



2013:5

Sida Decentralised Evaluation

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Evaluation of Sida's Support to Environment Infrastructure and Reforms in Central and Eastern Europe and Western Balkans 1995-2010

Final Report

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September 2013**

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Sida Decentralised Evaluation 2013:5

Commissioned by Sida, Department for Reform Cooperation, RES

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Date of final report: September 2013

Published by Citat 2013

Art. no. Sida61573en

urn:nbn:se:sida-61573en

This publication can be downloaded from: <http://www.sida.se/publications>

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Abbreviations and Acronyms

ADB	Asian Development Bank
BiH	Bosnia and Herzegovina
BOD	Biological Oxygen Demand
COD	Chemical Oxygen Demand
E5P	Eastern European Energy Efficiency and Environment Partnership
EaP	Eastern Partnership Countries
EBRD	European Bank for Reconstruction and Development
EC	European Commission
ECCA	Environment and Climate Change Analysis
EIB	European Investment Bank
ENPI	European Neighbourhood and Partnership Initiative
ETC	Early Transition Countries
EU	European Union
DemoÖst	Sida Programme of support with the aim of providing potential buyers (corporations and public entities in the Baltic states, Poland and Russia) with the opportunity to try Swedish produced environmentally sound equipment.
HELCOM	Helsinki Commission – a Baltic Marine Environment Protection Commission
IBRD	International Bank for Reconstruction and Development
IFI	International Financial Institution
IMF	International Monetary Fund
KTS	Kontraktsfinansierat Tekniskt Samarbete
LEAP	Local Environmental Action Planning
MEI	Municipal and Environmental Infrastructure
MoE	Ministry of Environment
MFA	Ministry for Foreign Affairs
NDEP	Northern Dimension Environmental Partnership
NEFCO	Nordic Environment Finance Corporation
NGO	Non Governmental Organisation
NIB	Nordic Investment Bank
OECD	Organisation for Economic Cooperation and Development
PBA	Program Based Approaches
SAA	Stabilisation and Association Agreement
SEK	Swedish Krona
SEPA	Swedish Environmental Protection Agency
SES	Sida's Sustainable Environmental Support
Sida	Swedish International Development Agency

SWAp	Sector Wide Approaches
TA	Technical Assistance
Tacis	Technical Assistance to the Commonwealth of Independent States
TF	Trust Fund
ToR	Terms of Reference
UN	United Nations
UNDP	United Nations Development Programme
UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environment Programme
WB	World Bank
WBF	Western Balkan Investment Framework Fund
WWTP	Waste Water Treatment Plant

Preface

This evaluation was commissioned in July 2012 by Sida through Sida's framework agreement for reviews and evaluations. Indevelop undertook the assignment between August 2012- August 2013 with a team of five evaluators and one team leader. The Project Manager at Indevelop for this study, Anna Liljelund Hedqvist, has been responsible for compliance with Indevelop's QA system throughout the process and has provided internal quality assurance. External quality assurance was done by Adam Pain, who is a member of the Indevelop Core Team of evaluators under the Framework Agreement and a professor at the Swedish University of Agricultural Sciences. The draft report was reviewed by members of the Sida steering committee and country offices as well as by a former employee who was previously responsible for the programme. Their comments were reviewed and responded to where appropriate. The use of the evaluation findings has been kept in mind and there has been close contact with the Sida steering committee of the evaluation during the process. Presentations of preliminary findings were done at the Sida regional meeting in Saint Petersburg on 17 October 2012 and presentation of final findings of the desk review were done in Stockholm on 25 March 2013. A field confirmation to Estonia, Latvia, Lithuania and Ukraine took place in July 2013 and the final version of the report was completed taking into account the additional findings and verification made by the field confirmation.

The independent evaluation team included the following members:

- Eric Buhl-Nielsen, Team Leader
- Bjørn Bauer, Technical Expert
- Vera Devine, Core Team Member and Senior Evaluator
- Johanna Garcia, Evaluator
- Fredrik Pitzner-Jørgensen, Technical Expert
- Ildar Gazizullin, Technical Expert
- Sigitas Paksys, Technical Expert

Krister Eduards provided comments and contributed to the historical overview.

Executive Summary

Context and aims of the evaluation

Sweden has supported environmental investment projects in Central and Eastern Europe since the mid-1990s and more recently in Western Balkans. The support has co-financed physical infrastructure and institutional reforms within: municipal water supply; wastewater; waste management; energy efficiency and district heating. Over 100 projects have been supported. Some 64 trust funds have been set up, with International Financial Institutions (IFIs) accounting for SEK 1.576 billion; but Sweden's total financial support for environmental investment projects, independent of cooperation model, is even greater.

The objective of this evaluation is to present conclusions and lessons about what works, and under what circumstances, in order to inform the development of regional strategy/strategies for Eastern Europe and the Western Balkans by the Swedish Government. The results of the evaluation will also support the analytical and advisory work that Sida engages in with its partners. This evaluation focuses on the following strategic factors: i) the effects of selection and design of financing models; ii) Sweden's value added in different financing and cooperation models; iii) implications for internal organisation and management of Sweden's support; and iv) the impact of Sida's support to policies and reforms that underpin the future sustainability of the investments made and that contribute to wider social and economic development.

This evaluation examined a range of contributions involving more than 20 projects in: Western Balkan States: Bosnia and Herzegovina (BiH), Serbia; Baltic states: Lithuania, Estonia, Latvia; Eastern Europe/South Caucasus: Georgia, Moldova, Russia and Ukraine. The range of contributions examined included bilateral as well as parallel and co-financing arrangements involving the major International Financial Institutions active in Eastern Europe. In addition to the desk review, a short field confirmation of five projects in the Baltic States and Ukraine that were completed more than five years ago was undertaken. The long-standing programmes, such as the Helsinki Commission (HELCOM) and the Northern Dimension Environment Programme (NDEP), were examined as well as the more recent Eastern European Energy Efficiency and Environment Partnership (E5P), the Eastern Partnership, the Environment and Climate Programme Fund, the Western Balkan Investment Framework Fund (WBF) and the Early Transition Countries (ETC) initiative. The draft findings were presented at a Sida Regional conference in St Petersburg 16-18th October 2012. Final findings of the desk review were presented in Stockholm on 25 March 2013. A field confirmation to Estonia, Latvia, Lithuania and Ukraine took place in July 2013 and the final version of the report was completed taking into account the additional findings and verification made by the field confirmation.

Main findings

The main finding, based on the desk review and confirmed by the field verification, is that the environmental investments have led to significant environmental improvements in Central and Eastern Europe and the Western Balkans. Supported by the introduced capacity building and institutional reforms, the investments will, for the most part, continue to deliver environmental benefits for the foreseeable future. The main objectives of the environmental investment cooperation have thus been achieved.

Findings across the OECD evaluation criteria, and the evaluation questions are summarised below:

Relevance of the support programme:

To what extent have the interventions conformed to the needs and priorities of target groups and the policies in partner countries? The supported interventions are relevant and address significant environmental problems that are priorities of the partner countries. The municipal focus helps to bring the interventions closer to the target groups and their priorities. However, where the interventions have not been linked to wider processes that are beyond a single municipality, there is thus a danger that they continue to be isolated and do not have a spillover effect. In some cases, Sweden has helped to initiate an environmental programme (e.g. HELCOM/NDEP) that enables the national partners to prioritise the interventions within a national and trans-boundary framework. Elsewhere environmental investment interventions, although meeting stringent eligibility criteria, do not appear to have been prioritised against environmental urgency.

To what extent have the programmes been in line with the policy of the Swedish government? The interventions explicitly refer to, and have been designed in line with, Swedish policy. Sida has been one of the parties that has influenced the current and future operations of International Financial Institutions, as evidenced by the incorporation of gender and social participation in the International Financial Institution's project assessment and reporting, as well as the use of new tools such as corporate development and social participation plans. It is too early to tell if these promising initiatives will have the desired policy outcomes, but it is plausible to conclude that they are very likely to lead to improvements in line with Swedish policy.

How have the programmes interacted with other factors to achieve socio-economic development and political reform? There is not enough evidence to be able to draw firm conclusions. Sida has provided intensive and professional support to project design, project management and institutional support at the municipal level. It is likely that these efforts (e.g. introducing demand management, promoting autonomy in the management of utilities, cost control and consumer involvement), as well as capacitating individuals, will have a wider impact on organisational and institutional performance within the concerned municipalities. The field confirmation noted that modern management approaches and tools were in place and there was a clear appreciation of the importance of a customer focus. All the utilities visited have made a shift from a Soviet management regime to a more modern approach. However, the utilities are not able to clearly trace or pinpoint the sources of influence for this shift to the provided external support.

Effectiveness

To what extent have the contributions met their objectives, focusing on intended output, outcome and impact? Most of the projects that represent the new modalities of co-financing with International Financial Institutions are not yet complete. The focus on measuring effectiveness is thus on the earlier projects under HELCOM/NDEP. The interventions that have been possible to assess have been uneven in terms of their effectiveness. Some projects have a high level of success in achieving their objectives and outcomes, whereas a minority of others have not. All of the projects that were visited during the field confirmation are achieving their environmental objectives. A thorough programmatic evaluation of the European Bank for Reconstruction and Development (EBRD) operations, which constitutes a large part of the Sida support, concludes that the projects have generally been effective.

What were the influential factors? Many factors affect whether a project achieves its objectives and whether these objectives are reached effectively. Among the key factors identified through this evaluation are: high quality feasibility studies; client commitment and reform mindedness and, donor flexibility during the implementing phase.

Efficiency

Have the results been cost effective? The projects are implemented in complex technical and organisational circumstances. Unexpected incidents and delays are common and have increased costs and hampered time schedules. This has reduced the cost effectiveness of many otherwise successful projects. There is evidence of over-investment in some projects. Some, but not all constraints and delays could have been avoided or minimised through more thoroughly detailed planning and feasibility studies. The strategy of focussing limited Sida grant funds on interventions to prevent imminent wastewater treatment breakdown was highly efficient, especially where subsequent funding has been made available from other sources to complete the rehabilitation, as has usually been the case in the Baltic states but less so in the other countries.

Are there noticeable differences between projects? What is the leveraging? There are major differences between the projects in the quality of planning and feasibility studies. The project management skills of the client are especially influential on the cost effectiveness of the projects. Leverage has been considerable. By some accounts Sida funds have financially leveraged up to 12 times more funding from other sources. An “environmental leverage” is also present, in that expenditure on environmental investment in Eastern Europe has been up to 7 times more efficient in reducing nutrients to the Baltic Sea than alternative nutrient reduction investment in Sweden.

Impact

Evidence of contribution to improved environments /socio-economic development and political reform? Desk based data on the impact of the interventions is very sparse, partly because of the long time span of these projects. There is some evidence from some of the older HELCOM demonstrate that the projects have significantly contributed to reducing the pollution load to the Baltic Sea. This was verified by the field confirmation. The lower pollution will in turn have an impact on improving water quality, although the ultimate environmental impact depends on many other factors. Reform impacts are likely in the future, under tariff setting and commercialisation of the utilities, but they have not been sufficiently documented/researched to draw firmer conclusions. The field confirmation did verify that the utilities have customer orienta-

tion (e.g. carry out surveys to measure customer satisfaction) and that the support has led to improved project and contract management.

Have there been any positive or negative intended or unintended effects? Negative effects have not been evident from the available desk material, through the field confirmation or through conducted interviews, other than the implications of over-investment in wastewater treatment plans on future operation and maintenance costs.

Sustainability

What type of impact has been observed at different points of time after completion of the programmes? The impacts of the interventions are not well documented. Impact indicators are not systematically designed in the project, and there is little post-project follow up. The field confirmation verified that the municipalities undertake regular environmental monitoring even if the data is not easily available to IFIs. Sida has assembled a record of the cumulative impact of the earlier projects in the Baltic Sea area in terms of reductions in nutrients and pollution loading. This data shows a dramatic reduction in loading, although the overall impact on the Baltic Sea is a highly complex topic and the ultimate impact is not yet known.

What is the likelihood that the results of the projects/programmes studied will be sustainable? For most of the recent interventions, it is too early to tell and there is no systematic post-project monitoring to reveal the sustainability of the earlier projects. A field survey conducted by the European Bank for Reconstruction and Development concludes that the municipal environmental projects were being sustained, which is promising; however, the report is not specific enough to allow this conclusion to be externally verified. The field confirmation concluded that the physical impact of the projects in the five towns visited is being sustained. However it should be noted that the sustainability of 4 of these towns (those in the Baltic States) have benefitted from the improvement in the enabling environment arising from accession to the EU and from large cohesion funds.

The technical and project management approaches being used are highly professional, and there is evidence that, apart from a few cases (such as some of the wastewater treatment and district heating projects in the Baltics), they are resulting in well-considered, designed and constructed projects. The main risk lies in the operation and maintenance phase. Support to reforms is well conceived, is professionally carried out and aims to enhance sustainability. But there is concern that, as the support tends to stop immediately after project completion, it is too short-term to guarantee success. There is evidence, especially from the new project assessment forms of the European Bank for Reconstruction and Development, that lessons learnt from earlier projects are being integrated into the design and management of new projects, which should increase the sustainability of the more recently funded projects.

What are the main risks to sustainability observed? The main risk to sustainability is whether tariff increases will continue, and whether the utilities will be allowed sufficient managerial and financial autonomy. For some of the more remote areas, there is a risk that the supplier network for advanced Swedish equipment is not sufficiently developed and longer-term maintenance problems will be compromised. There are also macro-economic risks, especially with the current financial crisis that may lead to

a low-cost recovery from a population that is unable to afford the services and municipalities that are unable to subsidise the shortfall. Some countries in the region are vulnerable to sudden political change that can undermine or reverse earlier advances in reforms.

The evaluation also considered a number of strategic factors, such as the effects of selection and design of financing models and implementing partners/channels; Sweden's value added in different financing and cooperation models and, implications for internal organisation and management of Sweden's support. Across these strategic factors and the evaluation as a whole, six major findings emerge:

1. **Co-financing International Financial Institutions is the most feasible means of supporting significant environmental investments in Eastern Europe** – Sida adopted co-financing as the main modality, chiefly in response to the scaling down of Sida's own human resources. The limited human resources made available within Sida make the earlier approaches of bilateral and parallel financing arrangements impossible. Over the years the experience and performance of International Financial Institutions has increased. Sida has constantly adjusted and refined its interaction with the institutions, which has also led to better reporting as well as increased effectiveness and efficiency of the environmental investments.
2. **Programmatic approaches at a regional, country or ecosystem level are effective at achieving environmental and reform results** – As mentioned earlier, programmatic approaches, such as the HELCOM Baltic Seas programme, have enabled partner countries to prioritise environmental investments and achieve a cumulative impact on the environment. A programmatic approach also makes the replication of successful approaches more likely. By linking individual municipal success in reforms to national processes, a programmatic approach is more likely to encourage the adoption of such reforms across the whole nation or region. Investments that have been isolated and have not benefitted from a programmatic approach have not had a wider or cumulative influence.
3. **Sound preparation has been the key to the successful projects** – One of the major benefits of external support has been the provision of highly skilled technical and project management expertise. Where projects have delivered delayed or disappointing results the problems have often stemmed from poorly prepared feasibility studies.
4. **Strategic blending of loans and grants has not optimised use of scarce grant resources** – although Sida grants have been strategically used, there is an opportunity to further optimise the impact of the grants. Significant grant funds have been used on the provision of technical expertise and on advancing the reform agenda; and these have had a beneficial effect. However, grant funds have also too easily shielded authorities from having to raise tariffs, which in the longer term can undermine transition objectives.

5. **Sida has added significant value to the environmental investments** – high-level political support, specific technical interventions, insistence on unpopular conditions and a focus on gender, environment and citizen participation have improved the effectiveness and impact of the supported projects. Sida, more than other donors have taken part in steering committee meetings, replied timely to questions and provided critical comments as part of the approval of projects. The field confirmation revealed that clients found the continuity of Sida staff supporting environmental investments in Eastern Europe to be an important factor in adding value because it provided consistent and constructive guidance. Twinning with Swedish organisations, although not unqualified in its success, as shown by various evaluations, was also instrumental in bringing about changes in management approaches.
6. **Sida's internal monitoring and evaluation system did not allow results to be clearly measured** – a systematic results-based approach was not implemented during the period under evaluation. As mentioned earlier, it has not been possible, particularly for the earlier projects to isolate the achieved results and compare them against what was planned. It does not mean that the results were not achieved; it means that they are not documented and cannot be verified except by physical inspection.

These findings are complemented by over 90 detailed findings related to the evaluation questions and to strategic topics considered by the evaluation.

Recommendations

The six most important recommendations related to the above findings are:

- 1) **Continue and further improve the current arrangements of working with International Financial Institutions.**
 - 1.1. Encourage the trend of using larger programmatic trust funds over a longer time span.
 - 1.2. Continue close relationships with the IFIs to further extend the influence on their core practices.
 - 1.3. Take an active role in improving both designing and reporting for results. Encourage web-based presentation of key environmental and financial performance data.
- 2) **Respond to and help develop country- and region-led programmatic approaches.**
 - 2.1. Consolidate the existing International Financial Institutions /donor-led programmes (e.g. E5P) before starting new ones.
 - 2.2. Unless there is a strong trans-boundary benefit or regional economies of scale, support partners, IFIs and others to develop country-based programmes, as they are more strongly anchored in existing institutions than regional programmes.

- 2.3. Promote the development of environmental planning and prioritisation as the basis for country- and regional-led programmes.
- 3) Continue the emphasis on high quality project preparation feasibility studies.**
 - 3.1. Ensure that during project preparation, efforts are made to understand and respond to both institutional and political processes of change at both country and municipal levels.
 - 3.2. Ensure that project preparation has identified realistic ambition levels, thoroughly scrutinised demand forecasts, ensured that there is a supplier network in place for more advanced equipment and identified where maintenance contracts are advantageous and that where relevant ensure that procurement specifications take account of a full life cycle cost basis.
 - 3.3. Use a results-based design to improve the relevance and realism of project objectives, outcomes and outputs. The one adopted under the European Bank for Reconstruction and Development Sida trust fund for environment and climate is a model that can be used. The results-based design should be complemented by support to improved municipal/ national /regional environmental monitoring.
- 4) Develop criteria and best practices for optimising the blend of loans and grants.**
 - 4.1. Obtain an overview of the current practice of blending amongst International Financial Institutions and critically examine the rationale for the use of the grant element of concessionary financing.
 - 4.2. Encourage the use of on-lending using country-based financial institutions and promote the mobilisation of local financial resources.
 - 4.3. Develop a guideline for best practice in concessionary finance for environmental investments in Eastern Europe and the Western Balkans.
- 5) Develop country specific policy/reform dialogue agenda together with partners.**
 - 5.1. Under regional guidance, Sida country offices should prioritise the process of formulating attainable and shared policy dialogue goals in each country, together with country partners, donors and International Financial Institutions.
 - 5.2. Use the policy dialogue plans to integrate the work of Sida's three pillars of environmental support (institutional, investment, civil society).
 - 5.3. Using a results-based approach, follow up, report on and adjust the policy dialogue plans yearly.
- 6) Strengthen Sida's monitoring and learning.**
 - 6.1. Conduct a comprehensive portfolio analysis of environmental investments supported by Sida.
 - 6.2. Consider developing, in close cooperation and compatible with IFIs, a results framework for the whole portfolio for environmental investments.

- 6.3 Include firmer conditions on results-oriented reporting in agreements with International Financial Institutions.
- 6.4 Consider how International Financial Institutions where relevant working closely with Sida could extend the post construction follow-up..

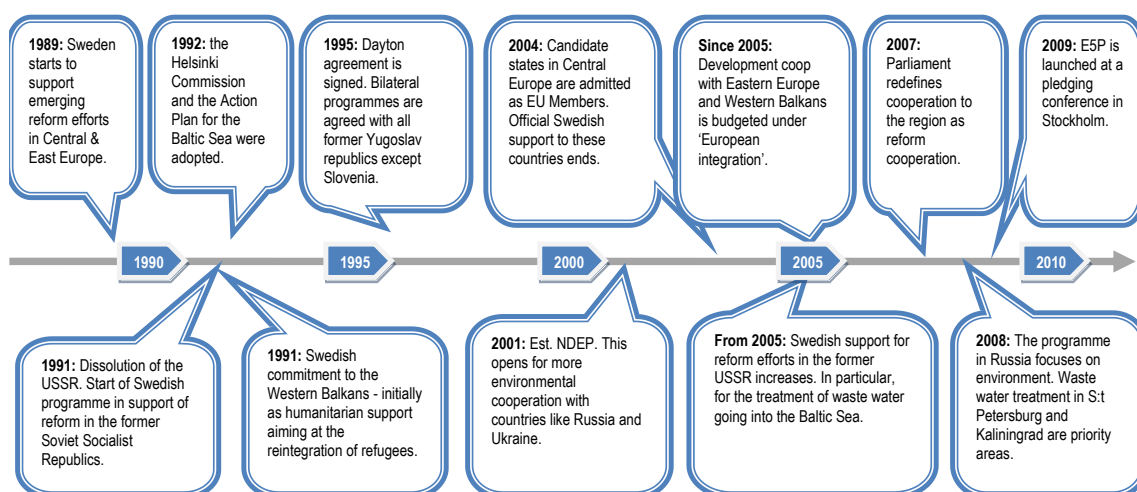
1 Background

Sida has supported environmental investments in Central and Eastern Europe since the late 1980s. Since the mid-1990s, municipalities in the region have implemented more than 60 environmental projects in wastewater treatment, district heating, energy efficiency and solid waste management.

The Swedish Government has developed regional strategies to guide its support in different parts of the world, but has so far yet to do so for the regions encompassing Eastern Europe, including Russia and the Western Balkans. The Government intends to develop one or more regional strategies for these regions to guide future support efforts. It is likely that municipal environmental infrastructure investments and reforms will continue to be at the core of future assistance.

An overview of the historical and political events that have shaped developments in the region, and the Swedish support efforts, are outlined in Annex 1 and are summarised in a time line below:

Fig 1.1 Timeline for Sida's support to environment in Central and Eastern Europe – 1995-2010



1.1 PURPOSE OF THE EVALUATION

The overall purpose of this evaluation is to contribute to the development of a regional strategy(s) for promoting municipal environmental investments in Eastern and Central Europe, based on an assessment of what approaches and strategies have worked best so far, under what circumstances and why. The findings are based on evidence at project and programme¹ levels and are further informed by international good practice and lessons learnt from comparable programmes. The evaluation has aimed to shed light on the elements needed to inform strategy development for engaging with the region addressing such factors as:

- Context for engagement
- Balance of objectives
- Policy dialogue
- Choice of partners/arrangements
- Choice of funding arrangements
- Roles and institutional set up of the different actors
- Internal skill set requirements for Sida

Based on the conclusions from the evaluation, the evaluation presents recommendations that can feed into the process of the development of a new regional strategy for Eastern Europe and the Western Balkans.

The primary users of the evaluation are: Sida's Department for Reform and Selective Cooperation and Swedish Embassies who will draw on the findings to advise the Swedish government on the planned regional strategy(s). Other users are: the Ministry for Foreign Affairs (MFA); Ministry of Environment (MoE); IFIs, national partners and others involved in the design of Sweden's support to municipal environment investments.

1.2 OUTLINE OF SIDA SUPPORT TO ENVIRONMENT

Between 1995 and 2012, Sida provided over SEK 5.4 billion in support to environmental interventions in Eastern and Central Europe and Western Balkans, both bilaterally and through IFIs.² The distribution of support across countries and across different types of support areas is shown in figure 1.2.³

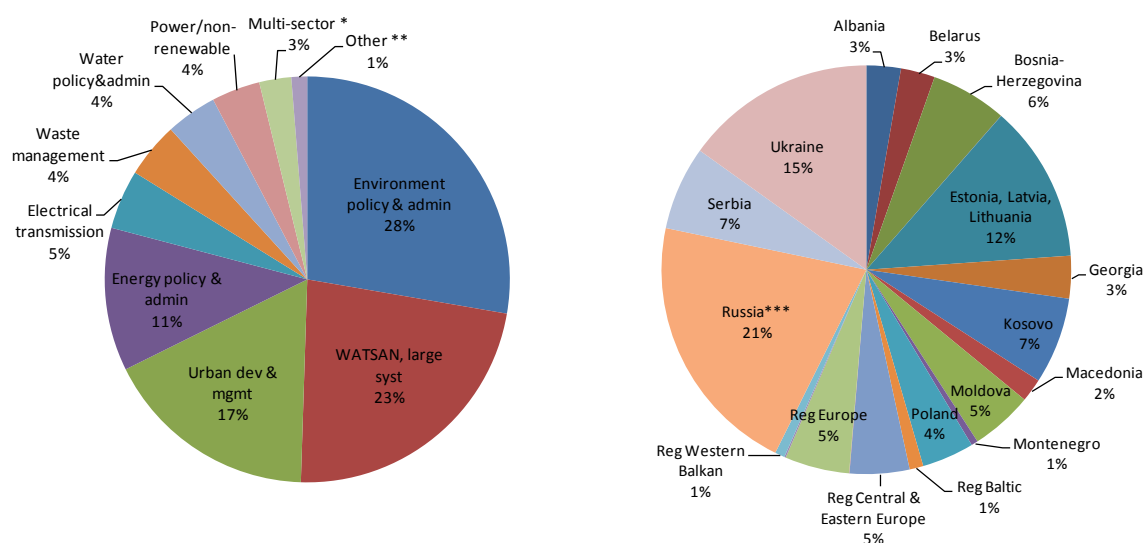
¹ See Annex 4 (methodology) for formal definitions of project and programme.

² This is an estimate based on an analysis of the Sida's project database (accessed in December 2012). This figure may vary depending on the parameters used. To generate the 5,4 billion SEK, the following parameters were used:

Sectors: Water resources policy & administration, Water resources protection, Water & sanitation, large systems, Water & sanitation, small systems, Waste management/disposal, Education water & sanitation, Energy policy and administration, Power generation/non-renewable, Power generation/renewable,

The objectives of the support over this period have centred on improving the environment in Central and Eastern Europe through physical, institutional and reform related interventions. At first the focus was on water supply, wastewater treatment and district heating, with an increasing focus on energy efficiency and waste management in later years. The support, particularly in the earlier period, also aimed to significantly and sustainably reduce pollution in the Baltic Sea, to preserve this vital ecosystem for future generations. In earlier periods the contributions also supported the demonstration of Swedish environmental technology in order to build a longer-term market for environmental services throughout the region. The long-term underlying objectives were to create a basis for sustainable economic and social development with the vision of a prosperous, democratic future for the entire region. To achieve these aims, the support contributed to the integration of the economies of the region by working closely with structural funding provided by the European Union and other partners assisting with the accession to the EU by candidate countries.

Figure 1.2 Distribution of Sida support across countries and sectors 1995-2012⁴



Electrical transmission, Gas-fired power plants, Energy education, Environment policy & admin, Urban development & management.

