

NATIONAL ENVIRONMENTAL APPROXIMATION STRATEGY FOR THE REPUBLIC OF SERBIA

Belgrade, December 2011

FOREWORD

With its cross-border impacts and the benefits from adopting a regional approach, protection of the environment has long been an important goal that European Union Member States have pursued through enhanced integration. By building on this established framework and the financial assistance made available by the European Union, Serbia has been and will be able to fast-track the strengthening of its environmental protection system benefiting public health and economic development, providing for the needs of current and future generations.

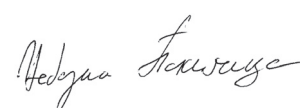
This is no easy task. Whilst providing flexibility for Member States to adapt implementation arrangements to their constitutional and institutional arrangements, EU environmental legislation is detailed, specific and wide-ranging. Considerable planning and management is required to ensure that the environmental benefits are obtained effectively and efficiently.

This National Environmental Approximation Strategy draws together, rationalises and expands upon previous planning for the transposition of EU legislation, the strengthening of implementation and enforcement arrangements and for the provision of the infrastructure that is necessary for Serbia, its municipalities, economic operators and citizens to be able to comply with their obligations.

The official version of the National Environmental Approximation Strategy* was adopted by Serbian Government on 13 October 2011 establishing the framework for the whole range of transposition and implementation arrangements required. This, expanded, working version of that strategy contains additional material drawn from seven underlying environmental 'sector' strategies so as to provide greater insight and guidance for convergence with the European Union's environmental legislation.

Achieving the goals set out in this working version of the strategy will require time, sustained efforts and enhanced co-operation between all parties involved in implementing the formidable tasks. For this to be effective, the Sector Strategies (for horizontal issues, air quality and climate change, industrial pollution and noise, water management, waste management, nature protection and forestry, and chemicals and genetically modified organisms) provide further details and Directive Specific Implementation Plans are also being prepared. Progress made in implementing the strategies and plans will need to be closely monitored so that the strategies and plans can be dynamically adapted to changing circumstances taking advantage of opportunities as they emerge and overcoming constraints.

Whilst a challenging process, the cost-benefit estimates in this strategy demonstrate that the rewards of enhanced environmental protection, in terms of improved conditions, health and sustainable development prospects, far outweigh the costs.



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Disclaimers

1. This National Environmental Approximation Strategy is a Serbian document. The content of this material does not necessarily represent the official position of the European Union.
2. The National Environmental Approximation Strategy is a general presentation and is in no way intended to be legal or investment advice for private sector entities. The authorities of the Republic of Serbia, the European Commission, Eptisa Servicios de Ingeniería S.L. (Spain), Project Management Ltd. (Ireland) and all other individuals and organisations involved accept no liability for any decisions taken by private sector entities (either natural or legal persons) on the basis of the contents of this strategy. Anyone considering any investment or other actions is recommended to seek legal and or financial advice from appropriately qualified practitioners.
3. It is expected that Serbia's strategy for environmental approximation will evolve as circumstances change. Neither this nor the official version of the National Environmental Approximation Strategy are to be considered in any way as binding and no objectives, goals or other targets identified herein are to be considered as commitments.

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LIST OF ABBREVIATIONS

ADMIN	Administration
AP	Autonomous Province
ATS	Accreditation Board of Serbia
BAT	Best Available Techniques
CAFE	Cleaner Air for Europe Directive
CAPEX	Capital Expenditures
CBA	Cost Benefit Analysis
Chapter 27	Environment Chapter of the EU Acquis
CLP	Classification, Labelling and Packaging of Chemicals
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
GLP	Good Laboratory Practice
GHG	Greenhouse Gases
GMO	Genetically Modified Organism
HHI	Household Income
HR	Human Resource
IED	Industrial Emissions Directive
IFI	International Financing Institution
INCS	Institute for Nature Conservation of the Republic of Serbia
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
MBT	Mechanical Biological Treatment
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
SHemA	Serbian Chemicals Agency
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 number of factors influencing these decisions, the Serbian administration will further demonstrate its commitment to the EU accession process, by continuing to put in place all the conditions necessary for Serbia to be able to comply with the obligations of EU membership.

Great progress has been made over the last decade in strengthening environmental protection in Serbia, yet much remains to be done. 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. Consequently the EU's environmental policy is wide-ranging and the legislation implementing the policy is extensive.

Serbia is still suffering from a legacy of environmental degradation. For instance, whereas on average within the EU nearly 90% of urban waste water is treated prior to release and nearly 100% of municipal solid waste is collected, in Serbia only 10% of waste water is treated prior to release and only 60% of municipal solid waste is collected. In addition, the municipal solid waste that is collected largely has to be disposed of in landfills that do not adequately protect the environment and public health. Less than 15% of municipal solid waste collected in Serbia is disposed of in landfills that would comply with EU standards in contrast to the average in the EU which is 99%. Similarly, whilst on average in the EU over 40% of municipal solid waste is recycled, in Serbia this recycling rate is only 4%. Serbia also suffers from higher levels of air pollution than average EU levels, with NO_x emissions in Serbia being 35% higher per capita than in the EU and SO₂ emissions per capita being over 5.5 times higher than in the EU.

The most recent enlargements of the European Union demonstrate the complexities involved in putting in place all the conditions for compliance with the EU's environmental legislation - especially in situations where environmental protection currently lags behind that within the EU.

Overcoming this challenge requires sustained progress in three particular areas: transposition of the EU's environmental legislation into national legislation; putting in place the administrative capacity to implement, monitor and enforce that legislation; and establishing the infrastructure required to be able to comply with the legislation.

These three interrelated issues are addressed in this National Environmental Approximation Strategy (NEAS), drawing together and extending the previous work and strategies prepared for EU accession and environmental protection. This three pronged approach is particularly important since, as demonstrated herein, the cost of preparing for and complying with the EU's environmental legislation is high. It is therefore important that the phasing of activities is optimised so that limited resources are deployed economically, efficiently and effectively, obtaining the best value for money. Thus, as foreseen in the Terms of Reference for the EU "Technical Assistance for Development of a national Environmental Approximation Strategy" project, the NEAS together with the supporting analytical documentation and reports will be used for the updating of the National Programme of Environmental Protection (NPEP) and the National Programme for EU Integration (NPI). In addition, the economic and financial benefits to Serbia of improved environmental protection in line with EU legislation are demonstrated in this NEAS.

In order that a consistent and coherent approach was developed, the preparation of the NEAS was undertaken in accordance with the standard planning hierarchy most commonly used for the preparation of strategic plans. This NEAS represents the highest level within this hierarchy. The issues addressed herein are cross-cutting and common to all sub-components (sectors) of the environmental Acquis of the European Union. On the basis of the cross-cutting approach presented in this NEAS, sectoral strategies are being developed. These sectoral strategies are tactical plans in which the generic approach presented in the NEAS is tailored for and applied to the specificities of the various environmental sub-sectors (e.g. waste, water, industrial pollution, etc.). In addition Directive Specific Implementation Plans will be developed which will correspond to the operational plans of the standard strategic planning hierarchy.

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 1 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 other ministries competent for certain issues, as well as the optimised use of the economic instruments. Strengthened protection of the environment in line with the requirements of the Acquis however produces economic benefits through: improvement in the health of individuals; fewer deaths and improved life expectancy; reductions in damage to agricultural production and property from pollution; healthier ecosystems, which for instance reduce the loss of biodiversity. The direct economic benefits arising from environmental compliance between now and 2030 should outweigh the costs by a 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 ensuring the efficient inter-ministerial co-ordination.

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 waste water 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, at this stage, achievement of compliance by the date of accession seems to be realistic. This will be kept under review as the sector strategies are finalised and the Directive Specific Implementation Plans prepared.

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 required¹. 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 According to the Water Law, the Water Management Strategy for the territory of the Republic of Serbia is being drafted, and will be finalised by January 2012, and after the public hearing, will be adopted by the Government on the request by the MATFWM.



CHAPTER 1

SCOPE AND METHODOLOGY OF THE STRATEGY

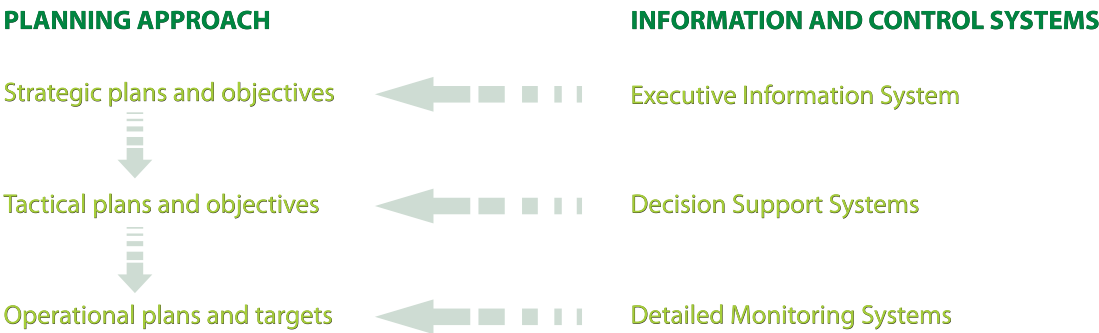
1.1 SCOPE OF THE STRATEGY

The NEAS is focussed on Chapter 27 of the Acquis² 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

This NEAS has been developed within the standard strategic planning hierarchy:



This NEAS represents the highest level within this hierarchy. The issues addressed herein are cross-cutting and common to all sub-components (sectors) of the environmental Acquis of the European Union. The approach to the management and successful achievement of the three fundamental tasks required is presented: preparation and adoption of a national legislative framework that is in accordance with the provisions of the directives, regulations and decisions of the EU; establishment of the administrative systems and procedures for the correct implementation and enforcement of the legislation; improving existing and installation of new infrastructure so as to be able to comply with the legislative provisions.

