget Survey 2007	<ul style="list-style-type: none"> <li>• Chapter 2.1. Available household budget 2007 (monthly average per household)</li> <li>• Chapter 3.1. Individual consumption of household 2007 (monthly average per household)</li> </ul>
Household Budget Survey 2008	<ul style="list-style-type: none"> <li>• Chapter 2.1. Available household budget 2008 (monthly average per household)</li> <li>• Chapter 3.1. Individual consumption of household 2008 (monthly average per household)</li> </ul>
Demographic Yearbook 2008	<ul style="list-style-type: none"> <li>• Population Data Base, Projections of population of Serbia 2007-2032 - medium variant of fertility (expected migration, common mortality)</li> </ul>
Communication No. 180/2010	<ul style="list-style-type: none"> <li>• Table 1. Population by activity</li> <li>• Table 3. Activity Rate, Employment Rate, Unemployment Rate and Inactivity Rate, April 2010</li> <li>• Table 9a. Employed persons by activities, June 2010</li> </ul>
Communication No. 78/2010	<ul style="list-style-type: none"> <li>• Household Budget Survey 2009, Final results</li> </ul>

Communication No. 161/2010	<ul style="list-style-type: none"> <li>Household Budget Survey 2010, Preliminary results for the 1st quarter</li> </ul>
Statistical Pocketbook of Serbia 2010	
<b>Ministry of Finance</b>	
Memorandum on the Budget and economic and fiscal policy for the year 2011, including projections for the years 2012 and 2013	
Analysis of Macroeconomic and Fiscal Trends during 2009	
<b>Institute of Social Studies of the Republic of Serbia</b>	
Population and Households in Serbia by census 2002	<ul style="list-style-type: none"> <li>Chapter 3. Table 3.1-1 Level and dynamics of urbanization</li> </ul>
<b>Samuel Frankhauser, Tatjana Tepić</b>	
Can poor consumers pay for energy and water? (2005)	
<b>Ministry of Agriculture, Forestry and Water Management</b>	
Water Management Master Plan, 2002	
Instruments For Water Sector Development In The Republic Of Serbia Phase One (Draft)	
<b>Ministry of Environment and Spatial Planning</b>	
National Strategy for Waste Management 2009-2018, revised version	<ul style="list-style-type: none"> <li>Chapter 4.2. Solid waste, 4.2.1. Data on solid waste quantities</li> </ul>
<b>Ministry of Mining and Energy</b>	
Energy Sector Development Strategy of the Republic Of Serbia by 2015	
<b>Serbian Environmental Protection Fund</b>	
Midterm work program of SEPF for period 2006-2009, ( <a href="http://www.sepf.gov.rs">www.sepf.gov.rs</a> )	
Annual Programmes and Reports of SEPF for 2008, 2009, 2010 ( <a href="http://www.sepf.gov.rs">www.sepf.gov.rs</a> )	
<b>Serbian Environmental Protection Agency</b>	
Environment in Serbia - indicator based survey (2007)	
<b>National Assembly of the Republic of Serbia</b>	
Law on Budget of the Republic of Serbia for 2007, OG RS No. 58/07	
Law on Budget of the Republic of Serbia for 2008, OG RS No. 123/07, 102/08	
Law on Budget of the Republic of Serbia for 2009, OG RS No. 120/08, 31/09, 111/09	
Law on Budget of the Republic of Serbia for 2010,	

OG RS No.107/09, 91/10	
Law on Environmental Protection, Law on the Amendments of the Law on Environmental Protection, OG RS No. 135/04, 36/09	
Law on the Environmental Protection Fund of the Republic of Serbia, OG RS No. 72/09	
Law on Waste Management, OG RS No. 36/09, 88/10	
Law on Packaging and Packaging Waste, OG RS No. 36/09	
Law on the Protection and Sustainable Use of Fish Stock, OG RS No. 36/09	
Law on Water, OG RS No. 30/10	
Law on Budget System, OG RS No. 54/09, 73/10, 101/10	
Law on Ministries, OG RS No. 65/08	
<b>Government of the Republic of Serbia</b>	
Needs of the Republic of Serbia 2008-2010	
National Programme For Integration With The European Union (NPI)	
National Programme for Environmental Protection - final (2010-01-21)	
National Sustainable Development Strategy	
Action Plan For The Implementation Of The National Sustainable Development Strategy Of The Republic Of Serbia 2009 – 2017	
2009 Progress Report On Implementation Of National Sustainable Development Strategy (Draft)	
Decree on types of pollution and criteria for calculating the fees for environmental pollution, OG RS No. 113/05, 6/07, 8/10, 102/10	
Decree on criteria and conditions for return, exemption or reduction of payment of fee for environmental pollution, OG RS No. 113/05, 24/10	
Decree on putting under control the use and trade of wild flora and fauna, OG RS No. 31/05, 45/05, 22/07, 38/08, 9/10	

Decree on the amount and conditions for the allocation of the incentive funds, OG RS No. 88/09, 67/10, 101/10	
Decree on the products which become special waste streams after use, OG RS No. 54/10	
Decree on criteria for calculating fees for packaging or packaged products and exemption from these fees, OG RS No. 08/10	
<b>Mitsubishi UFJ Securities</b>	
CDM - Agriculture Sector	
CDM - Waste Sector	
<b>Alexander Horst, Consultant</b>	
CDM - Strategy for the Forestry Sector in Serbia (draft)	
<b>Singidunum University Faculty Of Economics, Finance And Administration Fefa, Mihailo Crnobrnja, Ph.D., Ana S. Trbovich, Ph.D</b>	
Impact Assessment of Serbia's EU accession - (2009-10)	
<b>DREPR, Dr. Mark Redman, Cor van Oers and Reinder Torenbeek</b>	
Serbia DREPR - Nitrates - 2nd draft final report	
<b>Commission Of The European Communities</b>	
Serbia Progress report 2009	
<b>UNDP</b>	
Human Rights Based Approach (HRBA) To Improving Water Governance In Europe & CIS	
<b>EU, Serbia</b>	
Stabilization and Association Agreement	
<b>Faculty of Sciences, University of Novi Sad</b>	
Strategy of watersupply and protection of water in AP Vojvodina	
<b>Ministry of Environment and Forestry, Republic of Turkey</b>	
EU Integrated Environmental Approximation Strategy (2007-2023)	

<b>Project Management Ltd., Ireland</b>	
Strategy for EU Environmental Law Approximation, Croatia. National Environmental Approximation Strategy (NEAS)	
<b>The Regional Environmental Center for Central and Eastern Europe</b>	
Environmental Enforcement and Compliance in South Eastern Europe	
<b>World Bank</b>	
Serbia, An Agenda for Economic Growth and Employment (2004-12)	

### ANNEX 3 STRATEGIC APPROXIMATION PYRAMID