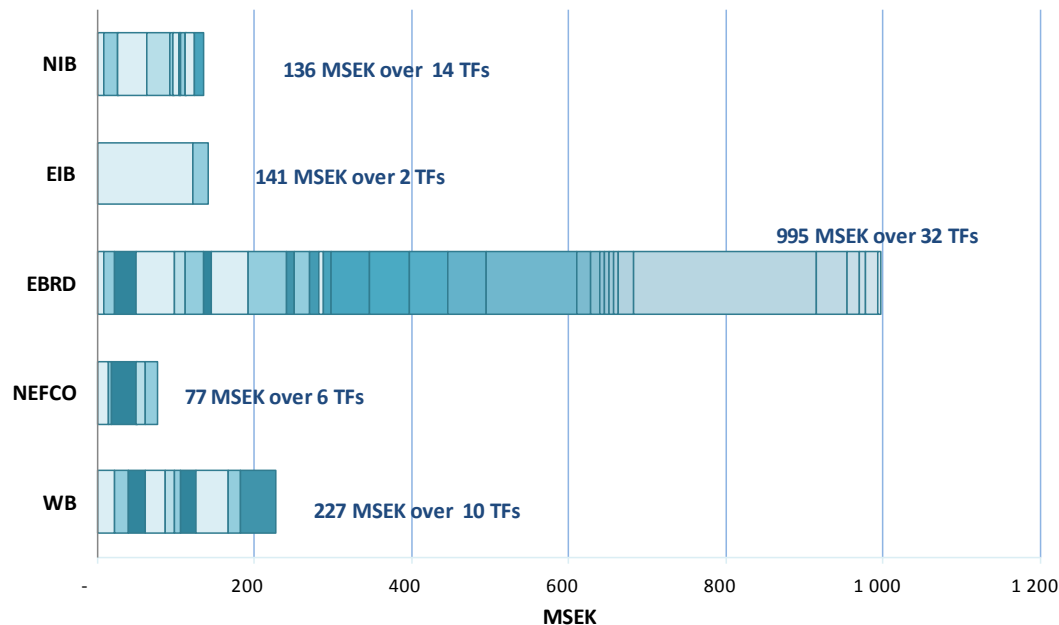
The following geographical categories were used: Albania, Belarus, Bosnia-Herzegovina, Croatia, Estonia, Georgia, Kosovo, Latvia, Lithuania, Macedonia, Moldova, Montenegro, Poland, Serbia, Ukraine, Reg Baltic, Reg Barents, Reg Central & Eastern Europe, Reg Central Asia & Reg Central, Reg Europe, Reg Kaukasus, Reg North Western Russia, Reg Western Balkan, Archangel region, Karelia, Kaliningrad region, Leningrad region, Moscow, Murmansk region, Novgorod region, Other Russia, Pskov region, St Petersburg.

³In accordance with Sida sector codes/titles.

⁴ * This is mainly composed of Multi-sector Trust Funds with IFIs in the areas of water, sanitation, waste and energy; ** includes: Energy education, Water resources protection, Education water & sanitation, Gas-fired power plants, Power generation/renewable, Water & sanitation, small system; ***Archangel region, Karelia, Kaliningrad region, Leningrad region, Moscow, Murmansk region, Novgorod region, Other Russia, Pskov region, St Petersburg, Reg Barents, Reg Northwestern Russia

Sida support to the environment in Eastern and Central Europe and the Western Balkans from 1995 to 2012 through IFIs is shown in figure 1.3. In total, through five IFIs, some 64 Trust Funds have been established for a total of SEK 1576 million.

Figure 1.3 Sida Support to environment through IFIs 1995-2012



1.3 METHODOLOGY

Purpose and focus of the evaluation

In line with the Terms of Reference (ToR) and inception report this evaluation is:

- Forward looking and aimed at informing a future regional strategy(s)
- Programme level rather than project level
- Based primarily on desk evaluations of documentation but with a short field verification done for five municipalities completed more than five years ago.

The evaluation has focused on the following strategic factors at a programmatic level:

- Effects of different financing models and implementing partners/channels;
- Sida's added value in different financing and cooperation models;
- Implications for internal organisation and management of Sweden's support;
- The impact of Sida support on policies and reforms

Selection of contributions – Sida and the evaluation team agreed on an initial selection of contributions to evaluate at the inception meeting in August 2012, based on the need to reflect: i) a full range of environmental projects including water supply, wastewater, solid waste management, district heating and energy efficiency; ii) a range of IFIs including European Investment Bank (EIB), European Bank for Reconstruction and Development (EBRD), Nordic Environment Finance Corporation (NEFCO), Nordic Investment Bank (NIB) and World Bank; iii) partnership modalities (co-financing or parallel financing); iv) programmes such as the Northern Dimension Environmental Partnership (NDEP), E5P, Early Transition Countries (ETC) and

others and; v) a range of countries that included the Baltic states in order to sample both earlier projects, where there would be more information on achieved results, and later projects, which were more representative of the type of modalities and countries that the future regional strategy would be involved with.

Five municipalities were selected for field confirmation. The main criteria was that the projects should have been completed more than five years ago so that the sustainability and impact could be tested.

Obtaining, organising and analysing the data – The evaluation team obtained documents from the Sida document archive system and supplemented with other sources such as the IFIs. However, much of the data from IFIs was confidential and could not be obtained. To make best use of the limited data available, the different team members wrote summary notes on each document that were based on a standard template. This allowed for cross checking in the interpretation of information and ensured that an overview and synthesis of the main findings across all the contributions was available to the whole team. In total, some 26 contributions and 600 documents were evaluated.

Complementing report data with detailed interviews - in parallel with the data collection, 10 semi-structured interviews were held with key individuals. To take account of subjectivity in interviews, the evaluation team triangulated the answers by interviewing several people at the same institution and by using different interviewers in the evaluation team.

Verification of findings and evidence – a study that is mainly desk-based of this nature, given the broad questions posed, was limited by access to sufficient data to draw evidence-based conclusions from a representative sample of projects/programmes. However, the project and programme case studies, and the findings from these, have provided evidence to respond to the questions. The findings are presented in such a way that determining what evidence supports what finding is clear. Where possible, the sources and original evidence for statements are given in footnotes and are linked to actual projects or case studies (these are underlined in the text). The sources, which are mainly either interviews or documents, are then traceable through: i) interview notes and ii) summary notes from the document evaluation. This allows an external evaluator to re-interview and re-read the documents to independently determine if the evidence is sound. The elaborate documentation was done in order to make best use of limited data. Detailed case studies of the five projects visited during the field confirmation are presented in Annex 9.

Validity and reliability – the methodology has allowed for a high degree of traceability back to the original data, via the structured interview and document summary notes that provide a basis for achieving high reliability ("the findings are not distorted by a single view and the rationale behind any interpretation needed can be traced"), because: i) the process has required that more than one person inspect the same document and by having more than one person interview the same person and, ii)

through the structured notes, the methodology allows for the conclusions to be independently tested by cross-examining the text/person that they were derived from.

Close contact with the steering committee for guidance and feedback – throughout the process, the evaluation team kept close contact with the steering committee for the study. Following the inception report, interim findings were discussed on 21 September; a first draft of finding was discussed on 12 October and a short version was presented at a workshop in Saint Petersburg on 17 October.

Quality assurance – both internal and external quality assurance was conducted. The Indevelop Project Manager for this study, Anna Liljelund Hedqvist, has been responsible for compliance with Indevelop's QA system throughout the process and has performed internal quality assurance of the different deliverables under this assignment. The Team Leader used the pre-defined QA check list before finalising the reports. Internal quality assurance was followed by external quality assurance by Adam Pain, who is a member of the Indevelop Core Team of evaluators under the Framework Agreement. The draft report was commented on by some five members of Sida, from the steering committee and country offices, as well as a former employee who was previously responsible for the programme. A telephone conference was held to discuss the comments on 26 November 2012. All of these comments were subjected to scrutiny and a detailed response was made with text adjustment where relevant. Although exhaustive, this process has strengthened the quality of the evaluation by pitting different opinions against one another and by testing the evidence base for core statements.

The limits to the evaluation should be noted:

- Most projects that use current modalities are still ongoing and completion reports are therefore not yet available.
- The data record is incomplete, so a continuous sequence of progress reports and feasibility reports are not available.
- Reporting on results in the project documentation is weak. Municipalities are not reporting environmental data to IFIs (and IFIs are not requesting this data), which would allow for an assessment of their environmental impact.
- Although there are some programme-level evaluations, they are not specific enough to allow key findings to be verified.
- Neither the desk study nor the field confirmation allowed a counterfactual situation to be explored.

To address the limitations in data availability – the following steps were taken:

- We complemented the desk evaluation with interviews with key staff at the international financial institutions (IFIs): Sida, MFA and others.
- We discussed and verified key findings with the steering committee and with a wide range of Sida staff present at the workshop in Saint Petersburg.
- We took advantage of an opportunity, with the presence of members of the evaluation team in Ukraine, to directly interview Sida staff; a brief discussion was also held with Sida staff in Moldova.

- A field confirmation was undertaken after the desk review report was published.

The selected countries included Lithuania, Estonia, Latvia and Russia, as they allowed a focus on projects that were completed earlier. Ukraine, Moldova, Georgia and also parts of the Western Balkans, such as Bosnia and Herzegovina (BiH), were selected to allow a focus on modalities and countries of likely future interest. A more detailed methodology is given in Annex 7 and in the inception report (under separate cover).

2 Findings

The ToR use the OECD definitions for evaluation criteria. These and other definitions are given in Annex 2. A detailed list of findings is summarised in Annex 8.

2.1 RELEVANCE - FINDINGS

The ToR group three questions under relevance which, together, summarise the dimensions of relevance as being: i) conformity to partner country needs and priorities; ii) conformity to Swedish policy concerns and, iii) contribution towards socio-economic development and political reform.

2.1.1 Q1: To what extent have the interventions conformed to the needs and priorities of target groups and the policies in partner countries?

Overall conclusion: The interventions are relevant and address significant environmental problems that are priorities of the partner countries. The municipal focus helps to bring the interventions closer to the target groups and their priorities. However, where the interventions are not linked to wider processes that are beyond a single municipality, there is a danger that they become isolated and do not have a spill-over effect. In some cases, Sweden has helped to initiate an environmental programme (e.g. HELCOM/NDEP) than enables the national partners to prioritise the interventions within a national and trans-boundary framework. Elsewhere, although environmental investment interventions meet stringent eligibility criteria, they do not appear to have been prioritised against environmental urgency or cost effectiveness criteria.

Sida-funded interventions have aligned with national strategies where these are available. Sida-funded interventions in Serbia are an example where Sida has supported and explicitly aligned with national strategies (Strategy on Solid Waste and the National Strategy for Sustainable Development). But in most other instances, there has been a strong focus on the municipal level, which has meant that, while no examples were found of contradictions with national strategies, the support was aimed at municipal rather than national priorities. In the long run, this could be sub-optimal in the sense that the demonstration and carryover impact might be reduced. It also means that prioritisation between municipalities has not been guided by a coherent plan that optimises overall environmental impact. However, many countries do not have well-considered national strategies and priorities that could be supported. In this context, it has been pragmatic and more effective to direct support at the municipal level. Within the environmental investment pillar, it was a deliberate choice not to direct resources towards attempting to assist the development of national strategies, as this was seen to be too long term, or politically complex a task, without the promise of immediate environmental benefits.

However, as part of the institutional and civil society pillars of Sida support in Southern Eastern Europe (Sida, 2007), there have been deliberate and successful attempts to develop national strategies and a participatory framework for environmental priorities. As national strategies become available and programmatic approaches are developed, it will be increasingly important to ensure that the environmental investment interventions also support national priorities.

The Interventions are highly relevant in meeting EU environmental requirements for prospective accession countries. Interventions have been aligned with external obligations, either posed by the EU accession process (*Albania, BiH, Serbia, Kosovo*), or the ENP Action Plans or Association Agenda Priorities (*Ukraine, Moldova, Georgia*). For example, the *Novi Sad (Serbia) District Heating project*⁵ is directed at helping to meet EU directives on Renewable (28/2009/EC) and Energy Performance (2010/31).⁶ All of the projects in the Baltics were not only directed at complying with HELCOM requirements but also with complying with EU accession requirements.

There is not a clear strategy for replication, so the environmental interventions have a cumulative effect. The environmental challenges in most of the countries being supported are considerable, especially in large countries such as Ukraine. The projects meet their service delivery objectives within the individual municipalities. However, the wider transition and reform objectives can only be met if there is domestic replication of the adopted approaches. Because of the scale of the environmental problems environmental interventions also need to be replicated if broader environmental objectives are to be achieved. It might be argued that success at the municipal level will be self-demonstrating, but there is no available evidence that this has yet happened – although the field confirmation did uncover evidence of frequent visits between utilities. Because the projects are very carefully nurtured and supported, it is unlikely that replication and/or scaling up will happen by itself – this was evidenced during the field visit to *Lviv, Ukraine* where it was reported that many other towns would like to use similar energy saving equipment but do not have access to finance to make this a reality.

On some occasions Sida has taken the lead in initiating a project; in other cases it has been driven by the municipalities or national government. A good example of a municipal-driven project is *Bijeljina in BiH*, where the municipality had already launched construction of the main collector drain using municipal funds, but was then in need of funding for the wastewater treatment plan, which was subsequently secured through Sida working together with an IFI.⁷ In those cases where the intervention is a

⁵Contribution 71300213.

⁶Source: Contribution Note on 71300213 Regional MEI + Climate EBRD.

⁷ Source: Contribution Note on 71300213 Regional MEI + Climate EBRD.

result of an upfront investment by the municipality, and where there is political support for reforms (at both municipal and central levels),⁸ ownership can be considered to be very high and has been one of the reasons that motivated Sida to provide a grant (BiH/Bijeljina;⁹ Ukraine;¹⁰ Russia /Gatchina). Where a municipality is forced to accept a project because of purely national priorities, but is not itself behind it, projects have tended to run into problems.¹¹

National relevance can be contrasted with municipal relevance. The best results will clearly come when the project is demanded by, and is relevant at, both national and municipal levels. Swedish support has made a conscious decision¹² to focus on projects that were deemed highly relevant at the municipal level, mainly because it is this level that is most influential to the smooth implementation of complex infrastructure. The evaluation team understands and, to a large extent, agrees with this choice, bearing in mind the cost of delays for infrastructure projects and the difficulty of getting all parties to agree at the same time. As argued elsewhere in this report, it appears that the opportunity to integrate the investment pillar of environment support (municipal focused) with the institutional (national) and civil society pillars was not fully exploited.¹³

Project prioritisation is not always evident except where guided by a programme such as the Helsinki Commission (HELCOM). The early investments in the Baltic states were guided by a regionally agreed upon pollution hotspot master plan. Later investments, such as wastewater treatment in Grodno¹⁴ in Belarus, were also prioritised as one of six cities based on the hotspot master plan. The hotspot project in Grodno was approved with reference to HELCOM and without economic analysis,¹⁵ indicating that donors were willing to skip this check to remove the hotspot. Hotspot remediation (Pančevo/Serbia and Sharra/Albania) was also done during early support to environmental issues in the Western Balkans (from 2000 to 2002/2003).¹⁶ In other cases, project selection appears to have followed a more conventional banking approach of responding to investor initiative, followed by careful pre-screening of finan-

⁸ Source: Interview with Peeter Horm.

⁹ Contribution 71300213.

¹⁰ Source: Interview with Mirja Petersson.

¹¹ Source: Interview with Kari Homanen, NEFCO.

¹² Source: Interview with NIB, Interview with Lars Eklund, Sida.

¹³ Evidence of this is that virtually none of the 600 scanned documents mention any linkages between the pillars. Discussions with Helen Holm and steering committee reflections on interim findings in September also tended to confirm this finding. It does not mean that, in individual cases, efforts were not made to secure integration, it just means that evidence of this was not found by the evaluation team.

¹⁴ Contribution 53070091.

¹⁵ Peer Evaluation, Belarus Water and Wastewater Program - Grodno Project. Grodno Water and Wastewater Project, 2010-12-06, p.1 and Feasibility Study, Final Report, December 3, 2010, p. 198.

¹⁶ Evaluation 04/11 of Sida support to Tirana - Sharra Waste Dump Site – Feasibility Study and Urgent Rehabilitation Measures Project, 2003.

cial viability, in order to ensure that minimum criteria were met. For example, in Ukraine, projects are being considered for co-funding by Sida that have undergone pre-screening by the IFI. Despite the magnitude of the environmental problems in Ukraine, there is no hotspot analysis or master plan in place. Although there is no reason to suspect distorted prioritisation, and each project is justified within itself, explicit selection criteria for these projects are not evident from the available material. All the projects visited during the field confirmation were part of the HELCOM programme.

Early (from 2000 onwards) support in the Western Balkans was largely provided (42% of the total allocation to urban environment between 2000 and 2006) through international organisations (primarily from the UN system, as for example with Sharra/Albania, which was implemented by UNEP) and NGOs.¹⁷ Assistance was also given through Swedish institutions (such as the Swedish Environmental Protection Agency/SEPA) to provide support to the establishment and the capacity building of institutions in the partner countries (Western Balkans region). In contrast to the Ukraine projects, the Western Balkans projects were identified based on a hot spot remediation study by UNEP.

Projects at the municipal level are relevant because they are close to the point of demand. Sida prefers to work with the municipal level for the investment pillar because of the overall difficulties of achieving change at the central levels of government (a result of the overall complex political environment in the country): *“The experience of cooperation to date shows that contributions at local level have often produced better results and have had greater opportunity to affect the everyday life of individual people than contributions at national level.”*¹⁸ The ability to work directly with the municipal level sometimes depends on who the lender is, and consequently, the lender's ability to navigate at the sub-central level. In Ukraine, the preferred choice for Sida was EBRD and NEFCO, as opposed to the WB, as the latter has to work through the central level, thus making the process much more cumbersome, and slower.¹⁹ This was not the case in other countries, such as the Western Balkans, where it has been easier to navigate at the central level. The focus is not only on the municipal level in BiH. In BiH, through the institutional pillar, Sida supports the legislative and institutional reform at the central level.

¹⁷ See Evaluation of Sida's Support to Urban Environment and Urban Development in SEE 2000 – 2006, Final Report August 2007; see also Evaluation 04/11 of Sida support to Tirana - Sharra Waste Dump Site – Feasibility Study and Urgent Rehabilitation Measures Project, 2003.

¹⁸ Sources: Sida Development Co-operation Strategy with Bosnia and Herzegovina 2011 to 2014, p. 10; Interview Notes with Head of Co-operation Ukraine, and Peeter Horm.

¹⁹ Sources: Interview Notes Head of Co-operation Ukraine; Contribution Note for Contribution 76003827 (Swedish Trust Fund for the Urban Infrastructure Project with IBRD/WB). This was also confirmed through the field confirmation.

2.1.2 Q2: To what extent have the programmes been in line with the policy of the Swedish government, implying, among other things, special attention to the rights-based approach, gender equality, greater influence for women, and good health and environment? (The question must take into consideration changes in the policy and objectives of Swedish development cooperation during the implementation period of SES.).

Overall conclusion: The interventions explicitly refer to, and have been designed in line with, Swedish policy. Sida has been one of the parties that has influenced the current and future operations of IFIs, as evidenced by the incorporation of gender and social participation in IFI project assessment and reporting, as well as the use of new tools such as corporate development and social participation plans. It is too early to tell if these promising initiatives will have the desired policy outcomes, but it is plausible to conclude that they are very likely to lead to improvements in line with Swedish policy.

Support to the environment is well aligned with Swedish country strategies. The process of setting priorities in the country strategies is consultative. The environment is a high priority for Sweden and features prominently in the country strategies. This does not mean that countries would necessarily choose sustainable environment if they were given a completely unrestricted choice. But it is likely that even if the environment is not the highest priority, it is sufficiently high that it does not displace higher national priorities, given that there are other resources available. This would be the case for EU candidate countries, or for those with prospects of accession, because the environment features very prominently in the conditions for accession. For example in support of this finding: in Ukraine, the Urban Infrastructure Project²⁰ cross-references the Swedish country strategy at the time and its priority on support to ‘municipal environmental infrastructure and related services’. In Serbia, Sida-supported interventions focus on ‘alignment with EU priorities’. The Belarus, Russia and Ukraine NIB Trust Fund²¹ also forms extensive links with the Swedish strategic documents.

Gender is increasingly featured, especially in the more recent project documents, but implementation results are not yet evident. Gender is a cross-cutting issue in all Swedish country strategies. Some projects contain gender-based assessments (for example in Ivano-Frankivsk District Heating Project).²² Sida influence is clearly behind the gender criteria adopted by EBRD in its project assessments under

²⁰Contribution 76003827.

²¹Contribution 50370034.

²²Contribution 53060007.

the environment and climate change trust fund²³ where, for example, utilities are now required to develop a gender strategy as part of their corporate plan. Evidence of gender-related results, as opposed to well-meaning plans or strategies, is not available from the studied material. According to Sida's office in Ukraine, mainstreaming gender has been a challenge in practice and remains at an early stage. The field confirmation did find that at least two of the towns visited (Narva, Panevėžys) had effective female leadership (the head of projects in Narva and the head of wastewater treatment plant in Panevėžys were women).

The rights-based approach does not feature explicitly, but is implicit in many of the interventions. The environmental investment pillar has not explicitly used a rights-based approach, in contrast to the institutions and civil society pillars where participatory approaches have been used that acknowledge the role of right holders and duty bearers. For example, during support to the elaboration of the National Strategy for Sustainable Development of Serbia, it was recognised that basic services were a right for all and not just those that could afford them. In Ukraine, the Ivano-Frankivsk District Heating project²⁴ held consultations with rights-holders. Participation processes that recognised the right to a healthy environment were part of the Rustavi Solid Waste Management project where pro-poor tariffs were designed²⁵ The more recent interventions are making systematic use of social participation plans,²⁶ which aim to ensure that utilities engage with their customers and offer relevant and responsive services, including timely response to complaints. Whilst participatory approaches are more prevalent than before, the projects still do not explicitly refer to, or make use of, rights-based approaches. There is a noticeable absence of the voices of those that have been affected by the interventions from the documentation available during the desk evaluation. However, the field confirmation noted that there was a customer focus and an engagement by civil society. In Lviv, Ukraine, for example, meetings with civil society demonstrated that there was high satisfaction with the 24 hour water supply and with the success in managing summer outbreaks of sewerage smell. In Panevezys, Lithuania regular customer surveys are done and indicate satisfaction but also a lack of appreciation for why sewerage services need to be charged for. However, it is very clear that the interventions, because they lead to improved water supply, wastewater treatment and energy efficiency, have a positive impact on securing and maintaining people's right to basic services and a healthy environment.

²³Contribution 713200213 – Sida's influence is apparent in that this very large trust fund, which is purely Sida-financed and uses a new and much more direct and radical approach to gender that is very closely aligned to Sida policy and practice. EBRD might have been ready to adopt similar gender approaches anyway, but it is not apparent from earlier documents, such as the 2010 EBRD evaluation, based on the trial of paperwork and discussion on the topic that it is reasonable to attribute some, if not all, of the changes in gender approaches to Sida influence.

²⁴Contribution 53060007.

²⁵Contribution 71300213.

²⁶Source: Interview with Jane Kieran and Erik Holmqvist EBRD.

There are perhaps two constraining factors for adopting a more explicit approach. One is that the projects are mainly implemented via bank-based IFIs who, at least in Eastern Europe, focus on service delivery from the technical and economic angle; and a second is that the political context for a rights-based approach is not always favourable.

The environment is addressed explicitly and good health is addressed implicitly.

Improvement to the environment is one of the key objectives of Sida support, especially for those projects/countries obliged to adhere to the HELCOM or EU standards. Although service delivery objectives sometimes dominate, there are significant environmental benefits in all interventions. Professional environmental impact assessments are made, which aim to enhance positive opportunities to improve the environment and to reduce any potential negative impacts. For example in Georgia, for the Poti and Kutaisi projects, there is evidence that concerns over health and safety during construction are being raised and addressed. Strategic environmental assessments are not referred to, or made use of, except in one case in South Eastern Europe²⁷ where Sida financed a strategic environmental assessment that helped prioritise the positive environmental impact of projects.

Present and future IFI approaches have been influenced. By incorporating gender and social impact into project assessment checklists, into ToR for corporate development plans, and stakeholder participation programmes, the IFIs, led by EBRD, have followed core Sida policies. This has had a structural and perpetual influence on EBRD operations beyond the scope of the Sida-financed investments. It is plausible, since the changes were first made under a Sida trust fund and follow the main Sida concerns very closely, that Sida has been influential, even if it is not possible to attribute all the changes to Sida.²⁸ NIB and NEFCO have also adopted similar instruments. It is too early to conclude that these steps have been implemented as intended or whether they have resulted in improved outcomes within gender, environmental and social participation. But it is plausible that they will have an impact, which will be detectable if there is follow-up monitoring. Procedures introduced by Sida and internally adopted by IFIs will have an influence on all actions, including those not co-financed by Sida.

²⁷ Sida, 2007.

²⁸ As mentioned earlier under footnote 24, it is reasonable to conclude that Sida has had an influence on checklists and tools.

2.1.3 Q3: How have the programmes interacted with other factors to achieve socio-economic development and political reform (e.g. via increased improved investment opportunities created through the investment)?

Overall conclusion: There is not enough evidence to be able to draw firm conclusions. Sida has provided intensive and professional support to project design, project management and institutional support at the municipal level. It is likely that these efforts (e.g. introducing demand management, promoting autonomy in the management of utilities, cost control and consumer involvement), as well as capacitating individuals, will also have a wider impact on the organisational and institutional performance within the concerned municipalities. The field confirmation noted that modern management approaches and tools were in place and there was a clear appreciation of the importance of a customer focus. All the visited utilities have made a shift from a Soviet management regime to a more modern approach. However, the utilities are not able to clearly trace or pinpoint the sources of influence for this shift to the provided external support provided.

There is insufficient evidence to draw strong conclusions. For the screened projects, there is insufficient information to be able to answer this question, which is something that the evaluation team had flagged in the inception report (p. 13) when it suggested to approach this question at a generic level. A Sida-commissioned evaluation of Support to Urban Environment and Urban Development in South-Eastern Europe 2000 – 2006 assessed the socio-economic impact to be generally low, partly because the interventions were considered to be too isolated to have a wider spill-over effect.²⁹

Political reform has perhaps been constrained by the narrow municipal entry point. Nevertheless, it would be plausible to assume that there have been some spin-off benefits at the municipal level in areas where project interventions have been intensive, for example:

- The projects have used transparent evidence-based feasibility studies as the basis for public investments – this could potentially increase the transparency and cost effectiveness of future public investment. The field confirmation verified the usefulness and impact on future investment planning that these studies have introduced e.g. in Jurmala where the investment planning tools are still used.
- The projects have raised discussions on the need to match demand, affordability and the ambition level of investment in order to ensure viable services –

²⁹See Evaluation of Sida's Support to Urban Environment and Urban Development in SEE 2000 – 2006, Final Report August 2007, p. 4 and p. 22.

this could potentially increase the relevance and cost effectiveness of future public investment.