The Sector Strategies are being developed in line with the fundamental principles for transposition, implementation and enforcement, and infrastructure development. They represent the tactical plans. Within these, the generic approach presented in the NEAS is tailored for and applied to the specific context of each sector, which differ in a variety of ways such as: the intensity of the environmental pressures; the state of readiness to comply with the Acquis; the institutional structures; and the attractiveness for private sector investment.

The directive specific plans correspond to operational plans in the hierarchy. They are being developed so that the tactical objectives for each sector can be achieved economically, efficiently and effectively.

This top-down hierarchical planning is required for consistency and coherence. However, a participatory approach has been adopted for this top-down planning approach in full partnership with central, provincial and local governmental and non-governmental stakeholders so that the strategic framework is founded in reality, takes adequate account of available information and is based upon consideration of the broad spectrum of perspectives. This has been vital for building ownership of the Strategy so that not only is it suitable and feasible but also acceptable to the various stakeholders.

Supported by technical assistance provided by the European Commission (through the EAS Project) over 30 workshops were held at which legal, institutional and economic arrangements were discussed for the application of the environmental Acquis in the six identified sub-sectors: horizontal; air quality and climate change; industrial pollution and noise; nature protection; chemicals and GMOs; water; and waste. Fifteen Peer Platform meetings were also held to address legal, institutional and economic issues that are cross-cutting in that they relate to all of the six sectors. As well as the relevant public sector institutions (central; provincial; local), representatives from businesses and civil society organisations (CSOs) were also involved in the workshops and Peer Platform meetings.

² At an early stage of development of this Strategy it was decided not to include 'civil protection' other than the part that relates to the remit of the Ministry of Environment, Mining and Spatial Planning, which is SEVESO II. Other competencies only concern the Ministry of Interior and do not require transposition action. Solely implementation action is required in that area.

Previous strategies for both EU integration (the National Programme for EU Integration, hereinafter NPI) and the strengthening of environmental protection in Serbia (for instance the National Programme for Environmental Protection, hereinafter NPEP, and the National Sustainable Development Strategy, hereinafter NSDS) were taken into consideration as were the responses to the Accession Questionnaire (submitted to the EU, 31 January 2011).

For a strategy to be effective it cannot be static. As external and internal circumstances evolve, strategies need to be adapted if their relevance is to be maintained. Thus, this NEAS will need to be adjusted as progress is achieved over time.

This requires establishment of an effective management information system which is suitable for the various participants in the approximation process. Senior staff of the MEMSP require an executive information system giving access to high-level - aggregate - internal information on the progress of approximation and external information so that decisions on the adaptation of the Strategy can be made. Line-managers from the various bodies involved, together with the members of the working groups to be established, require decision support systems so that the consequences of different scenarios can be assessed as the process moves forward. The economic and financial tools developed for the preparation of the NEAS are likely to be core components of such decision support systems. Specific operational monitoring tools need to be put in place to provide reassurance that national legislation results in a system that is in accordance with the requirements of each directive. All of these systems require consistent improvement in the content and availability of environmental data.



CHAPTER 2

OVERVIEW OF CURRENT SITUATION

2.1 BACKGROUND

The Republic of Serbia made a formal application to join the European Union on 22 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.³

Based on the experience of the ten countries that became Member States on 1 May 2004 and the two on 1 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.

Purely for purposes of planning, a tentative accession date of 1 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 January 2012. After accession, Serbia is likely to have easier access to the required funding as it can be expected that access to EU structural funds would increase the availability of grants and access to IFI financing⁴ may also be easier. EU accession may also be expected, on the basis of past experience, to assist in improving the credit rating of both itself and its sub-national borrowers, facilitating access to credit markets. This is due to the twin boost to security from (I) large grants for infrastructure projects and (II) the added security that EU membership and discipline implies for international lenders. To a lesser extent becoming a candidate county is also likely to increase access to funds, as foreign direct investment would be forecast to increase and the credit rating of Serbia may improve

2.2 MILESTONES IN DEVELOPMENT

Serbia today is still suffering from a legacy of environmental neglect and deterioration resulting from a governance system that failed to take into account the sustainability of economic and infrastructure developments, the impact of economic sanctions and conflict in the region. Initially in the immediate aftermath of the regional conflict, environmental protection though was not generally perceived in Serbia to be of the highest importance. Rather the perception of many appeared to be that environmental protection was an expensive luxury that Serbia could not afford, and that instead the priorities were political stability, economic growth, increased employment and post-conflict reconstruction and clean-up.

Serbia's environmental authorities have paid particular attention to challenging and changing such perceptions through the preparation of a number of strategies in close partnership with other branches of the public administration and representatives of civil society. By bringing together a constellation of stakeholders from a diverse variety of backgrounds, the participatory methods deployed have been fundamental in raising awareness to the impact of environmental degradation on public health, ecosystems and socio-economic development, and gaining acceptance of the need for wider protection of the environment.

The strategies developed reflect the different perspectives from which the challenge of environmental protection can be viewed, thereby contributing to a holistic approach.

The National Programme for Environmental Protection (NPEP) evolved from a recognition of need for actions to remediate environmental damage and provide Serbia's population with environmental public goods. As such it is based upon a cross-cutting approach that encourages integration of environmental protection into

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

⁴ IFI finance is forecast to account for some 5 to 6% of the post accession total cost of approximation and whilst relatively lower than the importance of grant funding, improved conditions on such loans could have an important impact on Serbia - especially if budgetary funding remains constrained.

sectoral policies and provides the framework for the adoption of action plans to address specific environmental issues. Incorporating the principles of improved environmental protection throughout policymaking requires consensus building over time and, to this end, the preparation of the NPEP involved an iterative process which began in 2003

The Sustainable Development Strategy (SDS) brings together the challenges of socio-economic development and environmental protection so that the needs of current generations can be provided for without compromising provisions for the welfare of future generations. The NPEP approved by the Government in March 2010 took into account the work undertaken in this regard.

In addition to these broadly based and cross-cutting strategies, important strategies and communications related to specific aspects of environmental protection have been prepared. The National Strategy on Waste Management 2010-2019 was adopted in May 2010⁵. The Strategy on Biodiversity, for the period 2011-2018⁶, 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. The Water Management Strategy for the territory of the Republic of Serbia is in its drafting phase, and it is planned to be adopted by mid-2012. Serbia's First (Initial) National Communication under the United Nations Framework Convention on Climate Change was 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 2009⁷.

Serbia's efforts to further the protection of the environment to the benefit of current and future generations has been consistent with and supported by the considerable efforts of the public authorities to prepare for accession to the European Union. As part of the Stabilisation and Association Process, which began in 2001, the Government adopted the 'Action Plan for Harmonization of draft legislation with the laws of the EU' in July 2003. 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', which for the first time took formal note of the requirement for EU accession to harmonize the Serbian 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 and it was accompanied by special procedures to increase the efficiency of this process

Following the important 29 April 2008 signature of the Stabilisation and Association Agreement (SAA), in October 2008 the Serbian National Assembly adopted the **National Programme for EU Integration (NPI)**, further demonstrating Serbian commitment to the process. The NPI is, for Serbia, a precursor to a National Programme for the Adoption of the Acquis (NPAA). The starting point for the development of the NPI was, therefore, the need for candidate countries to transpose into national legislation the provisions of European Directives and to be ready to abide by the Regulations and Decisions which are applicable in Member States. As such policies, reforms and measures required to meet this need are identified in the NPI together with preliminary identification of human and budget resources as well as other funds needed for the implementation of the planned tasks. All of the environmental Acquis is covered in chapter 3.27⁸ of the NPI, 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 in line with Article 64 of the Law on Environmental Protection, the NPEP was finalised and approved by the Government on 10 March 2010. It was however explicitly noted in the NPI that *"... no cost assessment for approximation with the Acquis in the field of the environment has been made in the Republic of Serbia"* and it was recognised that this deficiency needed to be addressed.