- Some of the projects have undertaken independent environmental impact assessments and have related all investment decisions to national and local regulations – this has the potential to further embed respect for environmental and other regulations.
- The projects have ensured that consumers are consulted and, where relevant, participate in decision-making – this will potentially increase the democracy of decision-making and influence and ensure that decisions are relevant to the population. This effect was verified by the field confirmation visit where it was noted that utilities are undertaking consumer surveys.
- The projects have adopted procurement procedures that are transparent, recognised opportunities for corruption, and reduced or eliminated these where possible– this will potentially increase the accountability and cost-effectiveness of public services (in one municipality, the EBRD evaluation³⁰ noted that the municipality had decided to adopt the EBRD procurement systems for all large-scale infrastructure).The field confirmation verified that utilities are continuing to use the new contract management procedures that have been introduced through Sida support.
- Reporting on the performance of public services and being accountable to city authorities as well as the consumers – this will increase the accountability of both public utilities and city authorities. The field confirmation verified that environmental monitoring is taking place and both industries and the utilities themselves are paying significant fines when they fail to comply with discharge standards. Civil society has access to this information and have used it in discussion with city authorities ([Lviv](#)).
- Future projects that are being planned on energy efficiency in enterprises – these will make enterprises more competitive, thus leading to economic growth and greater employment. In all the towns visited under the field confirmation, energy savings were noted.

2.2 EFFECTIVENESS – FINDINGS

2.2.1 Q1 – To what extent have the contributions of SES met their objectives, focusing on intended output, outcome and impact (and taking into account variations in the objectives of individual contributions under the SES)?

³⁰ EBRD Evaluation 2010.

Overall conclusion: Most of the projects that represent the new modalities of co-financing with IFIs are not yet complete. The focus on measuring effectiveness is thus on the earlier projects under HELCOM/NDEP. The interventions, which have been possible to assess, have been uneven in terms of effectiveness. Some projects have a high level of success in terms of their achievement of objectives and outcomes, whereas a minority of others have not. All of the projects visited during the field confirmation are achieving their environmental objectives. A thorough programmatic evaluation of EBRD operations,³¹ which constitute a large part of the Sida support, concludes that the projects have generally been effective.

The investments in wastewater projects in the Baltic region have significantly contributed to reducing the environmental impact on the Baltic Sea. Swedish environmental cooperation in the Baltic Sea region has supported the HELCOM Action Plan for the Baltic Sea that, in 1992, identified 132 pollution hotspots. Since 1995, Sida has been involved in around 40 water and wastewater investment projects in the Baltic Sea region, with a total contribution of more than SEK 1.2 billion SEK in investments. In early 2012, Sida issued a brief paper on Swedish support to water and wastewater investments in Eastern Europe 1995-2011, which concluded that: *“The emission reductions of phosphorous achieved and expected from the international development cooperation amount to 3,500 tons per year. This is more than the current total annual phosphorous emissions from Sweden. It is also about the same amount of phosphorous as in half of the Swedish waste water from households if it was discharged untreated to the Baltic Sea. As another comparison, the total emission reductions achieved in Sweden between 1970 and 1985 amounted to 5 000 tons per year. ... The investments in wastewater treatment in the former Soviet Union countries have proven to be an extremely cost-effective way of reducing phosphorous emissions to the Baltic Sea³²”*. This evidence is compelling and well-documented and was verified during the field confirmation (see Annex 9) Panevėžys.

Although there have been many successes, there are also some wastewater projects which have not been effective in achieving their objectives and outcomes. The HELCOM projects exemplify this conclusion. A detailed analysis of four

³¹ EBRD, May 2010. The EBRD's operations in the Municipal and Environmental Infrastructure (MEI) sector aim to promote improved efficiency and higher standards of municipal services, such as water supply and wastewater treatment, solid waste management, district heating, urban transport and other services. The policy evaluation, carried out by the Evaluation Department, was designed to provide lessons from past experience as an input to the development of the new policy. Overall, the evaluation rates the Bank's implementation of the 2004 Policy as Successful. It is concluded that the majority of the EBRD's operations in the MEI sector have had a major positive impact on the efficiency and quality of municipal services.

³² RES/LE; Sida, January 2012.

HELCOM projects shows that the picture of effectiveness, efficiency and impact is complex and uneven.

- The HELCOM wastewater treatment plant project in Panevėžys, Lithuania³³ is an example of a well-implemented project that was highly effective. In the evaluation of the project,³⁴ it is stated that: *'The overall waste water treatment plant upgrading project can be regarded as a 'success story' In spite of a number of obstacles on the way and industrial discharges during the start-up, the result is much better than might have been expected, and meets required discharge directives. The plant has sufficient capacity for the design load, though with reference to the high industrial discharge in the first part of 2007, it is imperative that industrial discharges are continuously controlled.'* The removal of organic matter, for Chemical Oxygen Demand (COD) 91% and for Biological Oxygen Demand (BOD) 98%, as well as nutrients, for nitrogen 78% and for phosphorus 96%, is very good. These results were verified by the field confirmation (see Annex 9).
- A parallel HELCOM project, the Riga Water and Environment Project³⁵, was less successful. In the evaluation report,³⁶ it is stated that: *'The environmental and health objectives were achieved generally. Not all targets were met, however, despite the improvements: the concentration of residual pollution in the treated effluent from the main waste water treatment plant at Daugavriņa continues to exceed the permitted EU and Latvian effluent standards for total nitrogen and phosphorous'*. The evaluation further concludes that the project suffers from the construction of severe over-capacity and resultant operational and financial performance difficulties. Water consumption fell around 50 % during 1994-2002, but this was not reflected in construction plans that were finalised in 2000. The project was completed in 2001. It is stated in the evaluation that: *'A prime lesson is that water and waste water projects at unstable economic transition conditions should reassess demand forecasts at each preparatory step up to final designs. Local plans for new pollution charges, metered billing and full-cost tariffs make flexible preparation approaches all the more necessary'*. The rehabilitated plant fails to meet all effluent standards. The anticipated fall, by 4,000 tons BOD/year, ended up as only 400 tons/year. The reasons for this are stated as unreliable baseline data (1994) and a fall in industrial production. Tariffs have only been raised to about 2/3 of what is necessary to achieve sound self-financing.

³³ Contribution 76002438.

³⁴ Rosén, 2008.

³⁵ Contribution 76002430.

³⁶ Ramström, 2003.

- The Daugavpils HELCOM wastewater treatment plant³⁷ project also suffered from over-sizing but had, at the time of the evaluation, almost reached treatment results fulfilling HELCOM demands; BOD has been reduced by approximately 67 percent. The concentrations of phosphorous in the effluent from the wastewater treatment plant exceed the HELCOM standards.
- Narva³⁸ wastewater treatment plant project was assessed during the field confirmation and found to be highly effective in reducing pollution levels. The biogas plant has not been maintained for 10 years and its capacity dropped to 20% of the design level after 4 years (see Annex 9).

District heating projects have also shown a mixed picture of effectiveness. The portfolio of district heating projects in Latvia and Russia³⁹ has been evaluated and has showed different levels of effectiveness and achievement of objectives.⁴⁰

- Jelgava network renewal⁵ was costly and although it achieved a high standard of technical effectiveness it failed in achieving its reform objectives and is not judged to be sustainable. A commitment to financially restructure the district heating company before taking on World Bank debt was taken out of the loan contract. The company also unexpectedly took over an old local district heating system under an ailing state industry. The finances collapsed and set back institutional reform and autonomy. The energy savings and environmental gains of a technical nature were overshadowed by poor demonstration of the financial viability to other district heating utilities. The project was rated in the project evaluation to be partly unsuccessful overall,⁴¹ although the evaluation, looking narrowly at specific technical activities in the project that were funded by Sida, rated the Sida-funded activities to be successful.
- The Archangelsk district heating⁵ suffered from poor project management and a tendency for the local owners to making piecemeal additions to a complex district heating system. The equipment delivered under the original Sida grants was only partially put to good use. The project was rated as unsuccessful overall⁴² and the specific activities that were funded by Sida were rated as partly unsuccessful.
- The Daugavpils district heating⁵ system was collapsing at the time of the project evaluation. No material investments were completed and the demonstration component was only partly completed. An ailing and badly-maintained district heating system with inadequate tariffs saw a downward spiral reinforced by falling industry demand. The company has little real autonomy from the city administration. The system faces a high disintegration risk, as district

³⁷Contribution 76002430.

³⁸Contribution 76001690.

³⁹Contribution 76002693.

⁴⁰Grettve et al, 2008.

⁴¹*Ibid.*

⁴²*Ibid.*

heating may no longer be a least-cost option across the City with falling load density. The specific Sida interventions were rated partly unsuccessful.⁴³

- Gatchina⁵ illustrates, in contrast to Daugavpils, that institutional progress can be accomplished, even in complex transition environments, provided there is commitment to making reforms. Sida and the World Bank chose the City because of its commitment to implementing reforms. Three years of organisational and institutional support, via Swedish consultants helped advance reforms even though there were many delays. The district heating company is well placed to resume priority investments, which have now been prepared with Sida support. The project was rated partly unsuccessful, but the adapted Swedish preparatory and demonstration interventions were rated as successful.⁴⁴
- The Riga Project district heating project⁵ and the Sida-interventions are rated highly successful due to support to thorough preparation studies. Riga City was a competent, committed and reform-minded owner.⁴⁵ The City joined its main district heating systems under one utility company. In contrast to the Jelgava case, “Rigas Siltums” was given a sound organisational, financial and managerial footing before the project. The company now (at the time of the project evaluation) has a high degree of autonomy and sustainability. Management was justified in opting for local currency debt for the project when this finally became available at beneficial terms from local capital markets, instead of taking up the intended World Bank and Swedish loans. In all, the project facilitated annual overall fuel savings of approximately 400,000 tonnes of oil equivalent.

2.2.2 Q2 - What were the influential factors?

Overall conclusion: Many factors affect whether a project achieves its objectives and whether they are reached effectively. Among the key factors identified through this evaluation are: high quality feasibility studies; client commitment and reform mindedness and, donor flexibility during the implementing phase.

There are numerous influential factors that affect how effective the projects were in achieving their objectives and outcomes. Among the most influential factors identified through this evaluation are:⁴⁶

- Quality of feasibility studies and detailed planning

⁴³ Grettve et al, 2008.

⁴⁴ *Ibid.*

⁴⁵ *Ibid.*

⁴⁶ The factors are very similar to normal criteria for good projects. They were derived bottom-up, based on the evidence from various reports and interviews. The factors confirm the importance of these well-known criteria. They are common sense, but unfortunately not always common practice – in part, because they are difficult to guarantee when working in difficult transition contexts.

- Sida flexibility in the implementing phase
- Long-term institutional support
- Critical assessment of assumptions
- Client commitment
- Client reform mindedness

In too many cases, poor feasibility studies and the absence of institutional analyses are to blame for disappointing performance. This is not a controversial finding, but an important one because there are too many cases where failure can be traced back to poor feasibility studies and an absence of institutional analysis.⁴⁷ Detailed project preparation, including thorough feasibility studies and institutional analyses, has proven to help ensure effective project implementation and to minimise risk aspects.

- In the case of Narva wastewater treatment plant,⁴⁸ a thorough feasibility study was completed prior to project initiation and, subsequently, the project was planned in detail in close cooperation with Estonian authorities and the EU Commission. An Environmental Impact Assessment was carried through, and discussed with, local and international stakeholders.
- In the Novi Sad district heating project,⁴⁹ a thorough feasibility study was developed through cooperation between an external consultant and the district heating company. This led to the adoption of better technical solutions than were first proposed by the company alone; it became the first project to install a biomass boiler and to introduce consumption-based billing.

An interview with an EBRD representative⁵⁰ supports the finding that thorough planning and ex ante assessments bring value. The interviewee states that Sida, in comparison with other donors, provides a very high level of scrutiny. The view expressed is that although there can be a lot of detail that adds to the work of the IFI, the comments increase the quality of the project.

There is evidence that Sida flexibility has contributed to increased effectiveness. Environmental projects are likely to be implemented in complex technical, political and socioeconomic contexts. Conditions may change during implementation, and flexibility in project designs and management can thus be a crucial factor for project success.

⁴⁷ As outlined in the examples, the main failings were a lack of technical baseline data on current practices and usage of water and energy, incorrect technical assumptions on future use, unjustified assumptions on acceptable tariff levels and a lack of depth in the analysis of organisational and institutional challenges and opportunities.

⁴⁸ Contribution 76001690.

⁴⁹ Contribution 71300213.

⁵⁰ Koloshtovina, 2012.

- In the case of Narva wastewater treatment plant,⁵¹ it was important to redesign the new treatment plant to cater for changes in the volume of wastewater. As mentioned earlier, a consultant made a number of far-reaching recommendations for changes, which Sida evaluated and then approved for implementation. This flexibility ensured a much more effective result.

In the case of the waste management project in Dubuko, Serbia,⁵² Sida showed flexibility in providing additional support. An extra SEK 5 million granted in September 2009 was earmarked for rehabilitation after landslides, thus enabling the continuation and completion of the construction of the landfill.

- Other projects, such as the wastewater treatment plant plants in Riga and Daugavpils, emphasise the need for a flexible and – if possible – stepwise implementation process. All interviews with all IFIs indicated that Sida was seen to be a flexible, if not the most flexible, donor, whilst at the same subjecting all requests for additional support to exacting internal scrutiny.

It is plausible, based on the evidence available, that projects that include institutional long-term support are more effective. The effectiveness of projects increases in cases where long-term institutional support is provided. The district heating project in Gatchina⁵³ mentioned earlier illustrates (in contrast to a similar project carried through in Daugavpils⁵⁴) that institutional progress can be accomplished, even in complex transition environments. Another example is the Sida intervention in a parallel project in Riga⁵⁵ have been rated highly successful due to thorough preparation and institutional support to the district heating company.

There is evidence that many cases of low effectiveness are due to unjustified assumptions. Most projects make a number of assumptions regarding political risks, organisational matters and technical details, such as the amounts of wastewater/heating needs, solid waste and tariff questions. Quite often, these assumptions are not met. Examples include:

- In many Sida decision memos there are statements such as: *‘Since the investments will be financed through loans from EBRD the local ownership will be strong.’* This is a common assumption that needs to be tested more thoroughly; e.g. were the decision makers under pressure from national or regional bodies, did they really understand the implications of the project, and was the intention to increase tariffs genuine? One interviewed person mentioned that

⁵¹[Contribution 76001690].

⁵²Contribution 53050037.

⁵³Contribution 76002693.

⁵⁴Contribution 76002693.

⁵⁵Contribution 76002693.

in many Balkan countries, signed agreements did not carry the same weight or obligation as they did in Sweden.

- In the Poti and Kutaisi water supply projects (Georgia),⁵⁶ assumptions related to political risks were made. To service the debt caused by the investments, a doubling of domestic tariffs was required over three years. The tariff increase was never implemented, because the process was overtaken by overall sector reforms and the introduction of a national regulator. It is not really clear whether the viability of a doubling of tariffs was thoroughly assessed. The impact on affordability was considered, but the political risk/willingness to increase tariffs was not assessed.
- In a number of projects, assumptions in organisational and institutional matters have proven wrong. In the Dubuko landfill project,⁵⁷ it was assumed that the municipalities would establish transfer stations and deliver waste to the landfill (which they did not), and that an IPPC permit application would be filed (which it was not). And in the Daugavpils district heating project it was assumed that the heating plant would carry out demonstration activities and that the city council would abandon participation in day-to-day management (none of this happened). The field confirmation visit found that the design of Narva project made an assumption that the city would adapt an existing gas burning generator to make use of the biogas produced from the waste water treatment plant which did not happen in practice because the city concluded that the gas generator was a loss making concern.
- In many projects (including Grodno, Riga and Daugavpils wastewater treatment plant, Poti/Kutaisi water supply and Gatchina district heating), a key assumption was made that tariffs would be raised to cover the operational costs and financing of district heating plants, water supply and wastewater treatment plants. However, this has only been reported as actually having taken fully place in few projects (it did not happen in, among others, Gatchina district heating, Riga wastewater treatment plant, Daugavpils district heating, Poti/Kutaisi water supply).

In many of the projects related to wastewater treatment plants included in this evaluation, the amount of wastewater to be treated has been miscalculated in the planning phase. Either the actual amount has been under- or over-estimated, or the amounts have decreased significantly subsequent to the project completion, leaving a plant with excess capacity. In addition, it does not appear that options for actively reducing wastewater amounts have been actively pursued, which could have significantly further reduced the wastewater volume and thereby the costs of wastewater treatment –

⁵⁶ Contribution 76003748.

⁵⁷ Contribution 53050037.

if properly taken into consideration in the design phase. Especially in the Baltic region, there have been problems in dimensioning the wastewater treatment plants due to a lack of industrial surveys. According to an NIB interviewee, increasing tariffs causes private and professional customers to reduce water use and discharge, leaving unused capacity at over-dimensioned wastewater plants.

There is evidence that commitment- and reform-mindedness are important success factors. Close dialogue and the involvement of clients is, not surprisingly, an important factor in achieving effective project implementation. However, it is often too quickly assumed that the client is committed and reform-minded just because they are willing to take a loan and “agree to” tariff increases. This is a risk in many projects. Client commitment is consistently pointed out to be crucial in interviews. From NEFCO it is stressed that: *“Where the municipality is very interested, it works. Where not, it does not work.”* Moreover, it is stated by a NEFCO representative that: *“Often the municipality is being forced at the national or regional level to accept the project but they can see it will cause a deficit and are reluctant to implement it. They are often reluctant to raise tariffs. And it is very difficult for them to repay the loan without raising tariffs.”*

2.3 EFFICIENCY – FINDINGS

2.3.1 Q1 – have the results been cost effective?

Conclusion: The projects are implemented in complex technical and organisational circumstances. Unexpected incidents and delays are common and have increased costs and hampered time schedules. This has reduced the cost effectiveness of many otherwise successful projects. There is evidence of over-investment in some projects. Some, but not all, constraints and delays could be avoided or minimised through more thoroughly detailed planning and feasibility studies. Each project is unique and it is difficult, based on secondary data alone, to compare and document the cost effectiveness of the project. The strategy of focussing limited Sida grant funds on interventions to prevent imminent wastewater treatment breakdown was highly efficient, especially where subsequent funding has been made available from other sources to complete the rehabilitation, as has usually been the case in the Baltic states but less so in the other countries.

Use of the prioritised pollution hotspots plan of HELCOM has led to efficiency. The HELCOM plan, by prioritising and selecting the most cost-effective interventions, has greatly enhanced the overall efficiency of the programme of projects implemented under the plan. However, not all projects benefit from a programmatic /prioritised approach. Most of the projects outside of the HELCOM arrangement have not been informed by a prioritised programmatic action. This includes the projects in the Western Balkans and the Caucasus, as well as supply-driven projects such as the Archangelsk district heating project.

The modality of co-financing with IFIs is efficient, provided there is good coordination by the lead IFI. Cofinancing is efficient because project preparation activities are not duplicated by each funding agency and available resources can be concentrated to ensure high quality preparation. However, this efficiency is only achieved where there is good coordination. An example of inadequate coordination is the Daugavpils wastewater treatment plant project,⁵⁸ where nine IFIs were involved and the coordination was not sufficient. Often different IFIs have different indicators, which complicates the reporting of multi-IFI projects.⁵⁹

Technical cooperation has been efficient and has led to results that are far beyond its costs, as concluded by an EBRD evaluation⁶⁰ and also by internal evaluations performed by Sida. The technical cooperation is judged as efficient, measured as the benefit of its impact against its cost, e.g. introducing new procurement procedures is potentially much less costly than the savings that can occur from improved procurement and a reduction in delays. But there have also been instances (recorded in the EBRD evaluation) where technical cooperation has not been used efficiently. Examples of this are instances where there are legal obstacles or the client does not agree to implement reforms, but where the technical cooperation has pushed the process forward anyway. The field confirmation found that, although the technical assistance provided for Jurmala waste water treatment project was effective, delays in the project meant that some of the technical assistance and training was not as well timed and not as efficient as it could have been.

Unforeseen costs and expensive delays commonly create inefficiency. The evaluated projects are implemented in complex technical and organisational climates and unexpected incidents and delays often increase costs and hamper time schedules. This reduces the cost effectiveness of the projects. An example of this is the Rusatvi Solid Waste Project (Georgia), where Sida raised the grant from €0,8 to 1,2 million due to the foreseeable need for additional waste separation equipment. It was stated in a monitoring report that some equipment needs were underestimated, that road repair was not fully considered and that the constructed landfill would have a very short time horizon (10 years), all of which affect efficiency compared to the original expectations of the feasibility report. There are also many examples of unavoidable and unforeseeable incidents that have hampered project implementation and have delayed schedules/increased costs. They are found – among others – in the cases of IvanoFrankivsk District Heating⁶¹ project, which suffered delays and cost escalations due to the politi-

⁵⁸ Contribution 76002430.

⁵⁹ EBRD, 2010.

⁶⁰ *Ibid.*

⁶¹ Contribution 53060007.

cal situation in Ukraine in 2010. Another example is the waste management project in Dubuko, Serbia⁶² where a landslide delayed landfill construction in 2010.

The IFI administration fee is efficient. The administration fees (paid to the regional IFIs – EBRD, NIB, NEFCO) are all around 2%, which, given the services provided, is considered to be low compared to other similar arrangements (such as UN or World Bank administered multi-donor trust funds where the levels vary but often up to 5% depending on the nature of the work). The fee is also low compared to the alternative cost involved in parallel financing. This allows the main part of the grant sum to be channelled directly to project-related activities. However, it should also be noted that secondment of staff paid for by Sida to the IFI is additional to the administration fee.

A lack of focus on demand management leads to an over-sizing of public utility plants. Many of the wastewater treatment plant projects have ended up with excess and unnecessary capacity – even with a long design horizon, a modular approach should have been adopted. A case of this problem is the Riga wastewater treatment plant.⁶³ All major components ended up with an over-investment of some 20%. This results in the use of extra funds, but it also implies a long-term extra maintenance cost burden on the plant. The project evaluation document properly sets out how excess water and wastewater plant capacity has an economic opportunity cost and that grants do not fully mitigate this loss, as operation and maintenance costs after construction will be a burden on the local economy. Nevertheless the end result was a significant over-investment. A similar situation of over investment is found in Daugavpils wastewater treatment plant.⁶⁴ Proper feasibility studies, phased construction processes, and control programmes introduced from the outset could have reduced the over-investments or opened for modified design at a later stage.

Significantly, it appears that no wastewater treatment plant projects have been started with a demand-side study of the options for reducing wastewater amounts (as a contrast, several district heating projects have included energy efficiency measures). In the late 90s and early 2000s, the options for water savings were obvious in the manufacturing sector in the Baltic countries,⁶⁵ but the household sector also offered huge opportunities for water savings and a subsequent reduction of wastewater. The lack of consumption management efforts means that many projects were not efficient capital investments (with up to a 20% loss due to idle capital) and were not efficient in op-

⁶² Contribution 53050037.

⁶³ Contribution 76002430.

⁶⁴ Contribution 76002430.

⁶⁵ A Danida-financed project in Hiiumaa, Estonia, in 1994, saved 50% of the water consumption in a fish processing enterprise (by far the largest single wastewater discharger on the island), through implementation of low-cost cleaner technologies.

erational terms (in some cases, perhaps even more than a 20% loss due to high energy costs). The right procedure would have been to:

- a. Evaluate wastewater amounts and sources
- b. Reduce water consumption at the sources
- c. Prepare a sound prognosis for the future wastewater amounts, including the estimated effects of higher tariffs
- d. Adapt the prognoses to new circumstances along the design process
- e. Construct where possible in a step-wise process
- f. Construct flexible installations that allow for cost-effective treatment of different amounts of wastewater.

Contributing to the picture of costly wastewater treatment plants is the fact that, according to the evaluation reports, there is overstaffing – for example, the Riga wastewater treatment plant has about three times as many staff as the best international plants. This is also the case for the Davgaupils wastewater treatment plant; management appears proficient and transparent overall, but the staffing is still about 100% over Western plants. Again, social, institutional and political factors have hindered more cost-effective solutions and the transition character of the region must be taken into account when responding to this question.

Overly optimistic assumptions on tariff increases impact the financial soundness of the projects.

In the Balkans, decentralisation is advanced and municipalities can set the tariffs for municipal services. The almost universal assumption of increased tariffs to achieve full cost coverage has not generally been met, even though the options for this are better in a decentralised system than in a centralised system. The EBRD states⁶⁶ that: “*Tariff policy is a highly political aspect of municipal services and it is often a major challenge for the EBRD to facilitate changes in policy. In most loans the Bank requires the development and agreement of a structured tariff policy, which sets the agreed increases in tariffs, and agreed levels of payments from the city administration, for future years. ... In many cases ... the city administrations are not stepping up tariffs to cover full operating and investment costs, for political reasons, and subsidy payments from the city are therefore continuing*”. Global tariff affordability estimates for self-financing infrastructure projects are crude if expressed only as percentages of average monthly incomes. Social and political factors have hampered the required tariff adjustments. EBRD (2010) concludes that: “*Full cost recovery might not be a realistic target in early transition countries within the lifetime of the project, where in most cities the affordability of tariffs is such a critical aspect because a high proportion of the population is in poverty. Full cost recovery (including future ongoing necessary investment costs) would be preferable so that the municipal*

⁶⁶ EBRD 2010.

company has much higher independence and autonomy, and does not rely on the city administration for subsidies, and so that the financial management is much more transparent. Some on-going subsidisation by a city of the gap in cost recovery is a more appropriate in terms of affordability. The EBRD might sometimes consider that their projects should aim for step-by-step increases in cost recovery in ETCs, as indicated in the MEI Policy, or just target the recovery of operational costs, rather than full cost recovery that includes depreciation.” Tariff changes in the region have not been as de-politicised as they could have been if an independent regulation function had been established. The political incentive is not to raise tariffs. Raising tariffs is unpopular and can lead to a loss of votes and political capital, thus leaving less room for manoeuvre on other issues. The costs are immediate, but the benefits are only felt in the long-term in the form of infrastructure that is sustainably maintained and operated and does not need periodic rehabilitation.

In some cases, alternative financing sources to IFIs may be preferable. It is important to note that local capital markets may offer competitive loan conditions to the project holders because IFI loans are not always cheap. An example of this was seen in the Riga district heating project,⁶⁷ which, in contrast to the other district heating projects (like Jelgava and Daugavpils⁶⁸ “Rigasiltums”), had sound organisational, financial and managerial footing before the project. The company now has sufficient autonomy and sustainability. Management was justified in opting for local currency debt for the project when this became available at favourable terms from local capital markets, instead of taking up the intended World Bank and Swedish loans. The EBRD evaluation (2010) and observations on the available documentation also conclude that that the ‘blending strategy’ of loans and grants is not evident and appears to be based mainly on availability of grants and what was necessary to speed up negotiations.

IFI Procurement procedures are complicated and sometimes lead to delays, a loss of credibility and cost overruns. The EBRD 2010 states that, in many cases, project delays are blamed on problems with understanding the required procurement procedures. The procedures have led to delays but the feedback from clients on the IFIs procurement procedures has mainly been positive. In many cases, the procurement procedures of the bank are a significant change from the procurement approach that has previously been used by clients; but, once the clients understand the procedures, they then tend to appreciate the value of more transparent and competitive international bidding. For example, a municipal water company stated that it took a significant amount of time for them to understand the procurement procedures, but

⁶⁷ Contribution 76002693.

⁶⁸ Contribution 76002693.

that they will use the main concepts of these procedures for future investments. In addition, a municipal waste disposal company saved a considerable amount of money by using IFI procedures, compared to their initial estimates.

2.3.2 Q2 - Are there noticeable differences between projects? What is the leveraging?

Conclusions: There are major differences between the projects in the quality of planning and feasibility studies. The project management skills of the client are especially influential on the cost-effectiveness of the projects. Leverage has been considerable. By some accounts, Sida funds have financially leveraged up to 12 times more funding from other sources. An “environmental leverage” is also present, in that expenditure on environmental investment in Eastern Europe has been up to 7 times more efficient in reducing nutrients to the Baltic Sea than the alternative of investing in nutrient reduction in Sweden.

Based on the available project evidence, it is not possible to assess the cost efficiency of the projects – at least in the sense: Has the impact been achieved cost-effectively? Few projects have been concluded and the economic and environmental data do not allow for comparisons. Most projects are rehabilitation and extensions, which means that each is very different and is not directly comparable on a per capita basis. The Lviv water and waste water project in Ukraine and others that have focused on immediate works have often been highly cost efficient e.g. in Lviv the installation of screens ensured that pumps did not break down as often.

Financial leveraging has been high. The Sida 2012 note on HELCOM projects states that Swedish funding of HELCOM projects has given a leverage factor of close to 1:12 (€130 million of Sida funding against a total funding of €1.6 billion). Even though it can be discussed whether the total investment level has been achieved thanks to Swedish funding or as a consequence of mutual efforts of a number of donors, there is no doubt that Swedish funding has contributed significantly to the accomplishment of a large number of projects stretching far beyond what would have been possible with Swedish funds alone.⁶⁹

Environmental results from investment in Eastern Europe have been greater than could have been achieved in Sweden alone. NEFCO has the general experience

⁶⁹ As an alternative, the municipalities could either: a) not have done it (however, Sida has covered only 8%), or b) they could have done it in a cheaper way (adjusted the plants to the amount of wastewater, for example, that would have made sense); or c) they would have found the funds from another grant donor, or d) they would cover the rest with their own funds or a loan - which would, in the end, have made the solution more expensive for the country itself (higher tariffs for users or input from the state); it is the last d) that is usually claimed through affordability calculations. In other sections of the report, we argue for more explicit consideration of the blending of loans and grants.

that, an environmental investment in Eastern Europe generally provides seven times greater environmental benefits than an investment of the same amount in a Nordic Country; this is a bit lower for the energy sector.⁷⁰ Investments in environmental projects in Eastern Europe appear to be very efficient compared to investments in Western Europe. This is partly because cost levels are lower, but is mainly because the highly cost-effective investments have already been made in Western Europe.

2.4 IMPACT - FINDINGS

2.4.1 Q1 – Evidence of contribution to improved environments/socio-economic development and political reform?

Conclusion: Desk-based data on the impact of the interventions is sparse, partly because of the long time span of these projects. There is some evidence from some of the older HELCOM demonstrate that the projects have significantly contributed to a reducing of the pollution load to the Baltic Sea. This was verified by the field confirmation. The lower pollution will in turn have an impact on improving water quality, although the ultimate environmental impact depends on many other factors. Reform impacts are likely in the future, under tariff setting and commercialisation of the utilities, but they have not been sufficiently documented/researched to draw firmer conclusions. The field confirmation did verify that the utilities have customer orientation (e.g. carry out surveys to measure customer satisfaction) and that the support has led to improved project and contract management.

There have been important reform impacts but it is difficult to attribute improvements to particular interventions. Information on the impact of projects on political reform and socio-economic development is scarce. Moreover, related impact indicators are not systematically presented in decision memos/documentation (except the earlier HELCOM projects and a few of the new projects e.g. Grodno). Some of the recent EBRD documents, e.g. Georgia Poti and Kutaisi,⁷¹ have indicators on the transition impact.

However, evidence from the field confirmation clearly shows that there has been a significant change from the earlier Soviet style management of utilities and the environment. Municipalities and utilities are now environmentally conscious. They are subject to independent environmental monitoring and fines are imposed for poor performance. There is also a customer orientation. All the utilities visited during the field confirmation had customer relation departments with a complaint procedure in place. Some of them carried out customer services and in some of the municipalities civil society was active in holding the authorities to account. The utilities were cost con-

⁷⁰ Willert, J., 2012.

⁷¹ Contribution 76003748.

scious and for this reason very appreciative of the energy saving provided by Swedish equipment. Whilst the change in management style and the reforms at the organisational level are clearly evident it is not easy to attribute these changes to particular projects or interventions. It is clear however, also from the field confirmation, that the institutional interventions of Sida and the IFIs have contributed. Although not all institutional efforts have been immediately successful e.g. in Lviv the consultants were withdrawn there is evidence that where longer term intensive and well-structured efforts have been made e.g. in Jurmala then the results have been impressive and the gains from reform have been sustained.

Environmental investments have been successful in reducing energy use and the levels of pollution. All of the wastewater treatment plants visited as part of the field confirmation were sustaining the intended reduction in pollution or, in some cases, exceeding it (see annex 9). The desk study also points to many other cases such as the Riga wastewater treatment plant⁷² and Daugavpils wastewater treatment plant⁷³ which have successfully reduced the pollution levels.

The wastewater treatment plant projects, in particular, have contributed significantly to the reduced environmental impact on the Baltic Sea. According to the Finnish Environment Institute⁷⁴ and other sources, eutrophication is considered to be the worst ecological problem facing the Baltic Sea. This process is the result of excessive inputs of nitrogen and phosphorus, which have been entering the sea for more than a century due to human activities. Every year the Baltic Sea receives nutrient inputs averaging 640,000 tonnes of nitrogen and 30,000 tonnes of phosphorus. The HELCOM projects have demonstrated their value by removing at least 3,500 tonnes of phosphorus per year, more than 10 % of the total discharge to the Sea. Also, BOD and nitrogen have been removed in considerable amounts. An assessment of the Baltic Sea Action Plan (2010)⁷⁵ states: “*HELCOM has been very successful in reducing the inputs of nitrogen and especially phosphorus to the Baltic Sea. During the decade from 1990 to 2000, the direct point-source inputs of phosphorus and nitrogen decreased by 68% and 60%, respectively. From 1990–2006, the total inputs to the Baltic Sea were reduced by 45% for phosphorus, but only 30% for nitrogen*”. However the assessment also states clearly that “*none of the open-water basins currently is in a ‘good environmental status’. Most sea areas are affected by eutrophication, hazardous substances or an unfavourable conservation status*”. Thus, although a significant contribution has been made by, amongst others, the Sida projects, these contributions

⁷² Contribution 76002430.

⁷³ Contribution 76002430.

⁷⁴ The State of the Baltic Sea, (2009).

⁷⁵ Helsinki Commission, Baltic Marine Environment Protection Commission, Ecosystem Health of the Baltic Sea 2003–2007 HELCOM Initial Holistic Assessment, 2010.

are not enough in the region. Longer-term efforts are required and are planned as part of the Baltic Sea Action Plan.

2.4.2 Q2 -Have there been any positive or negative, intended or unintended effects?

Conclusion: Negative effects have not been evident from the desk material available or through the field confirmation or through conducted interviews, other than the implications of over-investment in wastewater treatment plans on future operation and maintenance costs.

2.5 SUSTAINABILITY - FINDINGS

2.5.1 Q1 – What type of impact has been observed at different points of time after completion of the programmes?

The impact is here considered as attainment at the level of objectives and outcomes.

Overall conclusion: The impacts of the interventions are not well documented. Impact indicators are not systematically designed in the project, and there is little post-project follow up. The field confirmation verified that the municipalities undertake regular environmental monitoring even the data is not easily available. Municipalities do not undertake regular environmental monitoring. Sida has assembled a record of the cumulative impact of the earlier projects in the Baltic Sea area in terms of reductions in nutrients and pollution loading. These data show a dramatic reduction in loading, although the overall impact on the Baltic Sea is a highly complex topic and the ultimate impact is not yet known.

Although data is available at municipal level, IFIs do not report on the sustainability of the environmental impacts of their investments. Most of the evaluated projects, other than for the older Baltic Sea projects, are too recent for impact to be visible. The IFIs, although they have a longer-term involvement with the municipalities, do not report on project impact. In a recent evaluation of its municipal environmental investment programme (2010), the EBRD found that the municipalities themselves are not engaging in environmental monitoring – the field confirmation however found that all the five towns that were visited had precise records on environmental monitoring.

The ultimate impact of the interventions in the Baltic Sea is dependent on many factors – whilst the interventions have been successful, many other actions are needed over a long term to have an impact, as discussed earlier under section 2.4.1 on impact.

2.5.2 Q2 – What is the likelihood that the results of the projects/programmes studied will be sustainable?

Overall conclusion: For most of the recent interventions, it is too early to tell and there is no systematic post-project monitoring that reveals the sustainability of the

earlier projects. A field survey conducted by the EBRD concludes that the municipal environmental projects were being sustained, which is promising; however, the report is not specific enough to allow this conclusion to be externally verified. The field confirmation concluded that the physical impact of the projects in the five towns visited is being sustained. The technical and project management approaches being used are highly professional, and there is evidence that apart from a few cases (such as some of the wastewater treatment and district heating projects in the Baltics), they are resulting in well-conceived, designed and constructed projects. The main risk lies in the operation and maintenance phase. Support to reforms is well-conceived, is professionally carried out and aims to enhance sustainability. But there is concern that, as the support tends to stop immediately after project completion, it is too short-term to guarantee success. There is evidence, especially from the new project assessment forms of the EBRD, of which lessons learned from earlier projects are being integrated into the design and management of new projects, which should increase the sustainability of the more recently funded projects.

For many interventions and there is a lack of post-project monitoring, that makes it difficult to assess sustainability. The facilities being put in place have been developed on the basis of professional and competitive processes of feasibility, design, construction and supervision. But post-project monitoring is rare. In the best cases, independent monitoring reports during the construction phase, identify future threats to sustainability. For example in Poti, Georgia) the monitoring reports note that despite completion, full-time water supply to the city cannot be provided due to mismanagement of the pipelines and illegal connections. As indicated in the case of Poti, the main sustainability concern is the vulnerability of future operations and maintenance. For many of the facilities, it will take a number of years before problems become apparent, as most of the systems, especially when new, can withstand long periods of deferred maintenance. Without post-project monitoring, it is impossible to know if the interventions are being sustained.

A detailed field evaluation from the EBRD, which accounts for a large proportion of Sida-funding to the sector, reports sustainability as high. The results of this evaluation, which involved field-level inspection of 18 projects, give grounds for optimism. However, the report is not specific, as details on location, due to client confidentiality, are withheld. So it is not known, for instance, if the selected projects were only recent ones, or whether they also included projects that had been running for five years or more. The field confirmation of five towns undertaken as part of this Sida evaluation confirms the findings that the environmental benefits of the investments are being sustained (although not guaranteed).

The institutional and reform interventions are all aimed at increasing the prospects of sustainability. A core focus of the reforms is to ensure a secure source of revenue that the utilities can control and use for essential operation and maintenance. The reforms also focus on ensuring that the governance and institutional arrangements are improved so that the utilities can be held to account, but also so that they are sufficiently autonomous to allow professional management to operate free from

undue political interference. Finally, the reforms aim to build capacity, both technically and, equally importantly, managerially. They perform this last task through a variety of means, including training, coaching and putting in place efficient systems and procedures. These reform efforts, aimed at increasing sustainability, are costly, but not when compared to the cost of physical projects or the cost of a failure of the facilities due to poor operation and maintenance. Sida funds are, to a large extent, used to fund the technical cooperation that helps to implement these reforms. In this way, Sida assistance is an essential input for improving prospects for sustainability. As concluded elsewhere in this report, the reforms are well-selected and appropriate, and represent state of the art of reforms in the environmental sector.⁷⁶

Short-term efforts to promote reforms cannot guarantee sustainability. Even if conditionalities on tariff-raising and institutional reform are fully met and capacity is built, sustainability is not guaranteed. Short-term efforts at reform that end once the project is physically complete will only take root in highly favourable circumstances.

The choice of technology appears appropriate, but given the many threats to sustainability, there does not seem to be a focus on selecting the most robust and simple technology. As mentioned earlier, professional and competitive approaches are used for feasibility and detailed design; thus, even without visiting the facilities, it could be reasonably assumed that the choice of technology is appropriate. In one case in the Georgia, Rustavi solid waste management project, it was noted that the original design did not consider the short-term horizon of the landfill (10 years), overlooked the need for compacting equipment, and did not take the need for upgrading the access road into account. In Narva, Estonia gas from the biogas plant has not been used as there is no gas generator or means of making use of the gas. While mistakes like these can happen, what is important is that the process is robust enough to find and correct them in time, which is what happened in this case. However, it is noted that the feasibility studies and ToR do not put a special emphasis on the use of a robust and simple technology.

Lessons learned from earlier projects are integrated into more recent approaches to Sida involvement. Recent programmes and projects use much more specific indicators and targets. While indicator and target-setting, in itself, does not ensure sustainability, it is an attempt to more systematically define what the precise environmental outcomes of the co-funded interventions should be, and to establish a means of measuring continued achievement. The emphasis on working with the municipal level, rather than the central level, appears to be a result of experience from earlier interventions, where commitment at the municipal level was very high, and

⁷⁶ Ten Years of Water Sector Reforms years of reform in the Water Sector, OCED 2010.

where projects were reported to be successful, i.e. where there was strong client commitment.⁷⁷

2.5.3 Q3 – What are the main risks to sustainability observed, taking the technical, financial and institutional environmental dimensions into account, and how can they be dealt with?

Overall Conclusion: The main risk to sustainability is whether tariff increases will continue, and whether the utilities will be allowed sufficient managerial and financial autonomy. For some of the more remote areas, there is a risk that the supplier network for advanced Swedish equipment is not sufficiently developed and longer-term maintenance problems will be compromised. There are also macro-economic risks, especially with the current financial crisis, that may lead to a low-cost recovery from a population that is unable to afford services and municipalities that will be unable to subsidise the shortfall. Some countries in the region are vulnerable to sudden political change that can undermine or reverse earlier advances in reforms.

Section 3.1 discusses in greater depth the context for engagement and the overall risks facing environmental investments in the region.

The macro-economic situation and the financial crisis reduce affordability and lower the priority of the environment. After many years of continued growth, the current financial crisis is suddenly and unexpectedly reducing the ability to pay for services. Declining city finances threaten to negatively impact systems for protecting the poorest through welfare payments. Where welfare systems are not in place, more customers will be unable to pay for services. This threatens the planned schemes for tariff increases, which in turn might lead to a vicious circle of deferred maintenance and a haphazard collapse of the built facilities. In times of crisis, the priority given to environment is low, and city authorities will be less concerned with sustaining environmental benefits if service provision is threatened, e.g. there is a risk that funds to ensure safe water supply will be diverted from the maintenance of wastewater systems.

There is reliance on tariff increases which are overly optimistic. One of the main risks to sustainability is a political reluctance to increase tariffs – even if people are able to pay, there is often an unwillingness to charge.⁷⁸ Examples include the refusal of Ukrainian authorities to raise tariffs – an issue that has become a conditionality of a further IMF loan to Ukraine, and where Sweden is working together with the IMF.

⁷⁷ Source: Interview Notes, Kari Homanen.

⁷⁸ Interview Notes, Kari Homanen; Mirja Petersson, Peeter Horm ("The problem is often not affordability, or the unwillingness to pay, but the unwillingness to charge [...]").

There has been a suggestion that the tariff-setting process itself needs to be better understood, and that this then should feed back into the project/intervention design process.⁷⁹

Political changes (Russia, Belarus and Ukraine) threaten to reverse previous reform achievements in commercialisation/decentralisation. Agreed upon reforms can be undermined or reversed with political change. The environment for adopting market measures, centralisation and commercialisation is deteriorating in many countries such as Ukraine and Belarus.

⁷⁹ Interview Notes Peeter Horm.

3 Findings on Strategic Factors for the Regional Strategy

A summary of these findings is given in Annex 8 (Table 8.2). The strategic factors chosen based on the discussions at inception phase are illustrated below:

Context for engagement	• What are the political and other factors/drivers of success (especially in relation to potential EU membership)? • Identification and management of risks.
Balance of objectives	• Overall political objectives. • Balance between service delivery, environment, and institutional reforms.
Policy/reform dialogue approach	• Content of the policy dialogue (what are and should be the main messages?). • Approaches to influencing policies and reforms.
Choice of partners/arrangements	• What are the programmes already established? • What is the experience of launching/catalysing new programmes? • Are new programmes needed? • Programme versus project level partners
Choice of financing channel	• Options – IFIs, bilateral. • What alternative financing modalities are promising to pursue? • What is the value added by Sida in alternative modalities?⁸⁰
(Maximising) Sweden's added value	• Where is there evidence of added value by Sweden? • Is there evidence of disadvantages of Swedish support? • How can the added value be maximised?

⁸⁰ Value added by Sida in this context refers to any benefits arising from Sida's engagement over and above the provision of grants or loans. Potentially, the value added that provides benefits that otherwise would not have been obtained could include: i) technical evaluations and comments that lead to more cost effective infrastructure and a greater environmental impact; ii) Institutional evaluations and comments that lead to more effective reforms and improvement in the sustainability of the investments; iii) policy related evaluations and comments that improve the attainment of Sida policy goals; iv) Political support that strengthens the selection of projects, the ownership and demand for the projects and the commitment to reforms.

Roles and institutional arrangements⁸¹

- What are the functions of head-quarters and field offices?
- What are the roles of MFA, MOE and Sida?
- How best to monitor and report?

Internal skill sets

- What are the internal skill sets and resources required in Sida?
- What must be retained and what can be outsourced?

These strategic factors are chosen as being the most relevant considerations for guiding a future strategy(s) for supporting the environment in Central and Eastern Europe.

3.1 CONTEXT FOR ENGAGEMENT

Project level commitment and reform mindedness are the key contextual factors.

There is overwhelming evidence, confirmed by the findings of the effectiveness analysis in chapter 2, that commitment at the municipal level and a willingness to engage in reform are the essential ingredients of success. The problem is how to measure these and ensure that they are in place. Often, commitment to reforms, especially to those that are new and unfamiliar, is gradual and part of a process of increasing the confidence in the power of the reforms to deliver change. The willingness to sign documents that promise to increase tariffs is a necessary, but not sufficient, indicator of commitment and reform-mindedness. A future regional strategy will need to consider how to better test these factors and to recognise a situation where the potential is truly promising.

Progress is dependent on political factors that can and do change. With a new government having taken over in Russia in 2007, the context has changed for environmental support and especially for reforms. This was borne out by the complicated example of Kaliningrad, where long delays due to changes in the attitude towards reform threatened to stop the project. It also meant that some of the more technically-optimal HELCOM projects in Russia were substituted by others that were less cost-effective, but were more likely to go ahead. Changes in Belarus and Ukraine have also caused delays and complications. An example is an ERBD loan agreement in Belarus, which was first drafted in April 2011 and has since been negotiated in several rounds. The requirement for full-cost recovery and the implementation of tariff reforms at the participating water utilities has been hard to accept by the Belarusian parties, both in the new political context and because the financial situation in the country severely deteriorated during 2011. It took more than a year, and a number of compromises on both sides, before the loan agreement was ready to go into operation.

⁸¹ See section 3.7 and Annex 11.

The external drivers are powerful and evident. As outlined under relevancy in chapter 2, accession to the EU and compliance with EU environmental directives has been a powerful driver for prospective candidate countries. It is so powerful that it has cleared away many of the political constraints at the municipal level that hindered other projects, such as the need to reduce staff numbers in utilities. The presence of technical trans-boundary arrangements, such as the Baltic Sea Action plan, has also provided a powerful incentive, particularly as part of wider political agreements such as HELCOM and NDEP. Cooperative arrangements such as the EU's Eastern Partnership countries (EaP) are also a potential driver. The presence of grant funds, which are not necessarily indefinitely available, is also a driver that is often used as a negotiating lever by IFIs to hasten municipal decisions and to encourage agreement to the reform agenda. But, as noted elsewhere in this report, incentives to pay lip service to reform and the over-availability of grants can potentially undermine the adoption of reforms that are genuinely internalised.

The internal drivers are present but less evident. Internal drivers such as citizen demand for better services and national regulations for environmental performance are less evident from the reports and documents available from donors and IFIs. It is clear that the demand for water supplies is strong, as is evidenced in the case of Poti and Kutaisi in Georgia, whereas the demand for wastewater treatment is less immediate. This can be explained that by the fact that, for wastewater, the costs are borne by the municipality while the downstream towns receive the benefits. Similarly, there tends to be demand for supply-side investments on district heating, whereas changes in demand-side management (better heating control and tariffs for heat use) are less prioritised. In this case of district heating, the lower demand for savings arises because citizens and authorities are not familiar with the possible scale of savings or are not convinced that demand-side management works. The imposition of heavy environmental fines was evidenced in all of the five towns visited during the field confirmation. These fines were instrumental in improving performance. For the Baltic states, and also Ukraine, improved environmental performance was associated with the process of national independence and this still has an effect. In all projects, it would be useful to have a clearer idea of the strength of internal drivers as these are the ones that will remain to sustain the project benefits in the longer term.

A range of barriers are also evident. The political cost of many of the longer-term investments is high, especially if the municipal authorities need to reduce staffing in state utilities and to increase tariffs. The affordability of improved services in wastewater treatment and solid waste management is also a concern. Municipalities that are already heavily in debt are reluctant to take on more debt and in some cases, if they are in default, they are not permitted to increase debt before they have cleared the arrears (as is the case in Ukraine). In other cases, the revenue base of the municipalities does not allow them to incur any significant debts. Institutional instability, change of staff and the complexity of decision-making are also barriers and have led to long delays in a number of projects, as outlined in chapter 2.

Politicians at the city level, acting in the short term and their own narrow self-interest, will tend to be open to signing loans that bring construction activity and visible signs of progress in their present term of office, but which will only need to be repaid in the next term. In the same way, they will be reluctant to increase tariffs in their current term of office and will prefer to delay such increases to the next term. A lesson learnt is that these vested interests need to be recognised and be taken into account with regard to the viability of the project.

There are a variety of responses to the risks faced. It is vital to deepen the understanding of the drivers and barriers for adopting reforms and for undertaking the environmental investments on a country-by-country and case-by-case basis. This will help to determine the level of genuine ownership and guide what reforms are attainable and under what pace. The reforms need to be selected wisely and be supported from within the municipality. Although internal support for the reforms can grow and be nurtured during the project, as the benefits and rationale for the reforms become more evident, it is important not to be overly optimistic. Support needs to be client-centric and flexible. In promoting reforms, a range of entry points and partners to work with are needed. Where overarching programmatic platforms, such as the NDEP and E5P exist, and where the countries themselves are at the centre, there is a powerful enabling context. A common position among IFIs and donors is helpful as significant differences can undermine reforms, as happened recently in Georgia when the EBRD was substituted by the ADB because there were fewer demands made on reforms.⁸² Sweden needs to make more coordinated use of the three pillars of environmental support⁸³ (institutional development, environmental investments, civil society), as this will allow Sida and the IFIs that they support to deepen their understanding of the context and risks faced and to better make informed decisions about how to best support environmental investments.

3.2 BALANCE OF OBJECTIVES

Sida's political objectives have been consistent. The overriding and constant Swedish policy has been to provide broad political, economic and technical support for the transition in the region to democracy, market-based economic systems and, where relevant, assistance to accession to the EU, particularly within environment performance. Where Sweden has changed its political objectives at the country level, it has been in response to changing circumstances (see box 3.1). Sweden has also had different policy objectives in each country/region but these differences have arisen from

⁸² Source: interview with Mirja Petersson, head of Ukraine cooperation (discussion held in St Petersburg).

⁸³ The investment programme has considered institutional and civil society factors (e.g. promoting social participation packages for utilities), but there is no written evidence of close coordination between the pillars themselves.

differences in the country circumstances, rather than on changes in Swedish policy. For example, support in the Balkans originally had a humanitarian aim, which was

Box 3.1 Examples of Policy changes in response to changing circumstances

- When the Baltic States joined the European Union (EU), the rationale for support from Sweden stopped.
- When some of the Balkan countries, e.g. Croatia, reached a certain level of income and self-reliance, the original reasons for support stopped.
- When Russia halted reforms after 2005, ambition, in terms of reforms, had to change.

not the case in the Baltic states, where the aim was more environmental and related to the shared Baltic Sea. To some extent it could be argued that since 2010, there has been a shift away from an explicit focus on poverty reduction towards broader transition goals. However, this has mainly affected the language used rather than the direction and content of support.

Sida's environmental objectives have also been constant. Over the years, the technical

objectives of the projects, in terms of infrastructure development and even reforms, appear to have been constant. There has been a shift from a focus on water supply and wastewater towards a broader range of environmental projects, including energy efficiency, district heating and solid waste management.

Although objectives have been constant, major trends in Swedish support are evident when looking over the last 15 years. The main trends in Swedish support are outlined below. These mainly concern the modalities and channels of support, rather than changes in policies and objectives.

- **From tied to untied aid:** Sida's support is generally untied. Under the 'HELCOM' projects contributions were largely tied to the provision of Swedish expertise and technology through the KTS ('kontraktsfinansierat tekniskt samarbete') instrument. This shifted in the early 2000s to a preference for untied aid in line with the Paris Declaration on Aid Effectiveness.
- **From parallel to co-financing:** From 2005, the Swedish government became increasingly rigorous in enforcing compliance with annual expenditure and budgeting procedures. As most of the projects being supported had a time horizon of 6-8 years, and were subject to unexpected delays, the administrative workload increased and the degree of flexibility of Sida grants was reduced. A transfer to an IFI avoids these problems. But according to some Sida staff, the main reason for switching to co-financing was not just the change in budget rules, but also the reduction in staffing. It simply becomes impossible to carry out the volume of work with a parallel financing modality. During this period staff in the responsible unit were reduced from 8-9 members to just 3-4.
- **From a regional to country focus:** Today, all funding is informed by the country strategies. This means that funds for IFIs can be earmarked for certain countries. Earlier, there was a regional allocation, but not anymore (after Sida re-organisation 2005). Now there is a renewed push for regional strategies.
- **From project to programme modality and back to project modality.** The programmatic approach of HELCOM /NDEP that replaced the earlier, more ad hoc and supply-driven projects, gave a solid technical and political framework and was a good model of cooperation. Under this approach, all partners, donors

and IFIs discussed and agreed on the priorities that were guided by the framework. This allowed for improved coordination and the investments and reforms efforts were more coherent. Since 2005, the regional and programmatic character is less prominent and investments are less programmatically informed.

Although stakeholders share the same overall aims, they have a different focus.

Municipalities focus on short-term and visible delivery of services in response to citizen demand. IFIs focus on the revenue stream arising from effective cost control, cost recovery and tariff reform. Donors such as Sida focus on the longer-term environmental benefits and citizen participation, in order to ensure longer-term sustainability. These objectives are complementary and, when combined, provide a strong basis for cost-effective and relevant projects.

EBRD transition goals are strong but appear to be under exploited. In some projects, such as Poti and Kutaisi water supply in Georgia, the EBRD have explicit transition goals that are prominent in the documentation and monitoring. In many other projects, the transition goals are less evident, at least in the available documentation. The EBRD has a strong multi-sector mandate, as well as experience and capacity for contributing towards transition. These strengths could be better integrated into the projects, e.g. setting transition (reform) indicators and regular reporting against them. For municipal environmental projects, the transition objectives are usually related to: i) commercialisation; ii) decentralisation; and iii) environmental improvement. The objectives and benchmarks for Poti water supply are shown below.