The planning and analytical frameworks on which the NPEP and NPI are based are therefore drawn together and updated in this **National Environmental Approximation Strategy (NEAS)** with consideration also being taken of Serbia's answers to the Accession Questionnaire, which were submitted on 31 January 2011. The systems,

⁵ Official Journal 29/10, 2 May 2010

⁶ Official Journal 13/11, 1 March 2011

⁷ 24 of December 2009

⁸ Referring to articles 111 and 97 (agriculture, forestry and water management) of the SAA

mechanisms and procedures for the alignment of Serbian environmental legislation with the Acquis and its subsequent implementation are addressed, as are the infrastructure developments required to provide for compliance therewith. The strategic approach presented herein has been developed on the basis of a full cost-benefit analysis that has identified aspects in which planning for EU accession in the sphere of environmental protection can be optimised for instance through the adjustment of envisaged timetables and phasing of infrastructure developments.

Therefore, as foreseen in the Terms of Reference for the EU funded “Technical Assistance for Development of a national Environmental Approximation Strategy” project managed by the EU Delegation, it is envisaged that the NEAS and the supporting analytical documentation and reports will be used for the updating of both the NPEP and the NPI.

2.3 THE PATH AHEAD

Serbia's path towards accession has entered a key phase. On 12 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 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 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 Partnership⁹ 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 all policy areas. Concerning legislative developments the ‘Serbia 2010 Progress Report’¹⁰ notes that good progress has been achieved in the area of the

⁹ Council Decision 2008/213/EC

¹⁰ Last available report (SEC (2010) 1330 – Commission staff working document “Serbia 2010 Progress Report” accompanying Communication [...] COM (2010) 660)

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. It sets out the state of transposition¹¹ 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, through adoption of the Water Law in 2010, the Water Framework Directive was transposed to a significant extent. 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 and other ministries competent for certain issues. Other line ministries and stakeholders may participate in such groups. After a law is drafted, it is submitted by the group to an organisational unit within the ministry competent for harmonisation of legislation 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.

In the past the transposition of the Acquis was, as a first step, largely delegated to legal experts and units to identify ways in which to integrate EU legislative requirements into the Serbian legal order.

At times, as a result of a desire to make tangible progress, though tempered by pragmatism, a preference was given to amending existing legislation rather than more wholesale legal changes; the latter taking much more time than the former and being potentially more contentious.

As this approach has continued it has led in some cases to potentially less than optimal legal and institutional clarity. An example of this is the permitting required by the Water Law and the IPPC. The IPPC department has to issue IPPC permits through co-ordination of the sector permits. Waste water discharge permits have to be issued by the Water Directorate. The first are valid for 10 years, the second for 3 years.

Legal clarity may in the future result from judicial interpretations. In the meantime though, concerns are expressed by stakeholders from both the public and the private sectors in relation to insufficient legal certainty, and many laws have to be revised soon after their adoption.

In the future a more proactive, forward looking and holistic approach to the challenges of transposition will be required, identifying policy and institutional implementation arrangements, before the legal drafting process is initiated. Increased attention will need to be paid to strengthening communication, co-ordination and co-

¹¹ Cutting date 29 November 2010

operation between and within bodies responsible for implementing and enforcing transposed legislation. Needs to increase efficiency in the implementation of the Acquis will accelerate the evolution of institutional structures; inter- and/or intra-organisational arrangements will require ex-ante planning if a coherent administrative system is to result.

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 and other ministries competent for certain environmental issues are facing extensive challenges in the economic and financial areas.

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. Member States that joined the EU in 2004 have in many cases encountered serious difficulties in absorbing Structural and Cohesion funding and in some cases deficiencies in preparation, tendering or implementation have resulted in the application by the Commission of financial corrections. After their accession in 2007 Romania and Bulgaria have started to allocate a net contribution 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 other ministries competent for certain environmental issues 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 Decentralised Implementation System for IPA¹² 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 of Environment, Mining and Spatial Planning as well as other key Ministries involved in the protection of the Serbian environment and preparations for Serbia to undertake the obligations contained in Chapter 27 of the Acquis.

2.4.2.2 Cost of Approximation

Given the starting position shown in Table 1, the adoption of the Acquis and, especially, its implementation, will require 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::

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

An important step in the preparation of any strategy is the evaluation of its cost. The costs of this NEAS have 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;

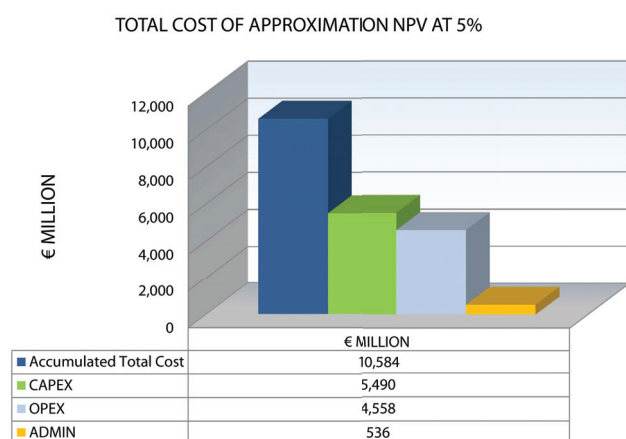
» discounting the resultant multi-annual cost flows back to 2010 values in Euros. This is the Net Present Value (NPV), which is a standard practice to eliminate time distortion. The selected discount rate of 5% corresponds to that used in large infrastructure projects by the EU

Table 1: Comparative Indicators of Serbian and EU environmental protection service levels

COMPARATIVE INDICATORS (Base Years for Data, 2006-2010)				
	Units	Serbia	EU 27	Serbia compared to EU27 average
GENERAL				
Population	Million	7.5	502.5	1.49%
GDP/Capita	€	4,528	23,296	19.44%
Inflation	Dinars/€	6%	2%	n/p
Household Income	€/Household	5,208	19,000	27.41%
Household Expenditure on Utilities *	%	16.10%	18.30%	87.98%
Expenditure on Environment	% of GDP	0.40%	1.76%	22.73%
ENVIRONMENTAL				
Drinking Water Supply	% of Population Served	77%	93%	82.80%
Purified Drinking Water Supply	% of Population Served	68%	100%	68.00%
Urban Wastewater Collected	% of Population Served	62%	93%	66.67%
Urban Wastewater Treated	% of WasteWater Treated	10%	87%	11.49%
Municipal Solid Waste Collected	% of Population Served	60%	99%	60.61%
Compliant Treatment (Lfill/Incin)	% of MSW	12.45%	99%	12.58%
Municipal Solid Waste Recycled	% of MSW	4%	43.50%	9.20%
Energy Intensity	Kg Oil/€1.000 of GDP	225.00	167.00	134.73%
Emmissions Nox	Kg/Capita	27.73	20.59	134.71%
Emmissions SO ₂	Kg/Capita	65.33	11.62	562.35%
Emmissions CO ₂	Tons/Capita	5.13	9.90	51.82%

* According to the 2010 EU survey, EU 27 HH expenditure on Housing and Utilities amounts to 33.1% and this does not differentiate between Housing costs "per se" and Utilities. In a 2006 survey, Housing costs are estimated at 14.8% of HHI. In this Table we have made a "best project estimate" for only utilities combining these two sources.

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



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 as well as other costs associated with staff increases such as the provision of office space, equipment laboratories, etc.¹³

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:

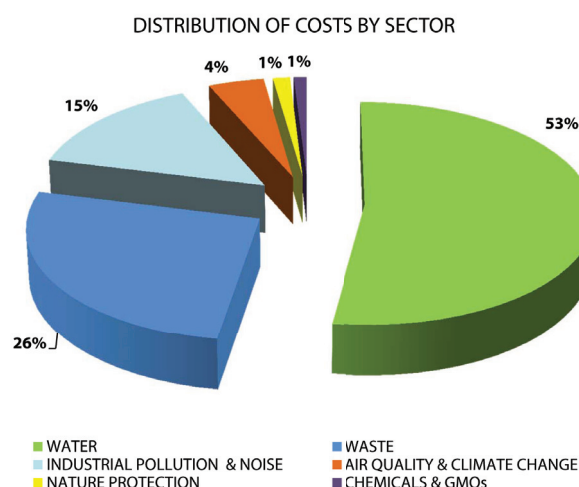
¹² IPA stands for 'Instrument for Pre-Accession Assistance'

¹³ These 'infrastructure' costs associated with staff increases (equipment, office space, laboratories, etc.) are included in ADMIN costs rather than CAPEX costs as they relate to the costs of implementing / enforcing the legislation rather than in complying with the legislation (through for example capital expenditure - CAPEX - on new waste treatment disposal facilities, waste water treatment plants, etc.).

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.

Figure 2: Distribution of Costs by Sector



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.

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 prior experience in other transition economies.

The highest cost will be in the Water Sector, amounting to €5.6 billion¹⁴, followed by the Waste Sector with €2.8 billion and the Industrial Pollution and Noise Sector with €1.3 billion.