Table 3.1 Example of transition objectives and benchmarks (Poti, Georgia)

Objective	Benchmark (achievement)
Commercialisation of the Company	Target collection rates: 65% (2007); 75%; 85% (2010) (achieved)
	Meters installed for all consumers (partially achieved)
	Financial and Operational Improvement Programme implemented (on track)
Framework for markets	55% tariff increase (for households only) (partially achieved)
	Subsequent tariff adjustments to achieve operating cost recovery, including maintenance of assets (recorded as achieved but evaluation team has doubts because the current tariffs are not fully adjusted yet)
	Signing a Public Service Agreement between the Company and City (not achieved)
	City to establish targeted income support programme for poorest households to mitigate affordability concerns (recorded as not achieved – but some evidence that it is partially achieved)
Corporate governance and Management skills	City Implementation Support Programme implemented (delayed)
	Auditing implemented (on track)

A cumulative, catalytic and demonstration approach is not evident. It is not easy to find evidence of replication of the environmental investments and reforms, at least from available desk evaluation material. Neither did the field confirmation reveal

evidence of the replication. This is not to say that it does not take place; it is just not well-documented. It is an important rationale for support to sustainable environments that leverage is achieved, in the sense of projects being replicated within the country. The vast scale of the environmental needs in the region, compared to the relatively small scale of the support being provided (e.g. in a country like Ukraine), is a strong argument for an approach that catalyses domestic replication.

Some projects have had explicit demonstration aims, e.g. in Serbia the Novi Sad district heating project, where the biomass boiler was intended to demonstrate new technology – however subsequent information on whether replication took place is not available. Activities aimed at encouraging replication e.g. study tours and peer-to-peer learning between municipalities are not prominent. The main focus is on ensuring that individual projects are successful. In some cases, effective demonstration requires a higher entry point than the municipality. In Serbia, the Duboko solid waste programme was spearheaded at the national level and involved nine municipalities. Whilst this was more of a multi-municipality project than one representing domestic replication, it does provide an example where there has been municipality-to-municipality learning with the institutional memory being anchored in a national body with a mandate for replicating the approach.

3.3 POLICY DIALOGUE

The chosen reform areas are well selected but are sometimes not realistic in the given time span. As earlier mentioned, the main reforms focus on creating conditions for sustainability. In the past, systems fell into disrepair because tariffs were too low and subsidies that made up for the shortfall were prone to reduction, leading to deferred maintenance and a collapse in operations. Learning from this experience, utilities are encouraged to operate on a commercial basis with a revenue stream over which they have control. This, in turn, requires financial and managerial autonomy. Because of their monopoly and public good nature, utilities must be well-governed, have a high level of accountability and be responsive to their consumers. As utilities are naturally a low revenue and low-risk business, all risks, including political risks, need to be minimised. The selected reforms reflect these aims well. But the time span over which they can realistically be achieved is often longer than is assumed.

Reform context needs greater in-depth understanding. Reforms of the nature being supported need to secure a minimum level of internal municipal support, which in turn demands an in-depth understanding of the vested interests involved as well as the administrative and political processes. In Grodno, Belarus the feasibility study went into depth to understand the internal tariff-raising procedures, so that a realistic proposal could be developed for raising tariffs that foresaw political and other obstacles. Where tariffs are decided or heavily influenced by national organisations, the entry point will need to be above the municipality level. This was a lesson learnt in Poti and Kutaisi, Georgia, where tariff increases were delayed while awaiting the establishment of a national regulatory body. In Jurmala some effective tools were developed

for presenting the case for tariff increases. The municipality in Lviv complain that the utility is not able to present a compelling case for tariff increases.

Interaction between the three pillars of Sida support to the environment is missing. As mentioned earlier, the documents show little, if any, interaction between the three pillars of Sida support. The three pillars (support to institutional development, environmental investments and civil society) are highly complementary and allow support to be provided beyond the project time span and, where necessary, at both higher (institutional) and lower (citizen) entry points.

Reform can benefit from linkages to wider processes. Programmes that have a political and technical umbrella, such as the HELCOM and NDEP, particularly if they are country centred, have greater potential for reforms to take root. In the Ukraine, Sida is working together with the International Monetary Fund and others to promote difficult reforms, such as tariff increases. Such reforms are more likely to succeed and are more likely to be consolidated as part of a process that is wider than a single project.

Policy dialogue action plan is necessary. The 2010 evaluation of EBRD found that policy dialogue could benefit from well-structured and prioritised policy dialogue plans that set out attainable goals and identify appropriate entry points and means of influence. The impact of policy dialogue would also increase where the policy agenda was coordinated with other IFIs and donors. The recent case of ADB, offering easier conditions for municipal loans in Georgia than EBRD, is an illustration of the importance of coordinated policy dialogue action plans. Coordinated policy dialogue plans will also reduce the negative side effects of otherwise healthy competition between IFIs.

3.4 CHOICE OF PARTNERS/ARRANGEMENTS

Externally, the choice of partners has been appropriate. With the trend of moving from parallel to co-financing, Sida increasingly works through the IFIs. Sida works with five main IFIs, which gives it flexibility and an ability to make use of the particular strengths and focus of the different IFIs, e.g. NIB and NEFCO focus on countries near the Nordic area such as Russia, Belarus and Ukraine. As EBRD is expanding, establishing offices and gaining experience in the Caucasus region, it is a natural partner in those regions. Sida also cooperates with other donors, especially on large projects where a mixture of grant sources is used. The EU is an influential donor and has itself established a number of programmes, such as the Neighbourhood Investment Facility. There is an ever-present risk of overlap and duplication of donor efforts that requires close coordination. Where there is a potential overlap, e.g. between the NIF and the E5P, it is usually possible to avoid confusion and duplication with good coordination.

Non-IFI investments have accounted for two thirds of the total Swedish support since 1990. These investments were mainly from the mid-1990s to the early 2000s. The evaluation also looked into detail at projects in the Baltics, which are non-IFIs, because they were done long enough ago to gain a sense of their effectiveness. The non-

IFI projects were not pure bilateral projects, but were parallel financed. The only significant purely bilateral programme was the DemoOst programme, which had a supplier-driven approach that has been evaluated and is no longer considered as a potential modality for the future. The main difference between the parallel and co-financing modalities was that, in parallel financing, Sida contracted the consultants and had direct client contact.

An implication of co-financing is that Sida does not engage directly with the municipalities as, in the interests of coordination, that task is left to the IFIs.⁸⁴ This presupposes that the IFIs have country offices that are effective in the complex range of loan management and policy dialogue functions. In practice, the available resources and experience of the involved personalities will often come to determine how much, or how little, Swedish representations are involved. The complexity of the individual circumstances does not lend itself to a hard and fast rule on the subject.

There are also internal partners who are important. These include the Ministry of Foreign affairs, the Ministry of Environment as well as Swedish institutions, civil society and the private sector (see section 3.7 for further details).

3.5 CHOICE OF FUNDING ARRANGEMENTS

Sida's role in funding arrangements changed in the mid-2000s. Between 1994-2005, Sida was primarily using parallel arrangements when financing with IFIs. Sida contracted the TA and would also invest in selected parts of a project. Today, Sida primarily channels funds through trust funds held by IFIs, who then manage the funds, project implementation and follow-up.

Increasing support, reducing staff levels and more stringent budget execution rules combine to favour co-financing. As mentioned earlier, from about 2005, an increasing volume of support was combined with a continued reduction in staffing for the administration, and a tightening up of the rules, for multi-year budgeting, meaning that funds could not be carried over from year-to-year. As most environmental infrastructure projects in Eastern Europe had a project span of up to eight years and were subject to frequent and unexpected delays, it became impossible to administrate the funds as parallel financing. Instead, in response to these factors, the trend has been to move from parallel financing to co-financing.

The strategy of working with IFIs is well conceived; the advantages outweigh the disadvantages. The main advantages to Sida of co-financing IFIs are:

⁸⁴ Source: Lars Eklund Sida.

- A much greater volume of funds can be handled by the limited Sida staffing available.
- Sida staff can focus on strategic issues rather than administration.
- Better coordination of loans and grants in terms of timing, conditionality and reporting.
- There is a potential of structurally influencing the internal operations of the IFIs beyond the limits of Sida finance.

Advantages to the clients at municipality level are:

- Lower transaction costs as both loans and grants are handled by a single agent (the IFI).
- Better coordination of loans and grants in terms of timing, conditionality and reporting.
- Simplified monitoring and reporting.

Advantages to the IFIs include:

- More secure grant funding for technical cooperation and offering concessionary terms for the loans.
- An increased leverage and negotiating position, arising from the presence of secure grants, for introducing important reforms aimed at sustainability.

The disadvantages for Sida of co-financing with IFIs are:

- Lower influence over the ToR and appointment of consultants - this is frequently mitigated through no-objection to ToR and award of contract.
- A loss of first-hand knowledge and gaining of experience within Sida.
- Monitoring is more remote and reporting is not tailored to Sida requirements.
- Sida policies and approaches are not as directly implemented.
- (Swedish equipment is not necessarily specified)

Experience has shown that in cases where there is disagreement between Sida and the IFI, it is appropriate for Sida to maintain its engagement in the policy dialogue. Evidence for such a case is found in the case of support to the district heating sector in Moldova, where the World Bank commissioned a study that concluded that the sector should be centralised with the creation of a state-owned enterprise. As the historic debts of the companies, which would be merged into the new state-owned enterprise, would be transferred to the new state-owned enterprise, this model carries the risk of the main creditor taking over the district heating services. In this, and similar situations, Sida would continue the policy dialogue with the partners to ensure that progress

is made by joining forces with the relevant development partners to explore other development scenarios.⁸⁵

The multi-year budgeting facility of trust funds is useful. Unlike expenditure executed directly through Sweden's state budget cycle, funds can be "parked" at a trust fund for use at the appropriate time, without the need of breaking the process by the budget cycle constraints of the donor country. Whilst this is a highly practical advantage, it can also appear as an artificial one that bypasses regulations.

Tied aid is being reduced. Figures are not available, but the opinion of most observers is that tied aid has led to an overall reduction in the use of Swedish suppliers and consultants. Untied aid makes it easier for the IFIs to manage the trust funds and clients benefit as there is greater competition, at least where the procurement is well managed. In project situations with a mix of tied and untied aid, administrative constraints make it cumbersome to manage the projects. Suppliers of untied aid will reasonably demand that no part of the project be procured using tied aid, as this sets their country at a disadvantage. There have been instances where, because the untied Swedish grant dominates a particular project, tied grant sources have been turned away.

Trust fund sizes vary; small funds are heavy on legal administration but are easier for accounting and reconciliation. Earmarking and re-allocation between purposes within the same trust fund can be appropriate, but should be minimised to keep administrative costs down. Trust fund agreements are time consuming and, as circumstances often change, amendments are common. An example is Sida/World Bank cooperation in support of the energy sector of Moldova where more than three amendments were made.⁸⁶ Many small trust funds increase the legal administration, especially where they serve very specific purposes.

It can be useful to earmark funds and constraining the time frame for their disbursement in trust fund agreements. This is especially relevant in a case like the one cited above, where the funds are transferred to a treasury account in the recipient country, and traceability, is an issue. Still, the frequency of amendments, the amounts involved (small) and the time frames set for disbursement (short) point to a high use of administrative resources. On the other hand, this is also a case where a trust fund agreement existed and was sufficiently flexible to capture new ideas. In other cases, such as the E5P, the grant funds are not transferred to the Treasury of the recipient country, but are administered by the IFI for the contracting of services, such as the construction of treatment plants, district heating plants, networks etc.

⁸⁵ Source: P Stålgren, Swedish Embassy, Chisinau.

⁸⁶ Sida Contribution No 71001672.

Although trust funds, in some cases, have rather short durations, in most cases they contain a clause that allows the partners to extend this duration. Short durations may be desired as a means of moving a reform process forward to signal that the time window of support would be limited and to provide an incentive for the recipient government side to set change in motion. Still, realistic time frames need to be planned from the beginning to reduce the costs of extension and adjustment.

Earmarking and re-allocations between purposes within the same trust fund may have consumed more administrative resources than what would be optimal. One reaction to this would be to broaden the objectives to achieve some reduction of the demand of administrative resources. Broadening the scope may complicate management, so one should be cautious when going in this direction.

Auditing costs can be reduced by reducing the number of trust funds, but single-purpose trust funds are easier to administer than multi-purpose trust funds. As each trust fund is subject to annual auditing, the costs of the annual auditing relative to the turnover of the trust funds would be reduced by increasing the size and reducing the number of trust funds. Trust funds that serve multiple projects are efficient from the point of view of legal administration, but they are more difficult for accounting and reconciliation purposes.

Multi-project trust funds are more flexible and more suitable for a programmatic approach. Multi-project trust funds allow the IFIs to engage in a programmatic approach, as is the case with the E5P in Ukraine. This allows a prioritised selection process to be developed, secure in the knowledge that trust funds for technical cooperation and for offering concessionary terms, are available.

Multi-IFI projects can be cumbersome. In projects being co-funded by several IFIs, it is crucial that one IFI assume a lead role. Even when this is in place, a recent evaluation by the EBRD found that in practice, indicators and reporting were not always as consistent as they should be, with the client often being obliged to report against a number of different indicators that measure similar aspects in different formats. Another factor that is often overlooked in such arrangements is that the IFIs are competitors.⁸⁷

IFI reporting is improving, but there is still room for improvement. A lot of effort has been made by both Sida and the IFIs to improve reporting. The banking and donor traditions of reporting are different, as they service different constituencies. Generally,

⁸⁷ M. Petersson, Ukraine.

the reporting of achieved results is weak across all IFIs. The evaluation found that the best reporting, in terms of detailed analysis of results achieved, lessons learnt and actions to be taken to avoid major problems, is done “informally” through Swedish seconded staff.

The blending of loans and grants does not seem to be guided by an explicit set of criteria or principles - it appears to be a question of negotiation with the municipality and making use of what is available in practice. Rules of thumb are applied for maximum grant to loan ratios.

The prevailing logic is that technical cooperation (which involves feasibility, design, construction supervision, project management, capacity building and institutional development support) should be a grant, as the client will be unwilling to borrow for such purposes. At face value this seems reasonable, especially at the early stage where a feasibility study needs to precede the detailed negotiation of loans. It also seems reasonable, given that client confidence in the benefits of reforms and institutional development might take time to develop. But it is noted that removing these elements from the loan can reduce ownership and commitment to the reform-related outcomes of technical cooperation in exactly the area where such commitment is crucial. Interestingly the World Bank, operating in much poorer developing countries, often succeeds in adding the cost of technical cooperation to the loan. But in the case of Lviv financing of the technical assistance under the loan backfired and led to a drastic shortening and reduction in the inputs.

Affordability is commonly used as an argument for providing investment grants because grants mean that the utility can, for a period of time, offer tariffs that are low enough to allow access by the poorest. This is a complex topic that has to take into account: the accuracy of income and affordability assumptions; the presence of public subsidies available to shield the poorest and the cross subsidy policy.

Normally the greater the public good, the greater the justification for a larger grant element. Thus wastewater treatment projects that benefit downstream communities, rather than only the municipality that bears the cost of treatment, present a more convincing case for grants than say water supply or energy efficiency projects, where the benefits are more closely related to those bearing the costs. Where national regulation is weak, a mayor, acting selfishly on behalf of the municipality and its citizens would require strong arguments to be convinced to make environmental investments for a wider public good. Where significant environmental fines are imposed, as was the case observed in all the of five towns subject to field confirmation, the municipality will have an incentive to improve environmental performance.

Pragmatically, the offer of grants, which are not necessarily indefinitely available, is often a powerful negotiating tool that can sway a municipality to engage in an environmental investment before it would otherwise be prepared to do so. Grants can strengthen the arguments of those in the municipality that favour the environmental

project over those that do not. With the effects of the financial crisis increasingly being felt, this argument is likely to become stronger.

To some extent, it is in the interests of both the municipality and the IFI to increase the grant element. Thus, the onus on restricting the grant element is often on the donors. Where there are multi-project trust funds, the IFIs have an incentive to optimise the use of scarce grant resources; but in practice, the limits seem to be set by the donor. For example in the E5P, there is a set ratio limit of grant to loan of 1:2. Sida estimates that wastewater projects commonly need grants of 35%; although there are cases where grants are higher even for water supply, e.g. in Georgia for the Kutaisi project where the total grants came close to 60%.⁸⁸

Grants, if wisely used, can help consolidate reforms, accelerate the decision to undertake environmental investments and widen the access of services for the poor. But if grants are used to finance investment components that could be financed by loans, they can undermine commercialisation, reduce sustainability and crowd out domestic sources of finance. This effect was evidenced in the Baltic states where EU cohesion funds are very large and encouraging non-economic investments e.g. to serve remote low density communities that could more cheaply served by onsite systems. Where grant funds are a limiting factor, overly grant-rich projects reduce the total number of projects that can be financed and therefore the overall environmental impact.

Programmatic/on-lending arrangements hold out the promise of leveraging commercial funding and reaching smaller municipalities. The EBRD has pioneered a number of innovative means of working together with, and mobilising, domestic sources of funds. In Romania the EBRD has also lent to the Small and Medium-Sized Towns Investment Development Programme, which was a pilot project with the Government on regionalising the water companies and which provided the basis for its Operating Programme in the Environment. Through this approach, the EBRD supported the government policy of the regionalisation of water companies along river basin lines. In Bulgaria, the EBRD set up a Fund for Local Authorities and Government that allows access by smaller municipalities. Sida supported the establishment of a local fund, together with NIB in Estonia, in the beginning of 2000s. It is noted that a potential danger of on-lending arrangements is that the reform agenda might weaken (because the donor has less direct leverage).

⁸⁸ Contribution 76003748 - Sida final report Kutaisi; March 2012.

3.6 SIDA'S ADDED VALUE⁸⁹

Sweden, during its EU chairmanship, had a crucial role in initiating strategic partnerships such as NDEP and E5P. These partnerships, which have both a political and technical dimension, put the involved countries at the centre and mobilise domestic commitment and resources at the programme level. They provide a powerful framework for ensuring relevant actions and sustainable results. It is difficult to overestimate the importance of these frameworks.⁹⁰

Sida has provided substantial grant funding and is the largest bilateral grant contributor to the sector. The grant funds have mobilised a far larger portfolio of loans involving investments between 2-5 times greater than the grant funds themselves. The grants have enabled thorough project preparation, including high-quality feasibility reports and design. They have also, perhaps most importantly, ensured that investments were accompanied by necessary, but also painful, reforms that, in the opinion of many and certainly in the opinion of the project designers and those that approved the project (including internal IFI and Sida structures), might otherwise not have been done, or done as well.

Sida has provided monitoring consultants and seconded staff to the IFIs. These professionals are highly appreciated and have helped to ensure that the projects were well-administered. The consultants and staff have added value to IFIs, especially where technical skills were lacking. As mentioned earlier, staff have provided high-quality information and reports. It could be that some IFIs have over-relied on the seconded staff, rather than internalising the need for high-quality external reporting.

In the earlier period, Sida transferred skills and approaches to the IFIs. In the 1990s, Sida, working with the World Bank, gained much experience on how to best support environmental investments in the transition context of Central Europe and the Baltics. These experiences, skills and approaches have been passed on to the IFIs, such as EBRD, which started their lending operations in these sectors in the late 1990s and early 2000s in Eastern Europe; although they have been active since 1990 in the Europe, Caucasus and Central Asia region.

Sida is considered a strong and active partner. According to all consulted IFIs, Sida provides invaluable support. At the political level Sida has mobilised a sovereign government presence to help difficult projects. An example is Kaliningrad, a vital city for the Baltic Seas Action Plan, where Sweden's active role in the steering committee assisted the political process at key points, including the writing of a letter from the

⁸⁹ See Annex 10 for evidence of Sida's added value.

⁹⁰ Source: EBRD Anders Lund (E5P); Lars Eklund (NDEP).

Swedish Prime Minister to his Russian counterpart. At the technical level, Sida has commented on the ToR and project designs in a detailed and constructive way; there are many examples, though just three are detailed below:

- Latvia, Daugavpils Wastewater treatment - Sida helped enhance the environmental impact of the project by insisting on the adherence of the treatment plan to HELCOM norms.
- Estonia, Narva Wastewater treatment - Sida was responsible overall for the preparation and planning of the project, which appears to have been well carried out and documented. Sida has had a flexible approach and has enabled design corrections based on new studies to be carried out after the initiation of the project.
- Belarus, Grodno – Sida added value by raising issues such as: i) asking for more information on the risk that tariffs will not be raised as planned, ii) questioning the assumptions on local financing; iii) asking for details on the how the attainment of the planned reforms will be documented; iv) noting that the draft agreement with the city authorities does not fully include all the conditionalities; v) putting forward in the assessment memo⁹¹ that no objection is dependent on: a) agreement reached between NIB/EBRD and central and local authorities to introduce full cost recovery principles for tariff setting; b) that the local water utilities will be fully responsible for the Project implementation; c) that HELCOM recommendations for Phosphorus and Nitrogen in effluent will be fulfilled and d) that NIB will ensure that project monitoring will be coordinated with EBRD and World Bank.

Sida is considered by all IFIs to be highly flexible and constructive. District heating projects in Latvia and Russia have met a number of difficulties and have required a hands-on and flexible approach, which Sida has provided. Sida has a reputation for quick responses, e.g. in Estonia with the Narva wastewater treatment plant design changes. There could be reason to believe that in some cases, Sida's flexibility has been overused, for example where there are cost increases, Sida is used as the first port of call, which reduces the responsibility of the client and the IFI. An example is in Georgia, where the extra costs for the Rustavi Solid waste project (access road, machinery) were entirely borne by Sida.

Some support provided has apparently not been effective. In earlier projects, the World Bank complained that some of the non-technical consultants were not up to standard.

⁹¹ Assessment memo 21 Nov 2011.

3.7 INSTITUTIONAL ROLES AND RESPONSIBILITIES

Internal roles are clear in theory but in practice there is overlap and a need for close coordination:

- At a political level, MFA (Ministry for Foreign Affairs) and Sida have worked together very successfully on strategic initiatives, such as the NDEP/E5P and also on dealing with problematic projects such as Kaliningrad.
- The overall division of roles and responsibilities is clear in theory.⁹² However in practice, the integration between MFA and Sida is not complete at the field level. Tasks taken on by field offices are both a function of the level of delegation and the available technical skills. Often, it is the availability of skills that governs. An example of this is Moldova, which is not fully delegated, but is equipped with skills and Georgia, which is partially delegated but which does not have the availability of skills in the field (at least in the recent past).
- Where field offices have a strong presence, such as Moldova and Ukraine, rapid, well-informed decisions can be made by Sida. From interviews we can conclude that this flexible response is highly appreciated by the IFIs and Sida is able to engage in a well-informed country dialogue with IFI country offices.
- The increasing degree of decentralisation, the switch to co-financing of IFIs and the focus on the more fragmented countries of the Western Balkans and Caucasus regions, which do not have strong environmental planning, has reduced the regional character of Swedish support to environmental investments. Sida's overall priorities are set and funded at the country level through the country strategies. The individual environmental projects are prioritised by IFIs and are primarily based on eligibility rather than contribution to a cumulative environmental impact. Although this setup still allows for a regional approach, as the establishment of the E5P demonstrates, there is a tendency for environmental assistance to become more fragmented.
- Also, the MFA and Sida roles in managing global and regional contributions are not clear. For example, MFA can initiate additional appropriations, which are then disbursed through Sida. This can be a source of 'muddled' responsibilities between Sida and MFA. The contribution to the EU accession process through the Western Balkan Investment Fund (WBF) is an example of such a process. It was started at the request of MFA and was disbursed by Sida – however Sida does not have a reporting responsibility regarding this contribution. The implementing IFI sends its reports to MFA, although the financial contribution is recorded in Sida's financial system.

⁹² See Annex 11 for overview of the institutional setup.

There are inadequacies in Sida's internal monitoring and evaluation system. It is notable that, despite the long period of funding (1990-2012) and the large amount of funds involved, there have been few evaluations that are directly relevant to the programme. The evaluation team difficulties in accessing results-oriented information of the contributions poses questions as to whether Sida's internal monitoring and evaluation of the contributions has been adequate and whether adequate demands are placed on partner reporting.

The role of Sida and external parties is clear, but should be flexible enough to make use of Sida's considerable resources at the country level:

- In principle Sida only communicates with the IFI, through which it co-finances the project – this allows a clear line of communication and reduces the scope for confusion. In practice, particularly where there are strong field offices, there is communication with other external partners including: the municipalities and country authorities; other donors and, other IFIs which are involved in the particular projects.
- Also, the division of labour between Sida and the IFIs is clearly set out: Sida only sees projects that have passed the IFIs pre-screening process, and Sida does not get involved in project selection, but can exert influence during the project design stage and during implementation.
- The IFI decision-making process is centred at headquarters level and the dialogue is with Sida headquarters. This puts a communication burden on ensuring that both Sida and IFI field offices are sufficiently informed. Duplicated reporting is being reduced, but is still evident as harmonisation efforts are not yet fully in place.⁹³

3.8 SKILL SET NEEDED TO MANAGE SUPPORT TO SUSTAINABLE ENVIRONMENTAL INVESTMENTS

The core functions that fall under Sida's responsibility are well known:

- Periodically engaging in the initiation of strategic programmes and deciding on priorities;
- Negotiating and designing trust fund arrangements;
- Providing technical and institutional comments at key points in the project cycle aimed at double-checking the quality of the project and the incorporation of Sida priorities; and
- Monitoring agreement conditions and following up during the project implementation to respond to changes.

⁹³ EBRD, 2010.

Table 3.2 outlines the main function and the dominant practice at the present time.

Table 3.2 Functions

Function	Partner	Comment
Initiating/catalysing a strategic programme – political ownership and contextual assessment of political risks.	Sida/MFA	The examples are NDEP/HELCOM and E5P. Political ownership can also be at the project level. At this level there would also be an assessment of political risks, which would sway strategic decisions on timing and the type of intervention.
Deciding on strategic priorities	Swedish Government/ MFA/ Sida/IFI	The Swedish government decides on the country and regional strategies and MFA decides on issues and instructions/appropriation decisions to implementing agencies (Sida). Responsibility for the implementing the strategies lies with Sida. IFIs also provide strategic thinking, although these considerations will not necessarily influence Sida's decisions. Sida will, in principle, decide whether or not the IFI strategy is in line with its own priorities.
Identification and selection of project opportunities	IFIs	It is not easy to determine the prioritisation criteria. It seems that, in common with banking traditions, it is the clients that initiate a proposal and the IFIs then decide if it meets the minimum eligibility criteria. This is relevant for loans but less so for scarce grants.
Partnership arrangements and negotiations (dialogue)	IFIs/Sida	Sida is involved at this stage in order to approve the size and conditions of a grant and to ensure that Sida priorities are taken into account. The design and negotiation of trust funds is carried out at Sida headquarters.
Pre-approval of grant support	Sida	
Project design – infrastructure	IFIs	IFIs support the clients to contract out feasibility, design, project management support and support to institutional development and reforms.
Project design – institutional	IFIs	
Approval of use of grant funds	Sida	Sida provides comments to the ToR and, depending on the trust fund conditions, also gives a no-objection to major contracts involving grant funding.
Grant and loan administration	IFIs	This is a core responsibility of the IFIs, which is usually retained in-house.
Supervision, reporting and completion	IFIs	In principle, the clients should report, but in practice, the IFIs have reporting obligations to Sida that are more demanding than what the municipal clients can typically deliver.
Support on trouble shooting and changes during project implementation	Sida	Sida gets involved where changes in projects mean that trust funds have to be adjusted. Sida will need to ensure that the changes are justified and in the best interests of the project and the original objectives.
Approval of reporting	Sida	Sida comments on reports during implementation and at completion, and finally approves the reporting.

Table 3.3 Skills required at Sida at contact level with IFIs and clients

Functions		Background and skills required
Strategic level	Initiating strategic programmes and deciding on priorities	• Political insight, coordination and negotiating skills • Knowledge of regional environmental challenges and opportunities
	Negotiating and designing trust fund arrangements	• Knowledge of legal aspects of trust funds • Experience in managing environment and infrastructure projects • Familiarity with funding arrangements including the blending of loans and grants
Project level	Providing technical and institutional comments at key points in the project cycle	• Specific technical familiarity and skills in different sub-sectors • Strong project management experience • Knowledge and insight into key reform areas • Negotiating and policy dialogue skills
	Monitoring of agreement conditions and follow up during project implementation to respond to changes	

Strategic level functions related to the initiation of strategic programmes, deciding priorities and negotiating trust funds cannot be outsourced to IFIs or others. Sweden, as a sovereign country, has an entry point and role in initiating strategic cooperation platforms that IFIs or other agents cannot undertake. Similarly, Swedish priorities cannot be decided by others. Although the work load can be simplified by making larger and longer-term trust funds, there will always be a residual responsibility for Sida as the funding agency to negotiate and design the trust fund arrangements. By definition, an agreement with an IFI cannot be done by the IFI alone. A minimum level of skills in all these areas will thus need to be retained. The challenge is that these skills are built up from longer-term project management experience, which means that either Sida has to be engaged in project management-type work or be confident that it can bring people in mid-career from other fields of employment.

Project level functions related to making technical and institutional comments and follow-up during project implementation could, in theory, be further outsourced to IFIs or consultants. Current experience shows that Sida is still adding value to the operations of IFIs. While this could imply that IFIs are not yet ready to take full unguided responsibility, it is mainly a reflection that the type of projects being engaged in are highly complex and that a second opinion is always useful. It is also a reflection that the objectives of the IFIs and Sida differ, even if they share the same basic intentions. In principle, any differences in objectives could be taken into account through very detailed agreements, which, to a certain extent, has already happened (e.g. making the incorporation of gender in a client's corporate development plans a condition of the grant). Such agreements could also be reinforced by active engagement by Sida at the board level of the IFIs. But in practice, given the volume of

funds involved and the difficulty of specifying in advance how to apply Swedish priorities, it is impractical to rely on ex ante controls alone. If, for no other reason, the problems and challenges that occur are highly unpredictable and ex ante controls would reduce the flexibility that is so valued in Sida grant funding.

Table 3.4 Pros and cons of regional and country level

Functions		Regional level	Country level
Strategic level	Pros	• Easier (perhaps even essential) that a regional focus is adopted for developing strategic platforms, such as NDEP, or extending others from a country to a regional focus, like for E5P. • Consistency in designing trust funds. • Setting of common policies and principles so that Sida support is consistent.	• Strong in-country understanding of the political economy, challenges and opportunities. • Familiarity with country systems.
	Cons	• Remote from country realities.	• Difficulty to focus on trans-boundary interventions unless a platform is already in place. • Shorter-term staff contracts reduce continuity in the approach.
Project level	Pros	• Experience is gained on how to handle common problems shared by different projects. • Some IFIs decision making processes are centralised and need a centralised approach from Sida. • Easier to concentrate the specialised skills.	• A close dialogue can be taken at the country level with the IFI country office and if necessary. the client
	Cons	• Remote from country realities.	• A full range of skills will be necessary to serve projects in different sub-sectors – if not to directly engage, then at least to know when further expertise is needed.

The burden of proof is on why an initiative should be anchored at a regional rather than a country level. A regional initiative can either focus on trans-boundary issues that go beyond the scope of any particular country (e.g. HELCOM initiatives in the Baltic) or it can be a multi-country initiative that (like a programme) has a common strategy or goal, or addresses a coherent geographic or political unit. In the first, there is often no alternative to the adoption of a regional approach because cooperation is required across national boundaries. In the second, the case for a regional approach will depend on whether there are significant advantages to adopting a regional approach. The advantages will usually be in terms of economies of scale or because greater quality can be achieved through a regional approach, for example, because of common capacity building that enables peer-to-peer exchange. Regional programmes are highly vulnerable because it is difficult to anchor ownership in a representative and well-established body. For these reasons, the principle of subsidiarity applies meaning that the burden of proof is on why a particular objective or set of activities should be regionally organised, rather than being organised on a country level.

There is no right answer for the best institutional setup; all alternatives have their advantages and disadvantages. In principal most of the options being considered can be effective, provided they have top management support, are implemented consistently and are given enough time to work. Some conclusions that can be distinguished are:

- Capacity to undertake strategic-level functions should be retained within Sida Stockholm.
- Capacity to undertake project-level functions should preferably be retained within Sida as this will ensure on the ground experience, which will in turn ensure that strategic considerations are well-informed.
- There is scope for further delegation of the functions at the project level to IFIs, but there are also limits and current practice indicates that it would be useful to retain the ability to react at the project level and that, where possible, this is better located at the country level (i.e decentralised), provided the skills are present. If necessary, some of functions could be partially outsourced to consultants who would then comment project-by-project (undertaking a similar function to the monitoring consultants employed by Sida).
- The burden of proof is why a particular initiative should be regionally arranged. Initiatives that are genuinely trans-boundary, either technically (e.g. the Baltic Seas Action Plan) or politically (e.g. the NDEP), should be regionally organised. Unless there are significant advantages, other initiatives should be arranged at a country level, provided there is significant capacity at the field office with backup at the headquarters, where such capacity is not or cannot be made available.

4 Recommendations

Only six core findings are presented here. Long lists of recommendations are presented as implications of the findings in Annex 8; these recommendations are also summarised under areas foreseen in the ToR.

Finding 1 – Co-financing International Financial Institutions is the most feasible means of supporting significant environmental investments in Eastern Europe.

The alternative of resuming earlier models of parallel financing is not feasible, given likely Sida staffing levels, and is not desirable, given the benefits of coordination and the economies of scale of the current approach.

Improvements in the current arrangements and practices are possible to ensure greater cost effectiveness, e.g. in replication of the investments and a more explicit strategy for blending loans with scarce grant funding. Sida has constantly adjusted and refined its interaction and supervision of IFIs, learning from experience. The evidence for this is implicit through observing changes in practice and conditions on trust funds rather than explicitly documented in the form of guidelines. Explicit guidelines, although bureaucratic, would make adjustments more transparent and less person dependent. Improvements in the core practices of IFIs have taken place (e.g. on gender), but some areas, such as reporting, they are still far from adequate. Sida has repeatedly brought up the question of improved reporting, but in hindsight greater and earlier insistence on a robust results reporting framework should have been emphasised especially given the IFI culture on client confidentiality, which is to not externalise reporting that is client-related.

Recommendation 1 – Continue and improve the current arrangements of working with IFIs.

- 1.1. Encourage the trend of using larger and longer-time-span trust funds.
- 1.2. Continue close relationships with the IFIs to further extend influence on their core practices.
- 1.3. Take an active role in improving both designing and reporting for results. Encourage web-based presentation of key environmental and financial performance data.

The key criteria for entering into investment support have been and should continue to be: i) the presence of a programmatic basis for prioritising the environmental impact of potential investments; ii) the level of demand from the municipalities and their reform mindedness; iii) the potential for contributing to transition objectives through policy/reform dialogue; and iv) the technical, institutional, financial and social feasibility of the particular project.

Finding 2 - Programmatic approaches at a regional, country or ecosystem level are effective at achieving environmental and reform results. The evaluation has found that a country- or region-centred programmatic approach is better because it: allows prioritisation between projects by selecting the most cost-effective first; offers a means of reflecting local priorities; can yield a cumulative impact on the environment; better catalyses a technical demonstration effect and, because the programmatic approach links municipal success in reforms to national processes, replication can take place.

There is little evidence of the replication or demonstration effect. This topic is not reported on and no demands are made on clients/utilities on obtaining information on such effects. The context is that the difficulty in simply launching and completing a project absorbs all the available time and resources. The project designs do not explicitly address demonstration or replication. In many cases the level of grants and degree of support would rule out replication, except through repeat projects. The Swedish equipment was much admired in Lviv by other towns but they were unable to make sure of similar equipment because they did not have access to finance. It would be reasonable to suppose that some of the transition impacts could potentially be self-replicating, e.g. better management practices might be adopted in a new municipality when a manager trained under a Sida co-finance project is transferred to a new town. But if these effects do occur, they are not reported on. The towns visited as part of the field confirmation had low turnover of technical staff which would tend to reduce transfer of know-how. According to IFIs, the lessons learnt on Sida co-financed environmental projects, which were among the first to be financed by the IFIs, have been carried over to other countries where Sida is not involved – the EBRD evaluation and strategy update of 2010/12 supports this contention. This means that some benefits of sharing experiences between projects have been obtained (even if it has not been as much as would have been obtained if a fully programmatic approach had been followed).

The evaluation team noted difficulties in accessing results-oriented information of the contributions, and also noted that the evaluations of projects and programmes have not been carried out systematically, which poses questions as to whether Sida's internal monitoring and evaluation of the contributions have been adequate.

Recommendation 2 – Respond to and help develop country- and region-led programmatic approaches.

- 2.1. Consolidate the existing International Financial Institutions /donor-led programmes (e.g. E5P) before starting new ones.
- 2.2. Unless there is a strong trans-boundary benefit or regional economies of scale, support partners, IFIs and others to develop country-based programmes, as they are more strongly anchored in existing institutions than regional programmes.
- 2.3. Promote the development of environmental planning and prioritisation as the basis for country- and region-led programmes.

Finding 3 - Sound preparation has been the key to the successful projects. Most project failure can be traced back to inadequacies in the feasibility reports. These commonly relate to overestimating demand, due to inadequate baseline studies and overly optimistic assumptions on cost recovery and the appetite for reforms, due to an inadequate understanding of local institutional issues.

Recommendation 3 – Continue the emphasis on high-quality project preparation feasibility studies.

- 3.1. Ensure that during project preparation, efforts are made to understand and respond to both institutional and political processes of change at both country and municipal levels.
- 3.2. Ensure that project preparation has identified realistic ambition levels, thoroughly scrutinised demand forecasts, ensured that there is a supplier network in place for more advanced equipment and identified where maintenance contracts are advantageous and that where relevant ensure that procurement specifications take account of a full life cycle cost basis.
- 3.3. Use a results-based design to improve the relevance and realism of project objectives, outcomes and outputs. The one adopted under the European Bank for Reconstruction and Development Sida trust fund for environment and climate is a model that can be used. The results-based design should be complemented by support to improved municipal/national/regional environmental monitoring.

Finding 4 - Strategic blending of loans and grants has not optimised the use of scarce grant resources. The evaluation found that whilst concessionary finance using grant funds had contributed significantly to making longer-term environmental improvements affordable and advancing the reform agenda, detailed documentation of how scarce grant resource are targeted is missing, which makes the rationale for such grants less transparent. A number of observers noted that the over-availability of grants could undermine transition objectives.

Recommendation 4 – Develop criteria and best practice for optimising the blend of loans and grants.

- 4.1. Obtain an overview of the current practice of blending amongst International Financial Institutions and critically examine the rationale for the use of the grant element of concessionary financing.
- 4.2. Encourage the use of on-lending using country-based finance institutions and promote the mobilisation of local financial resources.
- 4.3. Develop a guideline for best practice in concessionary finance for environmental investments in Eastern Europe and the Western Balkans

Finding 5 - Sida has added significant value to the environmental investments. Value added has been the form of: i) technical evaluations and comments that lead to more cost-effective infrastructure and a greater environmental impact; ii) institutional evaluations and comments that lead to more effective reforms and improvement in the sustainability of the investments; iii) policy-related evaluations and comments that

improve the attainment of Sida policy goals; iv) political support that strengthens the selection of projects, the ownership and demand for the projects and the commitment to reforms. In most examined projects, there is documentary evidence of relevant technical and institutional comments to the ToR and reports. New approaches have been adopted for the more recent trust funds that will increase the transition impact of the investments, e.g. gender analysis, and the use of social participation packages to ensure the active involvement of the people to be served. Significant political support, such as the initiation of partnerships like NDEP and E5P, has also been provided using Sweden's status as a sovereign nation to enhance collaboration between other states. As the IFIs develop experience and expertise there will be less need for Sida to add value at the project level and more opportunity to focus on adding value at a strategic level.

Recommendation 5 - Develop country specific policy/reform dialogue agenda together with partners.

- 5.1. Under regional guidance, Sida country offices should prioritise the process of formulating attainable and shared policy dialogue goals in each country, together with country partners, donors and International Financial Institutions.
- 5.2. Use the policy dialogue plans to integrate the work of Sida's three pillars of environmental support (institutional, investment, civil society).
- 5.3. Using a results-based approach, follow up, report on and adjust the policy dialogue plans yearly.

Finding 6 - Sida's internal monitoring and evaluation system did not allow results to be clearly measured. It is notable that, despite the long period of funding (1990-2012) and the large funds involved, there have been no evaluations that are directly relevant to the programme. The evaluation team difficulties in accessing results-oriented information of the contributions, and that evaluations of projects and programmes have not been carried out systematically, pose the question as to whether Sida's internal monitoring and evaluation of the contributions have been adequate and whether Sida places sufficient demands on results reporting from its partners.

Recommendation 6 - Strengthen Sida's monitoring and learning.

- 6.1 Conduct a comprehensive portfolio analysis of environmental investments supported by Sida.
- 6.2 Consider developing, in close cooperation and compatibility with IFIs, a results framework for the whole portfolio for environmental investments.
- 6.3 Include firmer conditions on results-oriented reporting in agreements with International Financial Institutions.
- 6.4 Consider how International Financial Institutions where relevant working closely with Sida could extend the post construction follow-up.

Annex 1 – Terms of Reference

Evaluation of Sweden's Support to Sustainable Environments in Central and Eastern Europe

1. BACKGROUND

The goal for Sweden's development cooperation is to support poor peoples' own efforts to improve their quality of life. In support to Central and Eastern Europe, Sweden focuses on supporting partner countries' approximation to EU values and markets. To this end, Sweden has since the mid-1990's supported environmental investment projects in Central and Eastern Europe. Over the years, the design of the support has been adapted to match needs, financial structures and changes in which international and local partner Sweden has worked with. The support has included different sub-regional projects and all in all some 60-70 projects have benefited from about 2 Billion SEK which has been leveraged with a factor of up to 7-10 with funds from International Financial Institutions (IFI).

The support has foremost targeted wastewater, water supply, district heating, energy efficiency, and waste management to support reforms in line with EU directives, decentralised management, consumer orientation, private sector involvement, financial sustainability and the use of modern and environment friendly techniques.

Sweden's programming of this support has varied over time: For many years it has been managed as a coherent program from Stockholm, while increasingly the main channels for support has been through the country based support programmes run out of the national offices and embassies (UM). Combinations of the two has also occurred calling on a strong cooperation between head-quarters and field offices. The Ministry of Foreign Affairs and at times also the Ministry of Environment has worked with Sida in delivering the support which has been implemented in close cooperation with IFIs such as EBRD, EIB, NIB, NEFCO, the World Bank and other IFIs.

Hereafter the term "Sustainable Environmental Support" (SES) is used as an overarching term to denote all interventions in this support.

The Swedish Government today has regional strategies for different parts of the world, but not for the areas broadly encompassing Central and Eastern Europe, including Russia. The Government has engaged in a process of developing one or more regional strategies for this region. Support to Municipal Environmental Infrastructure investments and reforms is likely to be at the core of this regional approach.

Sida is committed to follow up and analyse the results of its development cooperation. Whereas results reporting has been carried on at project level, Sida has not until now commissioned an overall evaluation of this support to MEI sectors. As this is now

done, the aim is to draw conclusions and generate lessons learnt for future support which is likely to be delivered under the regional strategy, or strategies, which the Swedish government has committed itself to produce.

2. OBJECTIVE OF THE EVALUATION AND TARGET GROUPS

With the overall purpose of further improving Swedish reform cooperation, the forthcoming evaluation is to present conclusions and lessons in respect to what works, under what circumstances and why, to promote municipal environmental investments thereby contributing to improved environmental conditions, service provision sustainable financing and political reforms.

The evaluation is forward looking and focused on learning for next steps. In particular, the evaluation should provide a background and input in the development of regional strategy/strategies for Eastern Europe and Western Balkans by the Swedish Government. In preparation for this work, the Government is expected to ask Sida for analytical support and advice which Sida is expected to obtain partly from this evaluation.

The primary target group of intended users of the evaluation is Sida's Department for Reform and Selective Cooperation (RES) and the respective Swedish embassies, who will draw on the evaluation to advice the Government on the foreseen regional strategy/strategies.

Other target groups are Sweden's Ministry of Foreign Affairs, Ministry of Environment, engaged IFIs, national partner organisations in countries in the relevant region. In this regard, the evaluation can be used in their dialogue with partners, as an input for planning and as a basis for follow-up and reporting. The evaluation may also be of interest to other persons engaged in Sweden's support to municipal environmental investments.

3. EVALUATION FOCUS AND EVALUATION QUESTIONS

The SES stretch back to the early 1990's and encompasses a number of sub-regional programmes and a vast number of projects. The evaluator shall agree with Sida about what contributions that will be covered and the evaluation shall present a *description* of the programmes and projects with respect to their (i) objectives, (ii) context, (iii) content, (iii) processes for cooperation between Sweden and relevant parties, and (iv) models for Swedish contribution (investment and TA). General patterns in Sweden's support shall be distinguished and described.

It shall further present *evidence on the results* of the SES, and *draw conclusions* on factors having contributed to success/failure: What has (not) worked, when and why? To this end, an evaluation shall be made of the strategies and approaches that were applied by Sweden and its partners and whether they have been successful or not. Recommendations will be generated based on the evaluation results and will be further informed by established international good practices and lessons learnt from similar support programmes.

The evaluators shall particularly focus on factors of strategic importance for the development of the envisaged regional strategy. This includes (i) effects of selection and design of financing models and implementing partners/channels, (ii) Sweden's value added in different financing and cooperation models.

The assessment shall be based on the five standard evaluation criteria of OECD/DAC (See OECD/DAC Glossary for definitions). The principal evaluation questions under the different evaluation criteria are the following but to be further elaborated in dialogue with Sida during the inception phase.

Effectiveness

1. To what extent have the contributions of SES met their objectives, focusing on intended output, outcome and impact (and taking into account variations in the objectives of individual contributions under the SES)?
2. What factors, internal and external to the projects/programmes, have influenced the fulfilment of objectives (positively or negatively)? Among other factors, the consultant should consider the influence of different models for reporting on results from projects implementer, to Sida and Swedish Ministries; and the influence of differences in the division of labour between Swedish Ministries, Sida, IFI, support consultants and other actors involved in the implementation.

Relevance

3. To what extent have the interventions conformed to the needs and priorities of target groups and the policies of the partner countries?
4. To what extent have the programmes been in line with the policy of the Swedish government, implying among other things special attention to the rights based approach, gender equality, greater influence for women, and good health and environment? The question must take into consideration changes in the policy and objectives of Swedish development cooperation during the implementation period of SES.
5. How has the programmes interacted with other factors to achieve socio-economic development and political reform (e.g. via increased improved investment opportunities created through the investments)?

Impact

6. To what extent have the projects/programmes assessed contributed to improved environments (e.g. reduced emissions) /socio-economic development and political reform?
7. Have there been any positive or negative, intended or unintended effects beyond those reflected in the explicit objectives of the interventions?

Sustainability

8. What type of impact has been observed at different points of time after completion of the programmes?
9. What is the likelihood that the results of the projects/programmes studied will be sustainable?

10. What are main risks to sustainability observed, taking the technical, financial and institutional environmental dimensions into account, and how can they be dealt with?

Efficiency

11. What have been the costs of the results achieved?
12. Are there noticeable differences between the efficiency of the projects/programmes studied and, if so, what are the reasons for this? (How much did X ton of CO2 emissions cost in different contexts? What leveraging effects in terms of further investments and institutional reforms have been generated by Sweden's funding?)

4. RECOMMENDATIONS

Based on the findings of the evaluation and taking into account international experiences from similar projects, the evaluation team shall formulate recommendations to the primary target group in respect to the following:

- a) What is Sweden's comparative advantage in support of environmental investment programmes? What can motivate Sweden's further engagement in this area in cooperation with international partners?
- b) How shall Swedish financed municipal environmental infrastructure investments be designed in terms of selection of financing mechanisms and international and national partners to best contribute to reach objectives of improved environment, service delivery and institutional reforms, (taking contextual differences and political preferences into account)? What should be the key criteria for entering into investment support?
- c) How should Sida/Sweden exercise management, monitoring and reporting in this area? How shall Sida/Sweden best organise the work in the regional context as a donor – MFA, Sida, UM – in this area?
- d) What are the major risks in environmental investment programmes, and how can they be effectively mitigated?
- e) What competences must Sweden possess to exercise its role effectively as a donor in this area? How can these competences be secured (in-house/consultancies, outsourcing etc)?
- f) The consultant shall provide recommendations on the design on subsequent, in-depth evaluations.

5. SCOPE, FOCUS AND DELIMITATIONS

The evaluation is a desk evaluation with additional interviews of Sida's experiences of SES.

The evaluation shall summarise and analyse the observations, conclusions and lessons learned, related to the evaluation questions, as reflected in the following main types of data:

- a) Project and program documentation from Sida and its partners, in particular IFIs. A strategic selection of projects/programmes/contributions for closer examination should be done.

- b) Existing data displaying results such as evaluations, evaluations, monitoring reports produced by Sida and/or its partners.
 - c) Interviews with relevant staff at Sida, Swedish Ministries involved IFIs and if possible national partners.
- a) Field trips to project countries will not be conducted for this evaluation. The need to visit headquarters of IFIs will be assessed based on the availability and accessibility of data.
 - b) The approximate time period to be covered by the evaluation is 1995-2012. The exact time period and projects to be covered will be agreed in discussions with Sida.
 - c) Observations, conclusions from the different parts of the evaluation shall be synthesised into a main report.

6. METHODOLOGY AND IMPLEMENTATION

6.1 Inception Phase: Development of detailed evaluation approach and methodology

The aim of the Inception Phase is to establish a clear understanding of the objective and scope of the evaluation and the methodology that will be used to this end. Prior to the start of data collection an Inception report shall be presented. It shall include

- a) A model for evaluation of the SES in the form of a generic theory of change,
- b) A further elaboration of evaluation questions above and of how evaluation criteria will be applied,
- c) An overall evaluation design showing how evaluation questions will be answered,
- d) An account of baseline data identified,
- e) An account of data sources – main types of documents and interview persons - and of how data will be analysed,
- f) A discussion on evaluability and attribution, including how the consultants will deal with the contextual complexities in the implementation process, as well as the fact that Sweden's organisation and management of development cooperation has changed over the time of SES
- g) Basic analysis of stakeholders, influencing and/or affected by the programmes directly or indirectly,
- h) An account of how stakeholders will participate in the evaluation (who, how, when, why),
- i) Possible key issues to be further looked into in the evaluation,
- j) Possible delimitations to be agreed upon with Sida,
- k) A detailed work programme,
- l) A detailed budget

6.2 Outputs

The evaluation will generate the following outputs

- a) **An Inception Report** covering the areas outlined in section 5.1.
- b) **A Main Report** synthesising findings and focusing on overall findings, conclusions, lessons and recommendations.

For all reports, a draft shall first be presented to Sida and key stakeholders for comments. A final draft for Sida's approval is to be prepared by the consultant no later than one week after receipt of comments on the Inception report and two weeks after receipt of comments on the Main Report.

The reports shall be written in English and adhere to the OECD/DAC Glossary of Key Terms in Evaluation and Results-based Management. The Main Report should not exceed 40 pages, excluding annexes. Format and outline of the report shall follow the guidelines in **Sida Evaluation Manual "Looking Back, Moving Forward"** – Annex B, Format for Sida Evaluation Reports. The complete evaluation manual including annexes is retrievable from Sida's home page.⁹⁴

The reports must be presented in a way that enables publication (in black and white) without further editing. A report format in Word will be furnished by Sida. After approval, the report will be published in the series *Sida Evaluations*. Sida also intends to share the final version of the evaluation digitally with the major stakeholders to the evaluation.

The evaluators are expected to maintain a continuous dialogue with Sida throughout the evaluation process, both for the management of the evaluation and as a way to promote learning.

c) Dissemination seminar

After completion of the Main Report, one seminar shall be organised to present the findings to Sida. Other stakeholders may also be invited. The evaluators will have the overall responsibility for the seminar which will be hosted by Sida.

d) Terms of Reference for subsequent evaluation.

The evaluators shall recommend different ways to design a subsequent, more in-depth, evaluation of SES based on the findings from this evaluation. The recommendations shall be presented in written form to Sida and include different focus and design options. Based on a discussion with the evaluators, Sida will decide on these options and the evaluators will present a Terms of Reference for this evaluation that without further editing can be used to procure this service.

7. TIME SCHEDULE

The evaluation should start no later than 15 August 2012, preferably earlier.

⁹⁴ <http://www.sida.se/sida/jsp/sida.jsp?d=118&a=3148&searchWords=looking>

Strong efforts should be made to hold an Inception Meeting during week 29 with the objective to clarify the subsequent work.

An Inception Report shall be presented within 3 weeks of the starting date of the contract.

A Draft Final Report focusing on conclusions and recommendations should be held by 15 October.

The Final Report and the Dissemination Seminar shall be delivered no later than 15 December 2012.

The Terms of Reference for the in-depth evaluation shall be presented no later than 1 February 2013.

Total time input is expected to be around 20 person weeks to allow for data collection costs within the budget limit.

8. THE TEAM

The Evaluation Team shall have one designated Team Leader with overall responsibility for deadlines, quality, communications etc. The Evaluation Team shall comprise distinguished competence in evaluations according to OECD/DAC and Sida's evaluation standards. The team will further comprise distinguished expertise on the subject areas covered by the evaluation, including environmental infrastructure investments, financing, relevant technical solutions and policy approaches for sustainable environment solutions.

9. ROLES AND RESPONSIBILITIES

Sida/RES is fully responsible for the management of the evaluation. Quality assurance support will be provided by Sida/UTV. Further quality assurance and coordination support may be procured by Sida/RES in the form of consultants.

A management group with a designated Contact Person shall be formed within Sida/RES. The role of the management group will be to guide the consultant's work, including giving feed-back on the draft reports and other outputs. The management group may delegate different tasks to the separately procured quality assurance/coordination consultant.