Table 2: 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	344	93	1,540
NATURE PROTECTION	56	73	10	139
AIR QUALITY AND CLIMATE CHANGE	214	145	93	452
CHEMICALS AND GMOs	59	23	23	105
HORIZONTAL*	-	-	-	-
TOTAL	5,490	4,558	536	10,584

*Note that due to the nature of the EU legislation in the horizontal sector (see section 5.2 in Chapter 5) the costs entailed are administrative (ADMIN) and included in the costs of the other ‘vertical’ sectors.

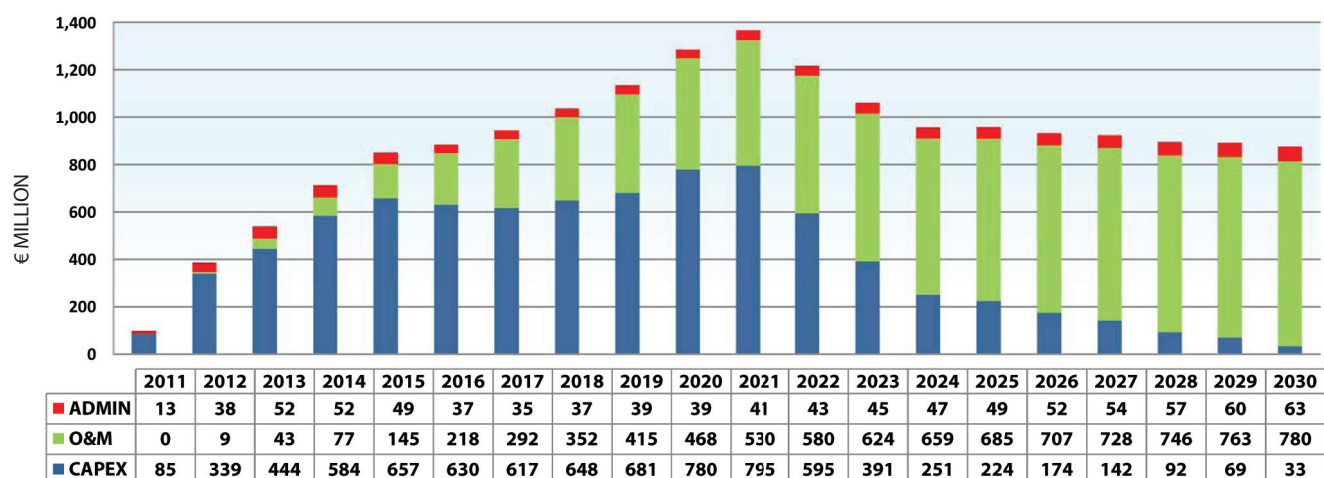
The total cost is €1,400/capita, somewhat higher than the average of €1,150/capita (in € 2010 terms) estimated by the EU for the preceding wave of Accession Countries. This reflects the low level of existing infrastructure and service standards (see Table 1) in the field of water, particularly Urban Waste Water, which will require considerable investment to reach the levels required by the Acquis.

The multiannual undiscounted cost outlays (in € 2010 terms) underlying the estimates of the NPV of investment (CAPEX), operating and management costs (OPEX) and administrative costs (ADMIN) are presented in Figure 3.

¹⁴ The cost estimation has been established on the basis of the available data and represents the provisional value. In the course of the elaboration of the Water Management more accurate data would be obtained.

Figure 3: Multiannual Cost Flows

COST OF APPROXIMATION IN NOMINAL TERMS - MULTI-ANNUAL COST FLOWS



The parameters and service levels assumed as part of this costing exercise are presented in Table 3. It should particularly be noted that the service levels indicated are only assumptions and are in no way commitments. Other time profiles of progress achieved in service levels could result in similar multiannual cost flows and in similar NPVs for CAPEX, OPEX and ADMIN costs.

Table 3: Key Assumptions Utilised in Modelling of the Cost of Implementing the Environmental Acquis of Chapter 27

KEY ASSUMPTIONS & LEVELS OF COMPLIANCE TARGETED						
	Units		Projected Approximation to Full Compliance			
GENERAL		2010	2015	2020	2025	2030
Population	Million	7.5	Diminishing at 0.35% p.a.			
GDP/Capita	€	4,528	GDP Growth 1.5% in 2011, 3% in 2012, 5% to 2020, 4% to 2030			
Inflation	Dinars/€	6%	€ Inflation projected throughout at 2%			
Household Income	€/HH	5,208	Growth projected at € inflation + 40% of GDP growth			
Household Expenditure on Utilities	%	16.10%	16.71%	17.83%	18.32%	18.55%
Expenditure on Environment	% of GDP	0.40%	2.16%	2.48%	1.67%	1.36%
SERVICE LEVELS TARGETED		2010	2015	2020	2025	2030
Drinking Water Supply	% of Population Served	77%	77%	81%	90%	92%
Purified Drinking Water Supply	% of Population Served	68%	69%	81%	98%	100%
Urban Wastewater Collected	% of Population Served	62%	64%	71%	83%	90%
Urban Wastewater Treated	% of WasteWater Collected	10%	14%	44%	78%	99%
Municipal Solid Waste Collected	% of Population Served	60%	80%	95%	~99%	
Compliant Treatment (Lfill/Incin)	% of MSW	12.45%	40%	91%	~99%	
Municipal Solid Waste Recycled	% of MSW	4%	25%	45%	Moving Target	
Energy Intensity	Kg Oil/€1.000 of GDP	225	No targets set as yet by Serbia. Linear reduction to EU Emission targets has been assumed.		EU Target 2020 is -20% to 140	
Emmissions NO _x	Kg/Capita	27.73			EU Ceiling is equivalent to 17.8 Kg/cap	
Emmissions SO ₂	Kg/Capita	61.6			EU Ceiling is equivalent to 11.5 Kg/cap	
Emmissions CO ₂	Tons/Capita	5.13			EU Target 2020 is -20% to 8.0	

References are listed in appendix "Sources of Data" to NEAS Report.

These flows were 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.

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 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 estimation of the benefits from strengthened environmental protection has been performed using a combination of techniques.

A technique termed "Willingness to Pay" was used to evaluate the benefits accruing from improvements in surface water, river eco-systems, methane capture, leachate & disamenity from landfills. As the name implies, this technique is based upon evaluating the willingness of a population to pay for environmental benefits.

An estimation was made of the benefits to society from reduced environmental damage of property (buildings and other constructions). This "Damage Avoided" technique was also applied to agricultural production.

The "Benefits Transfer through direct value" technique was used to estimate the benefits in the energy sector from Methane capture as well to estimate the benefits from products derived from Recycling and Composting.

Estimates of the benefits from improvements in drinking water, waste water treatment, CO₂ capture and reduction in other emissions were obtained by analysing potential reduction in "Mortality" (value of life) and in "Morbidity" (value of health).

The implementation of these techniques to estimate the benefits from improved environmental protection and hence reduction in the impact ('damage') caused by environmental degradation was based on the application of dose-response functions. Such functions utilize laboratory data which relate the quantity of pollution (the 'dose') that affects a receptor to the impact on this receptor (the 'response').

Currently the best documented dose-response functions relate to Air Emissions (NO_x, SO₂, CO, CO₂, Pneumo-Toxic Volatile Compounds, etc.). Dose-response functions are, at the moment, less well developed in other sectors, such as water or waste.

It must therefore be cautioned that, as a result of potentially underestimating the economic benefits from environmental improvements in sectors with less well developed dose-response functions, application of this methodology may appear to suggest that economic benefits from improvements in air quality are proportionately greater than they are in reality (i.e. the magnitude of economic benefits estimated for other sectors where the dose-response functions are not so well developed as in the air sector may be under-estimated). In consequence, on the basis of the current development of scientific knowledge and economic methodology the links between benefits and environmental sectors should not be considered to be precise.

In particular, it is not possible to precisely equate the costs and benefits from environmental improvements in particular environmental sectors. Such estimated costs and benefits for individual environmental sectors can at best be considered broadly indicative. From a strict view point, it can be argued that any attempt to split the economic benefits between environmental sectors is, on the basis of extant knowledge and techniques, flawed.

Thus, the breakdown of economic benefits between environmental sectors is only provided herein as a general indicator of the types of environmental benefits that can currently be quantified. Any attempt to utilise these breakdowns to determine policy actions or timetables (e.g. prioritising one sector over another) would be intellectually and methodologically flawed and in consequence these breakdowns have not been used in the development of the strategic directions identified herein.

The dose-response functions utilised in this study were derived from the 'Environmental Cost Assessment and Investment Plan (ECAIP) Study' developed for Romania in 2005 and adapted to 2010 Serbian conditions.

The benefits of strengthened environmental protection were 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. In instances where Serbian data was unavailable, parameters from comparable situations were applied to the Serbian situation through a "Benefit Transfer Equation".

Table 4: Summary of Monetised Benefits

SUMMARY OF MONETISED BENEFITS				
SECTOR*	MONETISED CONCEPTS	range of benefits € million per annum		
		low	medium	high
WATER RELATED	Drinking Water	28	84	167
	Surface Water	8	23	46
	River Ecosystems	6	17	35
WASTE RELATED	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 RELATED	Reduction in Mortality	654	1,299	1,944
	Reduction in Morbidity	131	225	318
	Damage avoided to Agricultural Production	17	62	106
	Damage avoided to Property	62	113	164
TOTAL ANNUAL MONETISED BENEFITS		973	2,198	3,620
TOTAL BENEFITS OF APPLYING THE ACQUIS		11,214	25,333	41,722

* Note: The benefits of improved environmental protection were not calculated for each Directive and then aggregated into sectors but rather the overall benefits of improved environmental protection were calculated using currently best available techniques and then the estimated benefit was disaggregated using broad definitions. In addition, as explained in more detail in section 2.4.2.3, the current state of development of the science on which these estimates are based varies. In consequence caution should be exercised when interpreting the relative magnitudes of the benefits in the 'sectors' identified in this table and it should be noted that those 'sectors' do not necessarily precisely correspond to the 'sectors' identified in Chapter 27.

Table 5: 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
TOTAL BENEFITS	25,333	10,584

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

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 on 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 difficulty represents the number of staff in the current institutional arrangement, which should be significantly increased in the forthcoming period. However, taking into account the current budgetary restrictions, rationalisation and prioritisation of using the staff can help in solving this problem.

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 designated¹⁵. 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; a meeting was held in early autumn 2010 to coordinate the response to the EU Accession Questionnaire and one subsequently at which a new structure of the Sub-working group was proposed.

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 resources 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;
- » efficient management of information and data.

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

¹⁵ Source: Strategy for Restructuring the Local Public Utility Companies in Serbia, draft 28 October 2009

¹⁶ Directive 2009/29/EC



CHAPTER 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 statements¹⁷ of the Ministry of Environment¹⁸ 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 6 below:

Table 6: Leading and Overarching Strategic Policies

LEADING AND OVERARCHING STRATEGIC POLICIES	
1.	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. This will reduce the cost of compliance.
2.	Use of donor funds should be maximised – 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.	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. This would maximise use of existing financial and staff resources.

¹⁷ Communication Strategy' – a Dialogue for 2005 – 2006, Strengthening Environmental Management at the Directorate for Environmental Protection, SIDA, May 2005

¹⁸ As developed by the MEMSP predecessor, the Directorate of Environmental Protection under the then Ministry of Science and Environmental Protection

These three policies are at the highest aggregation level of the Strategy as developed. They are 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. The first and third policies represent good legal and administrative practice and their adoption will ensure that the staff rationalisation, mentioned in paragraph 2.4.3 of this Strategy, can be achieved. The second policy, although it may seem to be trivial, has deeper significance and is far reaching in its consequences. It requires the development of a high degree of cooperation between institutions as well as changes in organisational and working methods and arrangements. Adoption and implementation of this policy should have the highest priority of all. For instance, due to a slower than anticipated evolution of capabilities to absorb EU structural funding, Bulgaria and Romania effectively became net contributors to the EU Budget, paying more into the EU budget than the EU funds they received.

Nevertheless raising awareness of the importance of private sector investment in achieving the EU requirements must be improved so that the private sector is able to effectively plan investments on time. In addition, it is vital that further effort be devoted to explaining to private sector operators that access to the EU market requires compliance with the environmental Acquis (so that firms in the current Member States and those of new Member States face a level playing field).

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.

This Strategy contributes to fulfilling these conditions by setting a number of key goals and the means necessary to achieve them (see Table 7 below).

Table 7: Key Goals

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

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

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.

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).

Table 8: 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											

RATIONALE FOR STRATEGIC GOALS TIMETABLE

Transposition Timing

When preparing the National Programme for EU Integration a deadline of December 2012 was set for the completion of the transposition of the environmental Acquis. Experience since has shown that this challenging deadline can lead to a mechanistic and ultimately inefficient approach to transposition as there is insufficient time to develop the required institutional and implementation plans in advance. Preparation of such plans is challenging, not least because it requires consideration of complex human resourcing and financing decisions. Time is required to reach consensus.

It is therefore intended that this deadline be extended to December 2014 to allow the complex constellation of issues to be thoroughly addressed. By avoiding the need for contentious subsequent amendments of legislation, easing the preparation of secondary legislation and streamlining administrative arrangements, such preliminary support activity is likely to actually advance the moment at which the requirements of the Acquis can actually be implemented and enforced in Serbia.

Reformed PUCs

Implementation and enforcement of the Acquis has significant implications for the provision of utility services, particularly in the water and solid waste sectors. Efficient delivery of these services is critical in achieving both public service objectives and effective environmental protection.

Public utility companies (PUCs) in Serbia generally operate at the municipal level as multi-branch (water, waste) organisations. Consequently there are a large number of relatively small operating entities. This situation is one of a number of challenges facing Serbia in achieving the efficiencies in the operation and management of utility services.

PUC reform was considered in a Green Paper on the Transformation of Public Utility Companies in Serbia (Options for Reform, 2009, Municipal Infrastructure Support Programme). The Green Paper considers a range of issues including ownership of assets, corporatisation and governance, tariff policies, regionalisation and private sector participation.

Reform of PUCs will also need to take into consideration public procurement issues (both in the treaty and secondary legislation), principles of transparency and non-discrimination and other standards relating to competition (e.g. state aid).

Many of these issues have now been addressed in legislative proposals (draft Law on Public Utilities) for PUC Reform that are in the process of being considered by the legislature. Whilst the agreement of these proposals and their final content cannot be predicted at this time, it is clear that the issue of PUC reform requires attention in the near term. For the purposes of this Strategy a timeline for PUC reform has been presumed. The presumed timeline reflects the notion that completion of PUC reform prior to the tentatively assumed accession date will serve to improve the country's absorption of EU funding after accession. This Strategy refrains from making detailed strategic commitments on PUC reform, until such time as the legislative process is concluded. The sector specific strategies consider specific aspects of PUC reform relevant to that sector.

Secured Co-financing

As shown in Table 2, it has been estimated that for Serbia to be able to comply with the requirements of the Acquis, capital expenditure of nearly €5.5 billion in present value terms will be required in new and upgraded

environmental protection infrastructure. Serbia has already planned a pipeline of projects that imply a significant short-term increase in capital expenditure on environmental protection infrastructure from 2012. As demonstrated in Figure 7 (section 4.2.4), it is estimated that the annual total costs (i.e. administration, capital expenditure, and operation and maintenance) will exceed the funding that can be raised from user tariffs until 2024, which in turns limits the attractiveness of private investment in the short-term. The capital expenditure funding requirements also cannot be met in full from Serbian national funds and, therefore, as shown in Table 12 (section 4.2.5), will have significant on-going needs for support for these infrastructure investments from the EU and other donors.

However the dilemma is that, in the short-term, Serbian national funding available is forecast to actually be lower than the national co-financing that would be required for EU and other donor grant funding. This is an issue that other candidate countries, now Member States, have faced in the past. The solution arrived at elsewhere has been for a country to obtain a flexible line of financing from an IFI so that the necessary co-financing is available for environmental infrastructure projects. It is estimated that Serbia would need to obtain such a line of finance for approximately €360 million. Although the amounts and timing of finance actually drawn down from such a credit line would depend upon the actual evolution of national funds available (particularly from the SEPF), it is estimated that such a credit line should be in place by 2014 to provide the required security for the planning of environmental infrastructure projects. Thus, it is vital that planning and negotiation of such a credit line takes place as a matter of urgency since this can take a number of years.

Reformed Institutions

Currently in Serbia, in addition to the Ministry of Environment, Mining and Spatial Planning, a large number of Ministries and other bodies have been delegated responsibilities in relation to the transposition and implementation of various aspects of the environmental Acquis in Chapter 27.¹⁹

The complexity and cross-cutting nature of these aspects of the Acquis will require that continued and enhanced attention is paid to ensuring efficient communication and co-ordination within and or between the organisations involved if transposition, implementation and enforcement are to be conducted as effectively as possible. There are in principle three ways in which such enhanced communication and co-ordination can be achieved:

- » The establishment of a programme of regular (and, during the transposition phase, frequent) meetings between representatives of the bodies involved in particular subject areas. Whilst pragmatic in situations where institutional reform would be time-consuming and disruptive, this approach could result in the time of senior staff of the various bodies being extensively taken-up in co-ordination meetings rather than in undertaking other substantive duties.
- » Reconsideration and reassignment of responsibilities between bodies. Non-exhaustive examples of issues for reconsideration could include allocation of responsibilities for:
 - » Water related issues in relation to the role of the Ministry of Agriculture, Trade, Forestry and Water Management,
 - » Permitting of the storage of mining waste in relation to the Ministry of Environment, Mining and Spatial Planning,
 - » Implementation of the Good Laboratory Practice Directive by the Ministry of Health,
 - » The Directives on Quality of Fuels between the Ministry of Infrastructure and Energy and the Ministry of Economy and Regional Development, and
 - » Climate change.
- » Fundamental re-organisation of the institutions involved in environmental protection through the establishment of an Executive Agency for Environmental Protection. Some Member States, including Ireland, Sweden, and Malta have found that this can more adequately be achieved through rationalisation of the majority of implementation and enforcement activities into a form of single executive agency type structure, leaving the responsible ministry with the strategic and policy-making remits. Such a solution could have the additional advantages of being more cost and operationally efficient by avoiding gaps and overlaps as well as providing for the clear devolution of responsibilities thereby allowing superior monitoring of implementation and enforcement to be conducted.