Sida/RES will provide the consultants with needed assistance to establish contacts with relevant stakeholders, including in particular Ministry of Foreign Affairs, Ministry of Environment, and IFI.

The consultants have the over-all responsibility for identifying and collecting relevant data and organising interviews. Sida/RES will assist the consultants in this endeavour.

The consultant will have the full responsibility for the implementation of the evaluation, in line with to the principles of independence and impartiality.

Terms of Reference

Evaluation of Sida's support to Environment and Infrastructure and reforms in Central- and Eastern Europe and Western Balkans 1995-2010 (2013:5) Phase II – additional issues

1. Background

Indevelop presented the Final Report for the “Evaluation of Sida's support to Environment and Infrastructure and Reforms in Central- and Eastern Europe and Western Balkans 1995-2010” (2013:5) in February 2013 and at a Development Talk seminar 27th March.

In the ToRs (Call-Off Order C55022) it was foreseen that the desk study evaluation could be followed-up with an In-Depth Evaluation and Indevelop was to present ToRs for such evaluation. After presentation of the evaluation report, it was identified to be of more value to supplement the desk study with a few interviews where the client views are pin-pointed, rather than a full In-Depth Evaluation. These ToRs concerns add-on issues to the Desk Study.

2. Objectives

Bring forward the client perspective and the long term impact of the Swedish supported cooperation.

3. Scope of Work

Undertake interviews with clients (municipal utilities) for projects that have been completed (see end of ToRs). A total of 4-5 projects should be selected for interviews. Primarily, Narva (Estonia) and Panevėžys (Lithuania) should be included, as these projects were also included and in the Desk Study. Then Jurmala (Latvia) and Lviv (Ukraine) and Kaunas (Lithuania) could be selected. As Sweden has provided much of its support through IFIs, the focus in the interviews cannot be how the client perceived Sweden's support, but must be on current functionality of the utility and of the support provided over the years.

The focus of the follow-up should be on Impact and Sustainability.

4 Evaluation add-on questions

Tentative issues:

Hear what the client thinks of the international (Swedish) support and its effectiveness.

Physical impact - did the projects work and do the utilities work now?

Reform impact - were the reforms put in place and are they in place now?

Replication - has any of the approaches been replicated e.g. to other towns

What do the clients think of our findings and recommendations in the desk study- are they right?

Which more support has the client received over the years (after becoming EU-members)?

Level of cost-recovery – has there been a closing of the gap?

What are the clients' views as to how international support best can be provided? (with reference to Eastern Europe)

5. Reporting

The assignment shall be carried out by the Team Leader, Eric Buhl Nielsen and a local consultant(s). The assignment will require travel to the respective countries.

Reporting: The assignment shall be reported by at the latest 30th July. The report shall be structured in a manner that it can become part a revised and integrated Evaluation Report (2013:5).

The Executive Summary of 2013:5 shall be revised to reflect any findings and recommendations that follow from the add-on assignment

Annex 2 – Definitions

Supportive definitions based on OECD and Sida documents

Relevance – the extent to which the objectives of a development intervention are consistent with the beneficiaries’ requirements, country needs, global priorities and partners’ and donors’ policies.

Effectiveness - the extent to which the development intervention’s objectives were achieved, or are expected to be achieved, taking into account their relative importance.

Efficiency – A measure of how economically resources/inputs (funds, expertise, time, etc.) are converted to results.

Impact - Positive and negative, primary and secondary long-term effects produced by a development intervention, directly or indirectly, intended or unintended.

Sustainability - The continuation of benefits from a development intervention after major development assistance has been completed; the probability of continued long-term benefits; the resilience to risk of the net benefit flows over time.

Source: Sida, “Guidance on programme based approaches” 2008; Sida “Evaluation Manual”, 2007

Programme as “a set of interventions, marshalled to attain specific global, regional, country, or sector development objectives. A development programme is a time bound intervention involving multiple activities that may cut across sectors, themes and/or geographic areas”.

Project as “a project is a set of inputs, activities and outputs, agreed with the partner country, to reach specific objectives/outcomes within a defined time frame, with a defined budget and a defined geographical area”.

Programme-Based Approaches – A “way of engaging in development cooperation based on the principle of co-ordinated support for a locally owned programme of development, such as a national poverty education strategy, a sector programme, a thematic programme or a programme of a specific organisation”.

PBAs share the following features:

- a) leadership by host country or organisation
- b) a single comprehensive programme and budget framework

- c) a formalised process for donor co-ordination and harmonisation of donor procedures for reporting, budgeting financial management and procurement and
- d) efforts to increase the use of local systems for programme design and implementation, financial management, monitoring and evaluation.

Source: Paris Declaration – quoted in Sida, “Guidance on programme based approaches” 2008

Support to a Specific Programme managed by an Organisation – Support to an organisation with the purpose of supporting a specific sector, policy area or geographical area. This form of cooperation involves both support, where an organisation (often an international organisation) is used as a channel for the support (e.g. a multi-donor trust fund administered by the World Bank), and support to a part of an organisation’s own work programme (e.g. support for a research programme of a research institution). The extent to which this form of co-operation can be considered as a PBA depends on whether the four criteria for a PBA are fulfilled.

Source: Sida, “Guidance on programme based approaches” 2008; Sida “Evaluation Manual”, 2007

Project – A project is a set of inputs, activities and outputs, agreed with the partner country, to reach specific objectives/outcomes within a defined time frame, with a defined budget and a defined geographical area. Projects can vary significantly in terms of objectives, complexity, amounts of funds involved and duration.

Source: Sida, “Guidance on programme based approaches” 2008; Sida “Evaluation Manual”, 2007

Programme evaluation – Evaluation of a set of interventions, marshalled to attain specific global, regional, country, or sector development objectives. Note: a development programme is a time bound intervention involving multiple activities that may cut across sectors, themes and/or geographic areas. Related term: Country programme/strategy evaluation.

Source: OECD, “Glossary of Key Terms in Evaluation and Results Based Management”, 2002; Sida “Evaluation Manual”, 2007

Project evaluation – Evaluation of an individual development intervention designed to achieve specific objectives within specified resources and implementation schedules, often within the framework of a broader programme. Note: Cost benefit analysis is a major instrument of project evaluation for projects with measurable benefits. When benefits cannot be quantified, cost effectiveness is a suitable approach.

Source OECD, “Glossary of Key Terms in Evaluation and Results-Based Management”, 2002; Sida “Evaluation Manual”, 2007

Parallel financing – Financing by Sida for a project where others are also financing the same project. Sida provides funds for activities that are coordinated and part of a

bigger project. Sida is responsible for making agreements with the recipient and, depending on the agreement, may also take a role in procuring goods and services.

OECD definition: The joint or parallel financing of programmes or projects through loans or grants to developing countries provided by commercial banks, export credit agencies, other official institutions in association with other agencies or banks, or the World Bank and other multilateral financial institutions.

Co-financing – Financing by Sida for a project where the finance is channelled via a lead IFI. The IFI, rather than Sida, is responsible for making agreements with the recipient and ensuring the appropriate procurement of goods and services.

Leverage – Financial leverage is defined here as the volume of total funding for a project compared to the Sida funding provided for that funding. It is not unique leverage in the sense that other donors can, and do, also report leveraging from their point of view.

It could also be relevant to consider grant leverage, i.e. what amount of loans a grant supports (or has levered). This second more restrictive interpretation is more meaningful but is not reported on as frequently. An “environmental leverage” is also present in this context, in that expenditure on environmental investment in Eastern Europe has been up to seven times more efficient in reducing nutrients to the Baltic Sea than the alternative of investing in nutrient reduction in Sweden.

Annex 3 – Sida's Support to Sustainable Environment in Eastern Europe 1995-2010

Compiled by Krister Eduards, Vera Devine and Eric Buhl-Nielsen

Background

In late 1989, the Swedish government started to support emerging reform efforts in Central and Eastern Europe. The first country was Poland, where environmental issues were given a large amount of attention. The following year, reform projects were also started in the Baltic States, which were still Soviet Socialist Republics. Also there, the environment was given priority. In all four cases, the Baltic Sea was a part of the focus of efforts.

The dissolution of the Soviet Union in 1991 became the start of an extensive Swedish programme in support of reform efforts in the former Soviet Socialist Republics that were geared towards strengthening their sovereignty, supporting their transition from a planned economy to a market economy and from transitioning from a one-party state to a parliamentary democracy, and to securing sustainable environmental development. The ambition was also to promote the integration of the new states into European and international structures and cooperation. The cooperation has covered most sectors of society and engaged the Swedish society at breadth.

For the Swedish government, the shift of paradigm in Central and Eastern Europe, and the ensuing transition and structural change, stood out as a decisive event of this time period. The following socialist, as well as non-socialist governments, in Sweden have all seen it as a strategic Swedish interest to provide broad political, economic and technical support for the transition in the region.

Since the 1970s, Swedish governments had actively supported international efforts to restore the ecological status of the Baltic Sea. Therefore, cooperation on environment was given the highest priority from the very outset in the Baltic countries. It was managed by the Ministry of Environment until 1995, when it was integrated as a fourth component of the overall Eastern Europe Cooperation Programme. Also, from a financial point of view, environment was given a unique position, as it was possible here to finance investments rather than only transfer know-how. Most of the support has been directed to water and wastewater projects, solid waste projects, district heating and fuel conversion, nuclear safety and radiation protection. Also, cooperation between authorities and institutions to transfer knowledge and enhance capacity was financed.

Change and development in the region was swift. In 2004, all EU candidate states in Central Europe were admitted as EU Member States. With that, official Swedish support to these countries ceased. Instead, the Swedish government directed its support towards re-

form efforts in the former Soviet Union increases in Russia, Ukraine, Moldova and Belarus, and in the countries of Southern Caucasus and Central Asia, with varying degrees of environmental commitments. In particular, the treatment of wastewater going into the Baltic Sea has attracted attention. In 2008, the programme in Russia was decreased and concentrated to two sectors, one of which is the environment. The wastewater treatment in St. Petersburg and Kaliningrad is a major area of interest.

International cooperation concerning environmental development in the region has been important. The Helsinki Commission and the Action Plan for the Baltic Sea, adopted by the concerned countries in 1992, have been strategic instruments, where the World Bank, EBRD and NIB have been heavily engaged in cooperation with Sweden and other donor countries. Since 2001, the Nordic Dimension Environmental Partnership has provided an additional and highly strategic opening for environmental cooperation with countries like Russia and Ukraine, and has increasingly also engaged the European Commission (EC) and the EIB in the effort.

In 1991, the Swedish government assumed a commitment to the Western Balkans, initially in the form of humanitarian support aiming at the reintegration of refugees. The Dayton Agreement of 1995 gave ground for a cooperation of peaceful reconstruction and development. Bilateral programmes were agreed upon with the governments of all former Yugoslav republics except Slovenia. In addition, Albania was added to the list of partner countries.

Cooperation with the countries of the Western Balkans was initially to contribute to peace, stability and development in the region. Gradually, the association and integration in the EU have become an ever stronger driving force behind change in the countries. Also in this region, development and growth have been swift. Today, some countries have been accorded the status of EU candidates. Sweden has started to scale down its inputs, phasing out its programmes in Croatia and Macedonia.

The environmental sector of the region has been seriously neglected. The management of waste and discharges is currently at an unacceptably low level. The issue is being attended to within the EU integration process, where an agenda for action is also being provided. At present, Swedish support is directed towards the areas of chemical substance management, water protection and the management of wastewater and solid waste in Serbia; while in Kosovo, forestry is in focus. In Bosnia and Herzegovina, municipal level waste management capacity is being developed; wastewater management, at present, is becoming a larger component.

Since 2005, all Swedish development cooperation with the countries of Eastern Europe and the Western Balkans is grouped into one budgetary line, where “European integration is a powerful driving force for development and combating poverty”. In 2007, and in view of the economic and political characteristics of the region, Parliament also adopted the Government’s proposal to redefine that cooperation in its totality as reform cooperation instead of development cooperation.

Detailed assessment of the history and geographic coverage of interventions

As mentioned above, the interventions cover, or have covered, a very diverse set of countries: 1) the Baltic States (Estonia, Latvia, Lithuania), which, in 2004, became members of the European Union; 2) the Western Balkans, with countries at various stages in the process of accession to Europe, i.e. a) those with a clear EU integration agenda (with Croatia scheduled to join the EU in July 2013; and Serbia, Macedonia, and Montenegro having candidate status) and b) Bosnia and Herzegovina and Albania, where EU integration is making slower progress due to an overall difficult political environment, as well as Kosovo; 3) Eastern Partnership countries (previously part of the EU Technical Assistance to the Commonwealth of Independent States (Tacis) programme), including Armenia, Azerbaijan, Belarus, Georgia, Moldova, and Ukraine, which engage in a dialogue with the EU on key issues, but without having the EU accession perspective; and 4) Russia.

An issue on geographic targeting is the considerable variety in the size of the countries targeted, and consequently, the magnitude of the assistance needed to address environmental concerns.⁹⁵ As mentioned earlier, the regional initiatives of HELCOM and NEDP have been very important instruments, especially for the Baltic and Barents Sea areas.

In chronological terms, support to the Baltic States was greatest between 1995 and 2004, when these countries acceded to the European Union. The countries' EU aspirations, and consequently, their need to implement the *acquiscommunautaire*, including its complex chapter on environment, provided a strong driving force and leverage for reforms; a similar reform commitment can be observed in the candidate countries in the Western Balkans with EU candidate status (Croatia, Macedonia, Montenegro, and Serbia): EU aspirations of countries and *acquis* requirements have been key in ensuring the ownership and sustainability of the reforms.

With regards to the Eastern Partnership countries, as well as Russia—and ultimately also affecting regional interventions—the situation is more complex across the entire range of technical assistance provision, including environmental issues. The 22 years since the collapse of the Soviet Union have seen a multitude of political developments, and overall, the early expectations of consolidation to democracy and a market economy in the countries of the region have not materialised; in most countries (with the possible exception, up to a point, of Georgia), earlier progress on democracy and the rule of law has now been somewhat reverted, making engagement in meaningful policy dialogue and entry points for co-operation a challenge.

⁹⁵For example, the United Nations' Economic Commission for Europe 2nd Environmental Performance Evaluation for Ukraine in 2007 estimated that the costs for aligning Ukraine with EU environmental standards would be approximately US\$ 1 billion. See http://www.unece.org/fileadmin/DAM/env/epr/epr_studies/Ukraine%20II.pdf, p. 25.

In 2007, Sida decided to apply greater focus in its engagement with the countries of the region. This meant that bilateral support to some of the countries was phased out in 2007/2008; these countries included: Armenia, Azerbaijan, Croatia, Macedonia, and Montenegro.

In terms of countries currently covered by Sida support, we identify the following:

Albania: Support to Albania is covered by Sida's 2009 – 2012 Country Strategy; the Strategy has been informed by the 2008 Environment and Climate Change Analysis. Assisting Albania to move closer to EU integration is at the core of the Sida strategy. Albania signed the Stabilisation and Association Agreement (SAA) with the EU in 2006, and formally applied for membership in the EU in 2009. Albania is not expected to join the EU before 2015 at the earliest. There have been consistent concerns about the level of corruption in Albania (these concerns are also reflected by the interventions supported by Sida in Albania). While officially Albania pursues EU membership, it does so with less vigour than some of its neighbouring countries (for example Serbia).

Bosnia and Herzegovina: The country signed an SAA with the EU in 2008, but is not expected to join the EU before 2015 at the earliest; Sida's interventions are in support of moving BiH closer to EU integration. The biggest obstacle for BiH on its path to EU membership is the unstable political environment in the country, influenced by on-going ethnic divisions. These problems also affect the progress that multi- and bilateral assistance can make in key reform areas. Sida judges reform progress to be more likely at the municipal level than at central levels.⁹⁶

Kosovo: Sweden recognised Kosovo's independence in 2008. Although EU membership for Kosovo is currently not officially on the agenda, the prospect of membership of the surrounding countries in the EU means that there is also an EU interest in having Kosovo comply with EU standards.

Serbia: The country was confirmed as an EU candidate in March 2012, but is not expected to join the EU before 2015. While lack of co-operation with the International War Crimes Tribunal in The Hague had been a major issue in EU-Serbia relations in the past, Serbia's relations with Kosovo remain a substantial problem hindering quicker EU integration. Elections in spring 2012, resulting in the election of a president with strong nationalist credentials, have raised concerns internationally as to the implications for the EU accession process. Sida's cooperation with Serbia is laid out in its 2009 – 2012 country strategy, which is aligned with EU accession priorities.

⁹⁶ See <http://www.sida.se/English/Countries-and-regions/Europe/Bosnia-Herzegovina/Our-work-in-Bosnia-and-Herzegovina-/EU-integration-a-distant-but-steady-goal-for-Bosnia-and-Herzegovina/>.

Belarus: Sida has a 2011 – 2014 Country Strategy for bilateral assistance with Belarus. At the EU-level, sanctions apply to Belarus (because of its dismal human rights record and the limit on political freedoms in the country, as well as the continued practice of the death penalty); and the country is only participating in those sections of the European Neighbourhood and Partnership Instrument (ENPI) that cover civil society issues, or areas of cross-border importance (such as environmental issues, but also organised crime and corruption). Sweden's relations with Belarus are extremely difficult, and have been further strained by the expulsion of the Swedish ambassador in August 2012.

Georgia: Assistance to Georgia is covered by the 2010 – 2013 Country Strategy, and rapprochement to EU standards is an explicit objective of the Strategy; the Strategy defines Swedish bilateral assistance as a complement to the ENPI policy objectives for Georgia. Georgia is, among the ENPI countries, the most obvious reformer, with the country's government vigorously pursuing a reform and modernisation agenda, in line with its vision to distance itself from the image of a backwards, post-Soviet nation. Despite government commitment to many reforms, the country has been criticised, over the past years, for its uneven record on human rights, with clamp-downs on opposition protests and trials ignoring due process.

Moldova: Bilateral assistance to Moldova is covered by the 2011 – 2014 Country Strategy, and explicitly supports the objectives of the ENPI process. Moldova is in the process of negotiating an Association Agreement with the EU. Key concerns in relations with Moldova have been the high level of corruption in the country.

Ukraine: The country (covered by the Sida Strategy for 2009 – 2013) is one of the more challenging partners for development cooperation. First, there is the sheer size, both geographically as well as in terms of the magnitude of the environmental problems. Second, Ukraine's political developments since 2004 have been uneven at best. At the beginning of the period covered by the current strategy, there was still a distinctly pro-European integration agenda. And while there is, at the level of political declaration, still a pro-European agenda, the Ukrainian government has come under harsh criticism for its human rights record; corruption levels remain a serious concern in the country (resulting in Sida's decision to continue providing its bilateral assistance through project support as opposed to budgetary support). Policy-making in Ukraine is a function of the political instability that has marked the country throughout the 2000s; absorptive capacity of the administration for technical assistance is low. Ukraine is holding parliamentary elections in late October 2012, the outcome of which will provide some indication of the direction of the reform process.

Russia: There is no Sida-specific strategy for co-operation with Russia, although there is a MFA-issued document outlining the policy directions of Sweden towards Russia for the period covering 2010–2013. The justification for Sweden's approach to Russia is based on the neighbourhood of the two countries, as well as in the need for a closer rapprochement of Russia to EU standards, given the eastwards expansion of the EU. Recent political developments in Russia point to a further clamp-down on political freedoms in the country, thereby making dialogue with the Russian authorities more challenging. Swedish support for the environment has been channelled through the NDEP and informed by HELCOM.

Annex 4 – Summary of Previous Evaluations

There three main evaluations that have been completed on the regional environmental programmes:

- DemoÖst programme, 2001-2004, 2006
- Sida support to urban environment and urban development in South East Europe 2000-2006, 2007
- EBRD, Evaluation of Municipal Environmental Investments 1993-2009, 2010

The key conclusions of these evaluations are summarised below:

Evaluation of the DemoÖst programme 2001-2004

The purpose of the DemoÖst programme was, as part of the ‘Östersjömiljarden’ initiative, to provide potential buyers in the Baltic States, including Russia and Poland, with opportunities to try environmentally sound Swedish equipment and establish business networks in the region while contributing to environmental improvements. In all, 39 project proposals were approved for a total of MSEK 60.9.

The overall findings of the evaluation are that:

- The programme has had some direct benefits for the Swedish suppliers that were engaged in the programme. This is evidenced by the fact that a number of supply contracts and transactions (>5) took place directly following the initial DemoÖst interventions.
- The project selection criteria were appropriate and clear, however despite this the success rate for the awarded projects was low at just 50%.
- The administrative burden on Sida was high. The administrative costs amounted to 13% of the disbursed funds (or 20% if consultancy fees for final inspections are included). The originally budgeted amount for administration was 6%.
- There was ample scope for improving overall cost effectiveness. A significant amount of Sida’s time and resources was spent on the appraisal of project proposals. This was aggravated by the fact that the quality of the project applications was frequently low. One of the recommendations of the evaluation is that buyers, sellers and municipal partners should have a larger responsibility and role in the preparation of the project proposals and that Sida’s role should be more focused on marketing the initiative to Swedish suppliers.
- Other recommendations include improving the assessments of the market potential and also that Swedish suppliers should bear a higher risk for defaulting buyers.

Sida support to urban environment and urban development in Southeast Europe 2000-2006

Support started in 2000 in the Southeast Europe/Western Balkan countries namely: Albania, Bosnia & Herzegovina, Kosovo, Macedonia, Montenegro and Serbia. A total of SEK 260 million was set aside for urban and environmental cooperation in the region. Two types of projects were supported: One aimed at assessing the environmental situation in the region such conducting a Strategic Environmental Assessment and individual projects under the Local Environmental Action Planning (LEAP) initiative; and the second type of project aimed at addressing immediate hotspot environmental problems identified in the planning and environmental assessments.

The findings include:

- Poverty reduction was found to be low while the contribution to EU approximation was found to be highly satisfactory. Aid effectiveness was partially satisfactory. The contributions were found to be well aligned and highly relevant for the country strategies, Sida environmental guidelines, capacity development and beneficiary priorities. Expected, outcomes in completed projects were found to have been largely achieved (although with a high degree of uncertainty). However the evaluation found that the institutional capacity analysis of implementing partners was often inadequate. The consequences of the inadequate institutional capacity assessment, especially at the design phase, led to examples of donor-driven processes and parallel structures.
- The evaluation provides a preliminary assessment on impact (due to the fact that many projects were relatively recent and ongoing). Many projects are isolated interventions and therefore have had a low to medium impact on overall environmental and urban development, and only low impact on socio-economic development. Projects with a strategic focus (as in Serbia and Macedonia) have had a medium impact, while the LEAP projects have had a medium to high impact thanks to positive influence on the urban development planning cycle. The environmental assessments have had a high impact as they have formed the basis for all environmental analysis and action.
- Sida cooperation with the project stakeholders was considered to be very good. The use of cooperation and co-financing with other international organisations has been cost effective. On the weaker side, the partner selection has largely been ‘automatic’ in the choice of ministry, municipality and/or NGO. Cooperation between projects and with other organisations/institutions has been weaker.

General recommendations in the evaluation report include:

- Improve aid effectiveness by: strengthening the analysis of institutional capacity of implementing partners; striving towards a “programmatic” approach to environmental development in the region; and where possible, adopting basket funding or SWAp mechanisms.
- Sida should continue and further support areas that strengthen EU approximation.

- Poverty reduction should be promoted more effectively through a programmatic approach.
- Monitoring should be consistent and effective across the projects and programmes.

Evaluation of Municipal Environmental Investments 1993-2009

Over 60% of evaluated projects EBRD's Municipal and Environmental Infrastructure Operations, which include many that were co-financed by Sida or implemented on very similar principles as those co-financed by Sida, were given an overall performance rating of 'successful' or 'highly successful'. The study further concludes that EBRD's operations have had a positive impact on the efficiency and quality of municipal services. The study concluded that the overall direction of the policy should remain the same with just a few alterations that will further enhance the positive impact on the sector.

These recommended changes include:

- Examine the trade-offs between a broader approach (implementing several similar projects in many countries) and a more focused approach (one project in one sub-sector in one country).
- The policy may need to be adjusted for the situation of the early transition countries.
- As the EBRD increasingly focuses on energy efficiency, more clarity is needed on the Bank's ability and mandate to work on improving energy efficiency of municipal buildings and housing.
- Technical cooperation has proven to be a valuable component of MEI projects. More technical cooperation in support of basic municipal infrastructure would enhance the work of the EBRD in the sector, especially in rural communities and early transition country projects.
- Expand the LogFrame to develop a clearer set of strategic objectives, outputs and inputs.
- Develop dialogue objectives on i.e. commercialisation, tariff increases, cost recovery, affordability, and environmental compliance.
- Use the project monitoring to develop case studies – 'best practice examples'.
- Improve data collection for project performance monitoring.