¹⁹ Details are provided in the background report "Key Conclusions and Recommendations Concerning Future Institutional Arrangements for the Implementation of the Environmental Acquis in Serbia".

The establishment of an executive agency for environmental protection can however be especially difficult in countries that are facing the challenge of aligning domestic legislation with the provisions of the Acquis whilst at the same time continuing to operate extant systems so that there is no diminution in environmental protection during an interim transitional period. Short-term cost constraints add to such difficulties as, although in the longer term such rationalisation can reduce costs, the required rationalisation may require increased resources in the short-term.

Thus, whilst such rationalisation has been considered several times before in Serbia, to date it has not been considered feasible. This is especially the case now given the increased financial constraints on the Serbian public administration.

In the short-term, the Ministry of Environment, Mining and Spatial Planning intends to continue improving communication and co-ordination amongst the extant institutions involved through the framework of established working groups for Chapter 27 - Environment.

In the medium-term the Ministry of Environment, Mining and Spatial Planning may revisit the question of establishing some form of executive agency for environmental protection. Whichever decision is reached in this regard, funding and staff resource constraints may force consideration of complex reorganisations of institutions involved in the implementation and monitoring of environmental legislation and conditions in Serbia.

This is particularly the case where there are overlapping responsibilities between institutions (such as in water and, following the recent transfer of responsibilities between the Republic Hydro-meteorological Service of Serbia (RHSS) and SEPA, to a lesser extent in air monitoring), so as to avoid duplication of effort and to streamline the use of resources.

In addition, the activities of the institutions need to become fully aligned with the requirements of the environmental Acquis with other arrangements made for the activities of the institutions which no longer have relevance when seeking attainment of EU membership. Given that each institution has specific circumstances the options for the different institutions vary and are presented in the background reports "Institutional Analysis" and "Key Conclusions and Recommendations Concerning Future Institutional Arrangements for the Implementation of the Environmental Acquis in Serbia". For instance, options could entail transferring ('spinning-off') environmental monitoring activities that are not required by the Acquis to another organisation and moving research activities of organisations to universities or specialist research bodies. For some organisations, full privatisation may need to be considered to avoid public sector monopolies that are awarded contracts through procedures that are not in-line with the EU's public procurement Directives.

Detailed planning and implementation of institutional reforms takes time, not least due to the need to treat staff ethically whilst maximising the development of the competencies required to comply with the Acquis. Sustained effort will be required if the target of completing such reforms by 2016 is to be met. It should, however, be noted that reforms cannot be put-off. When the National Plan for Integration was prepared it was estimated that the staff resources devoted to the integration task in the environmental sector would need to be doubled. In contrast, due to the public sector financial constraints staffing has had to be reduced. This inevitably would result in deadlines for transposition and implementation of the Acquis having to be extended if ways are not found to ensure that all financial and human resources available are dedicated to these tasks rather than undertaking tasks that have traditionally been undertaken.



CHAPTER 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 organise 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;
- » As part of the National Environmental Strategy planning process, a “Guide for Environmental Approximation” is being prepared. This guide will be a working document, providing methodologies to assist the further development of the approximation process through improving legal drafting practices and practical procedures of public consultation. The guide will address difficulties that have existed to date, such as incomplete transposition of legal instruments, old and new legislation existing in parallel, undue complexity in provisions, interpretation difficulties, and limited stakeholder consultation;
- » 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), Budgetary Fund of the Republic of Serbia for Water and Budgetary Fund of the Autonomous Province of Vojvodina for Water.

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 and User Pays Principles", 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).

The calculation of cost recovery includes:

- » Collecting data on Household Income (HHI) distributed in Income Deciles²⁰;
- » 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 mobilised to support the approximation effort (i.e. the rate of mobilisation of the cost recovery component).

The results of these analyses are summarised in a simplified format in Table 9.

²⁰ 10% segments from the 10% richest to the 10% poorest.

Table 9: Evolution of Available Affordability for Cost Recovery

EVOLUTION OF TOTAL AFFORDABILITY FOR COST RECOVERY														
Based on Maximum Threshold of Affordability of 25% HHI + Additional 6.87% from COMMERCIAL (27.47% p.e.)														
	Units	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
HHI Average	€/HH/p.a.	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
Upper Limit of Affordability (31.87%) ^A	€/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
No. of Households Estimated ^B	In million	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
Maximum Annual Domestic Affordability ^C	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
% of Maximum Affordability Tapped ^D	%		69.34	69.69	70.21	70.92	71.98	73.06	74.16	75.27	76.02	76.78	78.91	79.91
Available Affordability ^E	In € million		3,038	3,237	3,476	3,759	4,106	4,485	4,899	5,350	5,815	6,320	8,344	10,536
Present Costs HH (16.1%) comm (6%) = 22.1% ^F	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
MAX. AVAILABLE FOR ADDITIONAL COST RECOVERY ^G	In € million		0	16	43	83	150	228	318	421	511	612	1,012	1,393

^A **The Upper Limit of Affordability** is based on a Maximum Threshold for Affordability of 25% of HHI (no more than 25% of HHI can be used for payment of all utilities) plus an additional 6.87% from Industry and Commerce. This additional 6.87% is derived from the overall estimated contribution by Industry and Commerce in the form of user charges, which is 27.47% of total expenditure on utilities, multiplied by the 25% HHI maximum. The sum of the two (25%+6.87%) defines thus the upper limit of Affordability.

^B **The number of Households estimated** is based on a Household size of 2.97 in 2010 diminishing by 0.5% per annum on account of the population reduction projected for Serbia (-0.35% per annum) plus a further reduction in Household size by 0.15% per annum.

^C **The Maximum Annual Domestic Affordability** is the product of the Upper Limit multiplied by the number of Households. This defines the Maximum for Cost Recovery available in any given year.

^D **The % of the Maximum of Affordability that can be tapped** is the proportion (in % terms) of the Maximum Annual Domestic Affordability that can successively be garnered for cost recovery through increases in charges. Tariffs cannot be realistically raised to maximum affordability on a short term basis and this parameter reflects this fact. It is derived by assuming tariff increases in real terms above HHI growth (in € above € inflation+40% of GDP growth) of 0.5% in 2012; 0.75% in 2013; 1% in 2014; 1.5% through to 2018; 1% to 2020; 0.75% to 2022; 0.5% to 2024 and 0.25% to 2030. Although these increases in real terms may appear moderate, they imply a strong effort of mobilization of GDP to Environment.

^E **Available Affordability** is derived from applying the % tapped to the Maximum Annual Domestic Affordability.

^F **Present Costs of HH** is the amount of HHI presently being applied by HH to the payment of all utility bills. This figure is composed of 16.1% from HH (according to Serbian Data: See Sources of Data Addendum) and an additional 6% estimated for Industry & Commerce.

^G **Maximum Available for Additional Cost Recovery** is the difference between the Available Affordability and the Present Costs. This figure is the additional amount that can be tapped from users for cost recovery in revenue generating environmental projects.

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

Municipalities in Serbia have, in general, been unable to raise tariffs to cover true PUC costs due to a combination of factors, including, inter alia:

- » A policy of limiting tariff increases to the rate of inflation;
- » Political reluctance to raise service tariffs in the prevailing social context;
- » Sensitivity to a deterioration in bill collection on a short term basis if tariffs are raised substantially;
- » Cross-subsidising households by applying substantially higher industrial and commercial tariffs;
- » When tariffs have been calculated on the basis of costs, a collection ratio of 100% has been assumed.

This has caused a drain on municipal budgets which have been obliged to increasingly subsidise PUC operations. Investments have been delayed, efficiency impaired and attractiveness for private sector participation has eroded.

The result is that tariffs do not comply with the polluter/user pays principle and vary by an enormous factor from one consumer group and one municipality to another and do not form a rational basis from which to structure the services provided and, moreover, the necessary massive investments.

In Water average tariffs are estimated at €0.41 per m³. This includes water supply, waste water collection (sewerage) and, in some limited cases, waste water treatment. Comparable figures in neighbouring countries (although with generally higher rates of wastewater treatment) are €0.90 in Bulgaria, €1.15 in Croatia, €2.40 in Hungary and €0.55 in Romania. In the EU15, albeit with high rates of waste water treatment, the costs are in the vicinity of €3/m³. The Serbian average tariff, although with reduced service levels, is about 25% of maximum affordability (at 4% of Household Income).

In Waste, household expenditure is running at between €12 and €15 per annum, less than 20% of affordability at the 1.5% threshold. In the EU15, the average household payment for waste is running at between €60 and €75, between 5 and 6 times the Serbian figure.

In Electricity, tariffs are also much lower than in neighbouring states or the EU. In Serbia the tariff per KW is in average below €0.04. In Bulgaria it is almost €0.09, more than twice. In Romania it is €0.11, in Croatia €0.12, and in Hungary almost €0.17. In the EU 15 the range is between €0.16 and €0.26.

It must be thus noted that through Central Government and Local Government pressure, tariffs have deteriorated to levels well below PUC operating costs and well below affordability levels. This has resulted in many PUCs being unable to meet their operating costs, let alone finance true maintenance and capital expenses. They, in turn, depend highly on the municipal budgets and this constitutes a further barrier to achieving regionalisation with an economically efficient scale of operations.

The PUC Strategy addresses these issues and aims at establishing benchmarks for tariffs and service levels. This, if combined with the EU grant structure associated to loans for utility development, can constitute a valid vehicle for channelling investments into a rationalised, regionalised PUC system.

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 10 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 10: Transition Periods for Heavy Investment Directives*

	ACCESSION	TRANSITION PERIOD											
Sector/Heavy Investment Directive	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**													

* See Table 3 (Key assumptions) for details of assumptions on which these potentially necessary transition periods were estimated

** Large Combustion Plants are defined as an Investment Heavy Directive – note that other IPPC installations are not so defined

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.

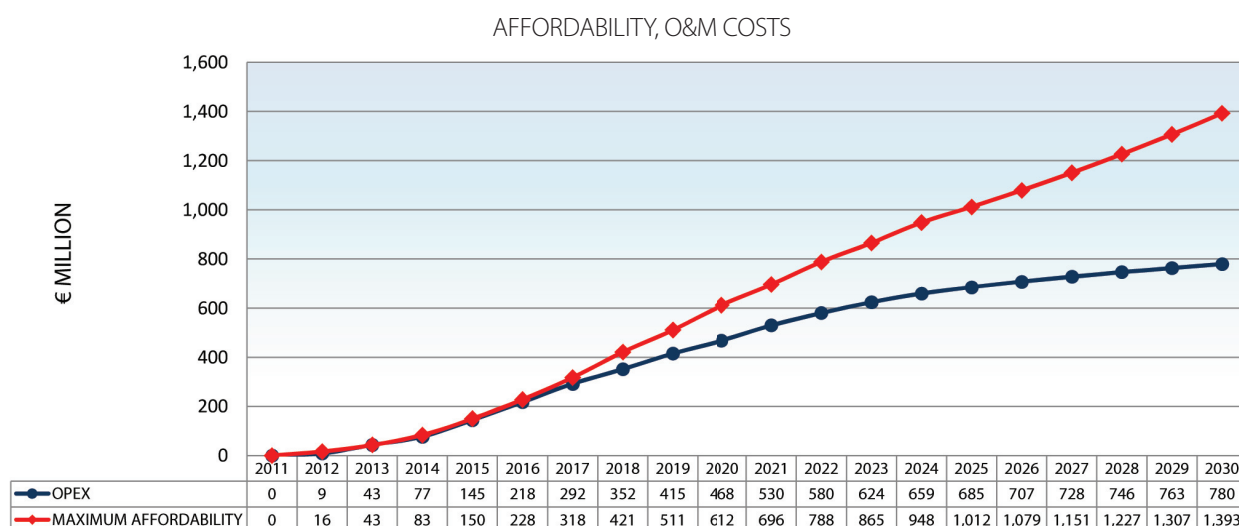
It must be noted that the positive indirect economic impacts, i.e. greater GDP growth on account of accession to the EU market in favourable conditions, estimated in other studies at approximately 2% additional GDP growth per annum, have not been included in the NEAS.

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

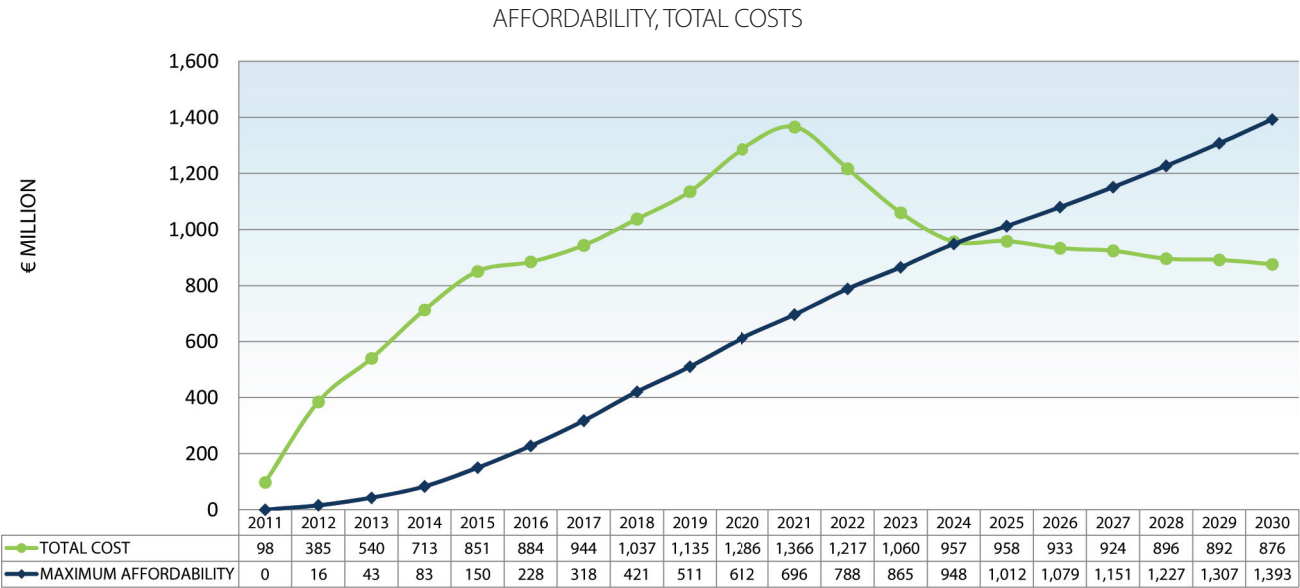


The action plans of the strategies prepared for waste and for large combustion plants imply compliance targets that have been elongated so as to provide an achievable mix with actions in the other sectors. Environmental sectors are integrated across the environment and across all economic sectors and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

The capacity of consumers to pay for total costs is shown in Figure 5.

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.

Figure 5: Capacity to pay Total Costs

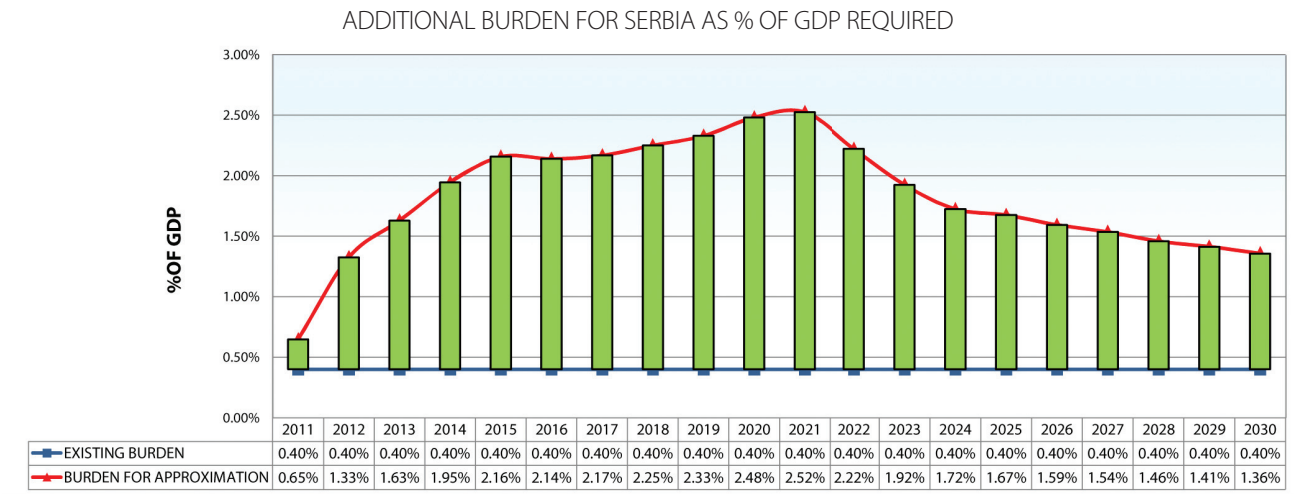


Burden on Serbia

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.

The impact of the approximation effort on Serbia’s GDP is shown in Figure 6

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.

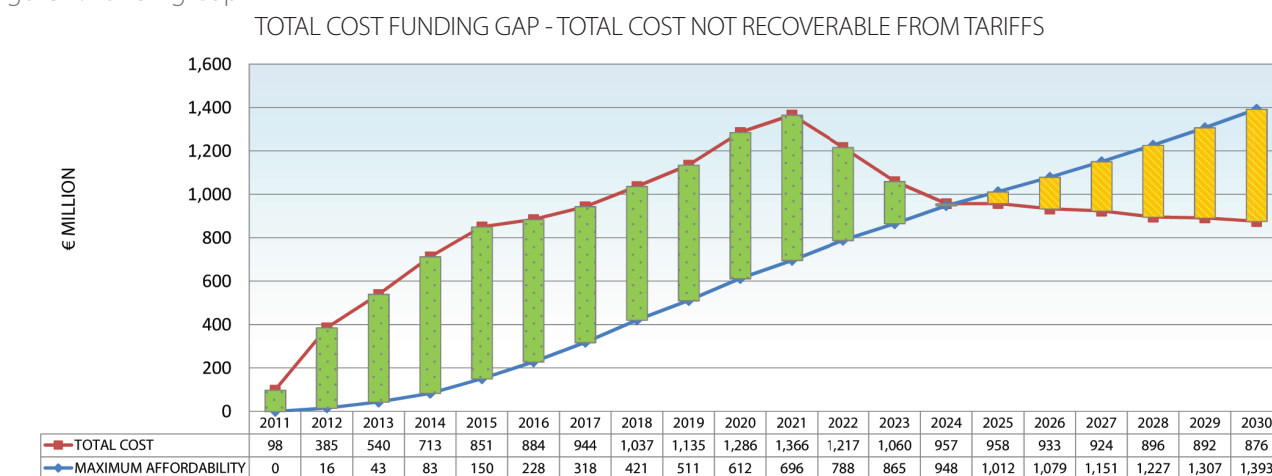
4.2.4 THE FUNDING GAP

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

Inter-sector economic and financial planning requires improvement, especially at the level of the Serbian Environmental Protection Fund (SEPF). The SEPF was primarily founded under the Law on Environmental Protection (“Official Gazette of the RS”, Nos. 135/04, 36/09) as an independent body within the Government of the Republic of Serbia. The main goal of constituting the SEPF was to gain financial resources to develop and protect the environment in the Republic of Serbia. Below in Table 11 the annual budget of the SEPF is summarized.

Table 11: SEPF Annual Budget (mil RSD/€)

TYPES OF REVENUES	2007		2008		2009		2010		2011	
	RSD	€	RSD	€	RSD	€	RSD	€	RSD	€
Budget Revenues	24.44	0.31	43.91	0.55	23.87	0.27	23.56	0.25	23.81	0.23
Other Sources of Revenues (Revenues from Fees)	1,204.24	15.24	1,788.64	22.57	1,961.48	22.14	4,792.20	49.98	14,791.31	140.20
Total	1,228,68	15.55	1,832.55	23.13	1,985.35	22.41	4,815.76	50.22	14,815.12	140.43

As can be noted, the amounts are substantial and evolving rapidly and are a very significant source of finance. The Finance Plans prepared in the Sector Strategies indicate, on the other hand, that the needs in the different sectors are severely at odds with the financing mechanisms, including, notably, the fees collected by the SEPF, for the part of finance to be provided by the public sector.

Thus it is expected that projecting current financing sources, Waste and Air & Climate Change would be overfunded, by €496 million and €136 million, respectively by 2020, upon accession (assumed for 2019) whilst Industrial Pollution and, especially, Water would be severely underfunded, by €2,000 million in the Water sector and almost €300 million in the Industrial Pollution sector.

Improved co-ordination in the planning of the different institutions with competencies in the field of environment is required to address current inconsistencies. For instance, the well-developed Waste Strategy is structured in

such a way that it will have resources available, mainly through the special waste streams fees collected by the SEPF. Water, however, the “heaviest directive” with the most complex and fragmented competencies, has no clear financing strategy comparable to waste, resulting in a huge funding gap.

This NEAS points out, in a simplified form, where the problems may arise from this lack of coordinated inter-sector planning. In the Chapter 27 Sub-working group (see paragraph 4.3) this will be addressed in much greater detail and the various strategic elements, including the strategy for re-structuring the PUCs, will be brought together there in more detail.

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 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, Technical Assistance 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, the Budgetary Fund of the Republic of Serbia for Water and the Budgetary Fund of the Autonomous Province of Vojvodina for Water.

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).

Estimates of the value of the projected multiannual approximation costs that can be covered from sources other than the public sector are provided in Table 12.

Table 12: Summarised Financial Plan

FINANCIAL GAP COVER												
€ million	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
TOTAL COST	98	385	540	713	851	884	944	1,037	1,135	1,286	958	876
COST RECOVERY (INCREMENTAL)	0	16	43	83	150	228	318	421	511	612	958	876
EFFECTIVE EU GRANTS RECEIVED	12	20	28	33	41	50	50	50	117	185	252	630
NET FINANCING (NO GOVT. RECOURSE)	19	75	98	127	137	123	109	105	102	114	-48	-73
OTHER DONORS	7	27	36	47	53	50	49	52	54	62	18	3
COMMERCIAL & PRIVATE SECTOR	11	44	57	75	85	81	79	83	88	100	29	4
REQUIRED FROM PUBLIC SECTOR	-50	-204	-278	-348	-385	-352	-338	-326	-264	-213	250	564

The balance of funding that will need to be provided annually by the public sector is high, between €200 and €400 million per annum until 2024, after which increases in affordability permit user charges to cover full costs. This high level of public sector support will need to be provided by domestic funding sources, including, notably, the previously indicated SEPF. The balance unobtainable from the established domestic funding sources will have to be obtained by the public sector from other sources, for example a co-financing line for environmental projects from the EBRD or other IFI.

A forecast of the domestic funding sources is presented in Table 13. The difference between the amount required from the public sector and the public sector resources will result in a figure that is indicated as “excess funds carried forward” if sources are greater than requirements, and “public sector financing needs” if sources are insufficient to cover resources, as is the case between 2014 and 2024.

Table 13: Public Sector Support

PUBLIC SECTOR SUPPORT												
€ million	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
REQUIRED FROM PUBLIC SECTOR	-50	-204	-278	-348	-385	-352	-338	-326	-264	-213	250	564
DOMESTIC FUNDING SOURCES												
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
PUBLIC SECTOR RESOURCES	174	197	219	242	255	267	281	295	309	325	415	529
PUBLIC SECTOR FINANCING NEEDS	-50	-204	-278	-348	-385	-352	-338	-326	-264	-213	250	564
EXCESS FUNDS CARRIED FORWARD	124	117	57	0	0	0	0	0	0	0	2,199	6,201

* SEPF on basis of 2010 and 2011 budgets projected at GDP growth after 2012 (5%) and applying prudently estimated collection ratios of 50% in 2011; 70% in 2012; 80% in 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 rows of Table 13 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”.

It ought to be noted that IFIs active in the finance of large environmental infrastructure projects have called for the elaboration of a consistent approach linking such finance to grants. A consistently structured blend of grants, domestic sources and IFI finance, could have a multiplier effect upon the number of projects that can be successfully implemented, by sharing out the grant component in a pre-specified formula, avoiding excessive grants in some few projects and lack of feasibility in many others. Attention is drawn to the need to program grants in coordination with all other available instruments so as to maximise the positive impact of said limited EU grants and other donor finance.

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 Economic Policy Unit (EPU) level to provide guidance as required regarding the setting of MATs and Full Cost Recovery Tariffs. 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 prioritised 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 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 billion over a 7 year period to the full €1.4 billion 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, Budgetary Fund of the Republic of Serbia for Water and Budgetary Fund of the Autonomous Province of Vojvodina for Water so as to provide a substantial boost to public sector funds for environmental projects;

The SEPF has become an important source of funds for environmental protection in Serbia; at over €140 million, the SEPF budget for 2011 accounts for almost half of total Serbian national funding for environmental protection. As shown in Table 13, forecasts indicate that the relative importance of the SEPF is expected to remain at around 50% of total public sector resources for environmental protection.

It will therefore be important that continued attention is paid to ensuring that the economy, efficiency and effectiveness of the SEPF is maximised. This could entail periodic reviews of the environmental impact of the various product charges and modified producer responsibility schemes implemented by the SEPF.

For instance, strict application of polluter or user pays principles would indicate that the fees resulting from product charges should only be applied to the prevention / remediation of environmental damage directly resulting from each specific waste stream. Experience in other countries has shown that as environmental and economic conditions change over time so too do the optimal levels of product charges. The optimal balance between producer responsibility and product charge systems can also change. Product charge systems can result in a heavy burden on the public administration and as monitoring and enforcement systems improve the adoption of producer responsibility systems in some areas could prove more effective.

It should be noted that 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 Directive Specific 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