Annex 5 – Matrix of Projects/Programmes Consulted

Selected Sida Contributions delivered as projects																														
CONT_ID	ContributionTitle	Country	Status	Start	End	Type							SidaAgreementPartner				ProjectFinancingArrangement	TOTALFinancing			Totalfunding	TAgrant	Linkto regional financing program	Linkto regional technical program	Reporting					
						Water	Wastewater	Drinking	Energy Efficiency	WasteMgmt	Combustion	Other	Government	Municipality	IFI	Other		Sida	Other	Name					evaluation (ex post)	Completion report	Project appraisal (ex ante)	Project appraisal (ex post)	Agreement document	Decision document
600007	Water EBRD Duzko Serbia	Serbia	A	2011	2012				X				Government Serbia		EBRD	Fund through FI	1400000	1500000	Multiple Serbian Environment co-Project Fund EU	1260000					0	0	13	3	10	4
600007	Water EBRD Jarvarem Ukraine	Ukraine	A	2004	2006			X							EBRD	Fund through FI	500000	1260000	EBRD	1260000					0	0	8	1	1	2
600008	Crimea Water Ukraine	Ukraine	A	2011	2006	X	X						Republic of Crimea		EBRD	Fund through FI	400000	920000	EBRD	1420000	900000				0	0	0	0	1	2
600009	Sida NB Credit Water Project fund Belarus	Belarus	A	2010	2012	X	X								NB	Fund through FI	300000	2600000	NB NDEP grant, Belarusians	2600000		NDEP	HELCOM		0	0	6	1	1	1
600026	Water EBRD Georgia	Georgia	A	2008	2009	X	X								EBRD	Fund through FI	1420000	2600000	Sida (Kuba) project	4060000		ETC			0	1	7	2	4	2
600060	Water EBRD Serbia	Serbia	C	2010	2009	X							MoE Govt Serbia			Navalists AS		1766113			1766113				0	0	0	0	0	5
600068	Water EBRD Ukraine	Ukraine	C	2012	2004		X						MoE, Government Ukraine	Parovozbiv		AP	Bilateral	2408853		EB (BMEUR) Govt	103MEURO			HELCOM	1	0	1	0	0	2
600067	Water EBRD Ukraine	Ukraine	C	1998	1995		X						MoE Govt Serbia			SWECO		146889		Danish EPAF with MoE		146889		HELCOM	0	0	0	1	0	2
600069	Water EBRD Russia	Russia	C	2010	2004			X								Ramcomp WB		100000				100000	Fish & Aquaculture		0	0	1	0	0	2
600067	Water EBRD Lake	Lake	C	1999	2012			X										485146							0	1	0	0	0	3
600060	Water EBRD Lake WWP	Lake	C	2010	2009		X									Ramcomp WB	Bilateral	32200							0	1	0	0	0	1
600004	Water EBRD Lake	Lake	C	1998	2006		X									Twinning Stockholm Min	Bilateral	300000	1000000 USD	EBRDEB	10500000 USD	3000000 SEK		HELCOM		1	4	2	2	1
						5	2	3	0	1	0	0													1	4	40	10	19	27

ANNEX 5 – MATRIX OF PROJECTS/PROGRAMMES CONSULTED

Selected Sida Contributions delivered through Trust Fund and Co-financing Arrangements																					
						Type															
						water supply	water supply	District heating	Energy Efficiency	Waste Mgmt	combination		other	Trust Fund	Program Earmarking						
300003	Eastern Partnership Technical Assistance Trust Fund (EPTAF)	Region Eastern Europe	A	2010/2	2013/2					X		EB	TA Trust Fund		Georgia/Moldova, Ukraine (Belarus)	2000000	9000000	EB	1000000	EPC	0 0 2 1 1 2
301000	Belarus Sustainable Development Fund	Belarus	A	2011/1	2014/2					X		NEFCO	Consulting	Environment and Energy Sector Reform and Energy Improvement	Belarus	480000			480000	NDEP	0 0 0 1 1 1
304006	WBTF Energy Efficiency	Moldova	A	2010/2	2013/2		X	X				World Bank	Trust Fund	Programme for Improving Energy Efficiency in EBRDs	Moldova	1900000	1000000	WB	2800000		0 0 8 2 5 1
304002	EBRDTF Energy	Moldova	A	2010/2	2013/4			X				EBRD	Trust Fund	EBRD Ukraine Energy Efficiency Programme (UKEEP)	Moldova	1200000			1200000		0 0 0 1 1 2
306005	UKEEP Ukraine	Ukraine	A	2008/2	2012/2			X				EBRD	Consulting	Ukraine Energy Efficiency and Environment Programme	Ukraine	1000000	13000000		13000000		0 0 1 1 0 1
306006	Sida EBRD Ukraine Consulting under E-Energy	Ukraine	A	2009/3	2013/2					X		EBRD	Consulting	Sustainable Municipal Cooperation Fund	Ukraine	450000			450000	NDEP/ESP	0 0 3 2 6 9
307004	Fund for Sustainable Belarus	Belarus	C	2010/3	2011/2	X						NB	Trust Fund	Eastern Europe		650000			650000	HELCOM	0 0 12 1 3 1
307006	North Trust Fund Belarus	Region Belarus	A	2008/1	2014/2					X		NEFCO	Consulting	Sustainable Development Fund	Northwest Russia/Belarus	2600000			2600000	BSAP/NDEP	0 0 11 1 3 5
730023	Coherence EBRD	Region Europe	A	2009/6	2010/6					X		EBRD	Trust Fund	Coherence Programme Fund		20000000	6000000		8000000		0 0 13 4 4 9
603028	EBRD ETCME Fund	Region Central Asia	A	2007/2	2010/2	X	X			X	X	EBRD	Consulting	Earmarked	Georgia/Moldova, Ukraine (Belarus)	5000000			5000000	ETC	0 0 6 1 5 3
603050	UKRP (under EBRD)	Ukraine	C	2006/7	2007/2			X				EBRD	Consulting		Ukraine	1000000	9000000	Aust/EU	9000000		0 0 1 0 0 2
603067	Urban Infrastructure	Ukraine	A	2007/1	2010/6	X	X			X	X	BRD	Coherence/TA			4500000	9800000	BRD	10250000		0 0 5 2 1 1
6660172	ETC under 2011 EBRD	Globally	A	2011/1	2011/2					X		EBRD	Multilateral		ETC Countries	1000000			1000000	ETC	0 0 0 0 0 1
6660164	Sida Partnership Energy Efficiency in Europe	Ukraine	A	2011/10	2013/3			X				EBRD	Trust Fund			2000000	7500000	EBRD++	8000000	ESP	0 0 0 0 0 1
6660227	Western Balkans Investment Framework	Region Western Balkans	A	2011/2	2011/2					X		EBRD	Trust Fund	European Western Balkans Trust Fund	Western Balkans					WBF	0 0 0 0 0 1
						1	0	0	5	0	9										0 0 62 17 30 40

ANNEX 5 – MATRIX OF PROJECT/PROGRAMMES CONSULTED

	Number of contributions by IFIs					
Type of contribution	Total	EBRD	EIB	NEFCO	NIB	WB
TF/cofinance	15	9	1	2	1	2
Projects	5	4			1	
Total	20	13	1	2	2	2

	Number of contributions in time period			
Type of contribution	total	1994/00	2000/05	2005/12
TF/cofinance	15	0	0	15
Projects	11	2	4	5
Total	26	2	4	20

	Data availability* 12(7) reads: 12 documents in 7 projects					
Type of contribution	evaluation (ex post)	Completion report	Annual and Quarterly Progress Report	Project appraisal memos	Formal agreement document	Decision document
TF/cofinance	0	0	62(10)	17(11)	30(10)	40(15)
Projects	1(1)	4(4)	39(6)	10(6)	19(6)	25(11)
Total	1(1)	4(4)	101(16)	27(17)	49(16)	65(26)

	Number of contributions by programmes						
Type of contribution	Total	NDEP	ETC	WBF	E5P	EPC	Other
TF/cofinance	9	3	2	1	2	0	1
Projects	3	1	1	0	0	0	1
Total	12	4	3	1	2	0	2

	Number of contributions by country and type		
Type of contribution	TF/cofinance	Projects	Total
Belarus	2	1	3
Estonia		2	2
Georgia		1	1
Latvia		3	3
Lithuania		1	1
Moldova	2		2
Regional contributions	6		6
Russia	1		1
Serbia	0	1	1
Ukraine	5	2	7
Total	16	11	27

	Number of contributions by area/type						
Type of contribution	Total	waste water	Water supply	District heating	Energy Efficiency	Waste Mangt.	combination
TF/cofinance	15	1	0	0	5	0	9
Projects	12	6	2	3	0	1	0
Total	27	7	2	3	5	1	9

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People interviewed

Sida	Lars Eklund (consulted as part of steering committee)
	Helen Holm (consulted as part of steering committee)
	Patrik Stålgren (consulted as part of steering committee)
	Klas Rasmusson
	Mirja Petersson
Min. for Foreign Affairs	Björn Mossberg
	Birger Karlsson
	Malena Mard
	Lars Elfvin
Min. Of Environment	Anna Karin Hedström
EIB	Linnea Sundblad
NIB	Hugh Goldsmith
NEFCO	Harro Pitkanean
WB	Kari Hamanen
EBRD	Sudipto Sarkar
	Jane Kieran
	Erik Holmqvist
	Anders Lund
	Ksenia Koloshtovina
Others	Peeter Horm
	Karl-Erik Ramstrom

Participants at the Sida Regional Conference for Eastern Europe in St Petersburg, Russia October 2012

- Department for Reform and Selective Cooperation, Stockholm – Head of Department- Elsa Håstad
- Eastern Europe Unit, Stockholm – Head of Unit - Klas Rasmusson, Programme Officers, Controllers and Programme Administrators
- Representatives from Embassies of Sweden in Georgia, Moldova and Ukraine and from the consulate in St Petersburg
- Ministry for Foreign Affairs, Sweden
- Representatives from Department for Eastern Europe and Central Asia

Participants at the Sida meeting 27 March 2012

- Department for Reform and Selective Cooperation, Stockholm – Head of Department- Elsa Håstad
- Eastern Europe Unit, Stockholm – Head of Unit - Klas Rasmusson, Programme Officers, Controllers and Programme Administrators
- Representatives from Embassies of Sweden in Moldova and Bosnia [Hercegovina](#)
- Ministry for Foreign Affairs, Sweden
- Representatives from Department for Eastern Europe and Central Asia
- Ministry of Foreign Affairs (Sweden)
- Nordic Investment Bank

- European Bank for Reconstruction and Development
- Nordic Environmental Finance Corporation
- Peeter Horm (ex deputy head of department, Sida)

People met during the field confirmation

Lviv

Ms. Elyzaveta Alekseyeva, Senior lawyer, Head of Information and analytical department, Environmental NGO “Environment.People.Law”;
 Ms. Iryna Bilan, Microbiologist at the laboratory, Lvivvodokanal (LVK);
 Mr. Roman Gamalyga, Head, Mechanical sludge dewatering section, LVK
 Mr. Orest Dytyuk, Head, Waste water treatment department, LVK;
 Mr. Yaroslav Fris, Chief energy officer, LVK;
 Mr. Andriy Halushko, Acting Head, Department of environment, Lviv City Administration;
 Ms. Marta Pankevych, Lawyer, Environmental NGO “Environment.People.Law”
 Mr. Oleh Pih, Deputy Head, Department of infrastructure, Lviv City Administration;
 Mr. Mykola Odukha, Chief Technologist, LVK; Mr. Ihor Tsytulskyy, Chief accountant, LVK;
 Mr. Volodymyr Vasilchenko, Deputy of chief engineer, LVK;
 Mr. Valentin Volskyy, Director, LVK
 Mr. Andriy Yavorskyy, Member of Lviv city council, Member of the permanent commission for housing policy

Kaunas

Mr. Inesis Kiskis - Ministry of Environment of Lithuania Republic, director of department for administration of EU assistance ;
 Mr. Dainius Gudavičius - Kaunas water, head of technical division;
 Ms. Giedre Kulvietytė - Kaunas water , head of financial division;
 Mr. Petras Maruniakas - Kaunas water, head of WWTP;
 Mr. Bronius Strumskis - Kaunas water, chief process engineer;

Panevezys

Mr. Saulius Venskus - Panevezys water, general director;
 Mr. Kestutis Pareščius - Panevezys water, head of WWTP;
 Mr. Raimondas Vogulis - engineer of WWTP.

Jurmala

Mr. Vladimirs Antonovs - Jurmalas water, general director, chairman of the board;
 Mr. Aivaras Kamaruts - Jurmalas water, team leader of project implementation group
 Mr. Guntis Klīve - Jurmalas water, project manager, project implementation group
 Ms. Anda Zake - Jurmalas water, economist, project implementation group
 Ms. Maruta Višņevska - SIA Jurmalas water, head of WWTP

Narva

Mr. Aleksei Voronov - Narva water, director, chairman of the board;
 Ms. Hilje Ounapuu - Narva water, project manager
 Mr. Seveli Tšernoussov - Narva water, head of WWTP
 Ms. Natalja Kurling - Narva water, process and laboratory specialist

Annex 7 – Methodology

1. Special features of the evaluation

Special features of this evaluation are that it is:

- Forward looking and aimed at informing a future regional strategy(s)
- Programme level rather than project level
- Based primarily on desk evaluations of documentation
- Short field confirmation carried out for five projects completed for more than five years

Forward looking – In line with the ToR, the evaluation focuses on the implications for future support. The implications of the broad trends and evolution of Swedish support to municipal environment infrastructure are examined in order to inform a future regional strategy(s).

Programme level – Over the years contributions have been made at the project, and increasingly at the programme, level⁹⁷. Following discussions with Sida and the steering committee on the ToR, an important clarification was made that the main objective was not to focus on the project level but to focus on the following strategic factors at a programmatic level:

- Effects of selection and design of financing models and implementing partners/channels;
- Sida's added value in different financing and cooperation models;
- Implications for internal organisation and management of Sweden's support;
- The impact of Sida support on policies and reforms that underpin the future sustainability of the investments made and contribute to broader transition reforms.

Generally, given the data available and programmatic focus outlined in the ToR and inception note, the questions have primarily been evaluated and responded to at a programme level. Where concrete project level evidence has been available it has been brought forward to illustrate the broader findings at programme level.

⁹⁷ The contributions at the programme level seem to be of two types: i) those characterised by a distinct technical/regional/political focus, e.g. the Northern Dimension Environmental Programme (NDEP) and are usually supported by multiple donors and IFIs and, ii) those which support a single IFI often through trust funds which can be earmarked in varying ways (just to the environment sector, or to a specific programme, or to a specific country, or to a specific project).

Data based desk evaluation – The methodology has been largely determined by the availability of data (see the methodology section below). The evaluation mainly uses secondary data, i.e. data based on other evaluations/evaluations but also taking into consideration project/programme descriptions and other design/preparation material. This is complemented by key informant interviews.

2. Process and methodology followed

Initial selection of contributions to evaluate - This evaluation began with the selection of regional and country-based contributions on which to base the evaluation. We⁹⁸ received the initial selection of contributions to be included from Sida, who had done a scan of their project database and chosen a range of projects that were judged to be representative of the overall support effort. An initial data collection exercise was then conducted to gather the key documentation on the contributions.

Developing the selection of contributions to be evaluated - We tested each contribution against pre-determined criteria (including: geographic location, intervention area, intervention type, representation of IFIs). See more details on the sampling below. Our team entered the basic information on each project into an overall contribution matrix, which allowed the evaluation team to visualise how well the initial sample provided examples against all criteria and also to get an overview of the data that is readily available. These matrices formed the basis for discussions with Sida on sample and data availability.

Confirmation of understanding of ToR, methodology and selection of contributions – A detailed inception report with an outline methodology and an in-depth analysis of the interview questions based on the initial sample of contributions formed the basis for an inception meeting held in August 2012. The minutes of the inception meeting were taken to record agreement on the methodology and allow finalisation of the selection of contributions to be evaluated. One of the key findings from the inception phase was that there was a need to put more effort and resources into extracting implementation, completion reports and evaluations.

Obtaining, organising and analysing the reporting data - Following the presentation of the inception report, we made a full scan of all the documents available in Sida's document archive system that related to the contributions in the sample. Working closely with Sida staff, we identified and extracted the key documents. At the same time we requested progress and completion reports directly from the IFIs and undertook our own search for relevant material. Although We provided a request letter from Sida asking for the IFIs to share information and documents pertaining to Sida's con-

⁹⁸ The evaluation team.

tributions, we were met with some reluctance and it has been relatively difficult to obtain documents from certain IFIs. To a large extent we believe that this is due to the culture of client confidentiality of the development banks. To make best use of the limited data available: the different team members wrote summary notes, based on a standard template, for the 26 contributions sampled, which are supported by more than 600 individual documents. In some cases more than one team member evaluated the same contributions. This allowed for a cross checking in the interpretation of information and ensured that an overview and synthesis of the main findings across all the contributions was available to the whole team.

Complementing report data with detailed interviews - Although the proposed methodology in the initial ToR was to conduct a desk evaluation, following the inception phase it became increasingly clear that some interviews were necessary, both for filling data gaps but also for validating initial findings. Therefore, in parallel to the data collection, we held 10 semi-structured interviews with key individuals. To take account of subjectivity in individual interviews, we triangulated the answers by interviewing several people at the same institution and by using different interviewers in the evaluation team. This has given a good cross section of the responses at the IFIs and has also provided validation of the softer opinion-based data. Team members made a written record of key points from interviews, which were then made available to all team members by use of the drop box facility.

Close contact to the steering committee for guidance and feedback - Throughout the process we kept close contact with the steering committee for the study. A short outline of interim findings was presented and discussed on 21 September. We presented a complete draft of the main findings and recommendations to the steering committee on 12 October 2012. In response to comments and suggestions a shortened outline was prepared for presentation to a workshop on developing regional strategy(s) held in St. Petersburg on 17 October 2012. In total some 35 staff took part from Stockholm, Russia, Ukraine, Moldova and Georgia. Valuable feedback on the main findings was obtained, which was complemented by a number of in-depth discussions with participants before and after the event.

Quality assurance - Finally a dual quality assurance of the draft report was made in late October. Firstly, an evaluation of the draft report by the Indevelop project director was made to ensure that lessons learnt from other evaluations carried out by Indevelop were incorporated. This internal quality assurance focused on the importance of results-based reporting, the need to separate conclusions and recommendations and a check that all findings were backed up by tangible evidence. This internal quality assurance was then supplemented by an external quality assurance by an experienced evaluator who was independent of the evaluation team.

3 Limitations and response to the limitations

Most projects that use current modalities are still ongoing - Because of the forward-looking nature of the evaluation it was agreed at an early stage that it makes most sense for the evaluation to focus on how current modalities are working, rather

than spend excessive time on looking at modalities such as parallel financing which are unlikely to be resumed. However, most environmental investment projects have a lifespan of 5-8 years and for this reason many of the projects and programmes using current modalities, are still ongoing. So, although the evaluation has had access to a significant body of implementation and progress reports, there are few completion reports and project evaluations on which to base conclusions of what results were achieved at the project end.

Incompleteness of the data record – Although a very thorough search was made of the available information scanned in the Sida records and over 600 documents were retrieved, it was found that the availability of reports was inconsistent. Progress reports did not span the full period and key documents such as feasibility reports were not always available. This was particularly the case for projects implemented by IFIs, where Sida is further down in the information chain. A conclusion that could be drawn here is that co-financing risks leading to a situation where it is very difficult to retrieve a full record of information. In this situation, systematic results-based reporting is vital.

Reporting on results is very weak - Especially in projects co-financed by IFIs. Some of the results of the earlier parallel financed projects⁹⁹ in the Baltic have been summarised by Sida and HELCOM using the more detailed data available from parallel financing arrangements and this is very useful. Impact and outcome indicators are generally not included in the programme design by IFIs, thus making impact challenging to measure. In addition, as concluded in the EBRD evaluation (May, 2010) on MEI policy, municipal clients do not collect environmental data that would allow an assessment of their environmental impact.

The programme level evaluations that have already been conducted are useful but not highly specific - There are some broad evaluations that have been conducted, such as the evaluations of the DemoÖst programme (Johansson, 2006) and the EBRD MEI Policy (EBRD, 2012); but these do not provide details that can inform specific findings at project or programme level. The DemoÖst programme examines a modality that is unlikely to be resumed. In the case of EBRD, conclusions are difficult to verify because project names and locations are not revealed. This is especially challenging when drawing conclusions on sustainability and also when it comes to assessing effectiveness and what results have been achieved with Swedish support.

There is an absence of a counterfactual - In other words we do not know what would have happened if Sida had not intervened or if they had intervened with a dif-

⁹⁹ Parallel financed projects are those where Sida has a separate agreement with the beneficiary but provides its support to the same overall project and in parallel to other donors and IFIs. Co-financed projects are those where Sida provides its support to an IFI who then support beneficiary with a combination of their own finance and Sida finance.

ferent modality. The desk evaluation cannot give us a control group on which to build a counterfactual. This affects conclusions on what results and reforms can be attributed to Sida and its partners.

To address the limitations in data availability – the following steps were taken:

- The desk evaluation has been complemented with interviews with key staff at the international financial institutions, Sida, MFA and others.
- Key findings have been discussed and verified with the steering committee and with a wide range of Sida staff present at the Workshop in Saint Petersburg.
- An opportunity was taken with the presence of two of the evaluation team in Ukraine and Moldova to directly interview Sida staff in those countries.
- The evaluation elements of effectiveness, efficiency and impact have been addressed by including earlier projects using parallel financing modalities, whereas the evaluation of strategic factors that inform future regional strategies have focused more on projects using the current co-financing modalities.

Interviews were not conducted with end-users or clients of the IFIs. The reason for this is two-fold. Firstly, the municipalities are not the direct partners of Sida. Municipalities are the partners of the IFIs and are therefore in indirect contact with Sida. As such Sida's direct sphere of influence for the sustainable environment programmes and projects is limited to the IFIs and for this reason interviewing the IFIs is of immediate relevance for this evaluation. The second, more practical, reason is that given the available time and resources it is difficult to identify the relevant stakeholders and informants in municipalities and elsewhere to include in the interview sample. In addition, beneficiary interviews are far beyond the scope of this desk evaluation. A separate impact study with fieldwork at the level of the beneficiaries could be considered as a follow-on to this evaluation as outlined in the ToR. A last part of our ToR is develop ToR for follow-on studies that might be needed to complement the desk evaluation.

Data

Secondary data at the project level consists of project descriptions, evaluations, completion reports and occasional evaluations. The project descriptions reveal design considerations and the evaluations, completion reports and evaluations reveal information on performance and results. For the last few years most contributions have been in the form of support to trust funds rather than specific projects, which has affected the amount of project level data included in this study.

Secondary data at the programme level consists of programme descriptions, the modus operandi of the programme and, evaluations/evaluations. It also includes country strategy papers; internal Sida papers on analysis of environmental programmes. As for projects, the descriptions reveal design considerations and the evaluations and reviews reveal information on performance and results. However, it appears that only a few

evaluations/evaluations have been done at the programme level. Generally these evaluations¹⁰⁰ have developed their own evaluation questions, so it has not always been possible to match this information with the evaluation questions in the ToR. A summary of findings of earlier evaluations are given in Annex 3. Primary data was collected in the form of interviews with Sida, MFA, IFIs and others.

The sample

Annex 5 outlines the relevant contributions. The main criteria used in the selection of projects/programmes for more in-depth analysis were the following: countries, time period, project type/environmental objective, IFI partners, financing and partnership modality.

The sample includes a range of project and programmes that illustrate each of the above criteria, and only projects/programmes with adequate information available in the form of project/programme documents, evaluations and evaluations were included. The selection for each of these criteria is outlined in the sections below.

Countries included in the evaluation: The selection under three different regions, informed by the inception report meeting discussions, is given below:

- Western Balkan States: Bosnia Herzegovina, Serbia
- Baltic states: Lithuania, Estonia, Latvia
- Eastern Europe/South Caucasus: Belarus, Georgia, Moldova, Russia, Ukraine

The selection mainly includes countries where Sida has provided substantial environmental support since the mid-1990s, i.e. over SEK 1.0 million. This does not mean that countries such as Albania, Armenia and Azerbaijan are not relevant for a future regional strategy.

Table 1.1 Countries covered by the evaluation (in bold)

Region	EU members since 2004/7	EU Candidate countries	Potential candidate countries	Eastern Partnership/Eastern Neighbourhood & Partnership Initiative (ENPI) Countries	Other
Western Balkans States	<i>Bulgaria, Romania, Slovenia</i>	(Croatia,* Montenegro*, Macedonia,* Serbia)	<i>Albania, Bosnia Herzegovina,</i>		
Baltic states (Central Europe)	Lithuania, Estonia, Latvia, Poland				
Eastern Europe/South Caucasus				<i>Armenia, Azerbaijan, Belarus, Georgia, Moldova, Ukraine</i>	Russia

(Notes: i) countries in italics have not received substantial environment support at least since 1994; ii) *countries have received environmental support until 2007/8 but not since then)

¹⁰⁰ Mainly done by the European Bank for Reconstruction and Development (EBRD) and the European Investment Bank (EIB).

The two important political and environmental programmes are NDEP and the Helsinki Commission. NDEP consists of Belarus and Russia. HELCOM consists of the Baltic States, Russia and Poland. For the backward-looking evaluation, the evaluation focused on contributions under HELCOM/NDEP; because they were done sufficiently long ago, they represent a very substantial investment and there is data. This implies a focus on Lithuania, Estonia, Latvia, and Russia.

The forward-looking evaluation focussed on contributions to parts of Eastern Europe i.e. Russia, Ukraine, Moldova, Georgia and also parts of the Western Balkans such as BiH. However some attention was also given to the EU candidate countries, i.e. Serbia.

Time period: 1994 – 2012, with a focus on the period since 2005.

Table 1.2 Summary of other criteria

<u>Financing and partnership modality</u> • Bilateral projects (like under Demo Ost) • Parallel financed projects • Co-financed programmes with project earmarking • Co-financed programmes with programme earmarking • Co-financed programmes with sector earmarking (a trust fund within an institution)	<u>IFIs</u> • European Bank for Reconstruction and Development (EBRD) • European Investment Bank (EIB) • Nordic Investment Bank (NIB) • Nordic Environment Finance Corporation (NEFCO) • World Bank (WB)
<u>Project type/environmental objectives</u> • Water supply • Wastewater • Waste management • Energy Efficiency (only municipal clients or should private sector also be included) • District heating	<u>Programme</u> • DemoÖst (to be confirmed) • Baltic Sea Action Programme • NDEP • Early Transition Countries (ETC) • Western Balkan Investment Framework Fund • Eastern European Energy Efficiency and Environmental Partnership (E5P) • Environment and Climate Programme Fund • Eastern Partnership Countries (EAP)

Annex 8 – Summary of Detailed Findings and Recommendations

Table Annex 8.1 Summary of findings, conclusions and recommendations related to the main evaluation questions			
	Findings	Conclusions to questions	Recommendations - implications
Relevance	1. Sida-funded interventions have aligned with national strategies where these are available. 2. The interventions are highly relevant in meeting EU environmental requirements for prospective accession countries. 3. There is not a clear strategy for replication for the environmental interventions to have a cumulative effect. 4. On some occasions Sida has taken the lead in initiating a project, in other cases it has been driven by the municipalities or national government. 5. Project prioritisation is not always evident except where guided by a programme such as HELCOM. 6. Projects at the municipal level are relevant because they are close to the point of demand.	Q1 To what extent have the interventions conformed to the needs and priorities of target groups and the policies in partner countries? <u>- Overall conclusion:</u> The interventions that have been made are relevant and address significant environmental problems that are priorities of the partner countries. The municipal focus helps to bring the interventions closer to the target groups and their priorities. However, where the interventions are not linked to wider processes that are beyond a single municipality, there is a danger that they become isolated and do not have a spill-over effect. In some cases, Sweden has helped to initiate an environmental programme (e.g. HELCOM/NDEP) than enables the national partners to prioritise the interventions within a national and trans-boundary framework. Elsewhere environmental investment interventions, although meeting stringent eligibility criteria, do not appear to have been prioritised against environmental urgency or cost effectiveness criteria	1. More attention should be given to the green economy, introducing green jobs, job enrichment, low carbon transition, energy from waste – here IFIs may not be the best or only model. 2. Consider, in some cases to loan finance reform efforts - Financing reform implementation via the loan may increase the commitment to reform outcomes and better test the initial commitment. It could be that adding technical cooperation to the loan could be compensated by an increase in the investment grant. 3. Consider, where possible, a programmatic approach to ensure that the projects are not isolated and can have spill-over effects on political reforms and wider socio-economic development.
	7. Support to environment is well aligned with Swedish country strategies. 8. Gender increasingly features, especially in the more recent project documents, but implementation results are not yet evident. 9. The rights-based approach does not feature explicitly, but is implicit in many of the inter-	Q2 – To what extent have the programmes been in line with the policy of the Swedish government? <u>Overall conclusion:</u> The interventions explicitly refer to and have been designed in line with Swedish policy. Sida is one of the parties that has influenced the current and future operations of IFIs as evidenced by the incorporation of gender and social participation in the IFI project assessment and	4. Develop a differentiated strategy for accession/accession prospective countries and ENPI countries.

Table Annex 8.1 Summary of findings, conclusions and recommendations related to the main evaluation questions			
	Findings	Conclusions to questions	Recommendations - implications
	ventions. 10.Environment is addressed explicitly and good health implicitly. 11.Present and future IFI approaches have been influenced.	reporting as well as the use of new tools such as corporate development and social participation plans. It is too early to tell if these promising initiatives will have the desired policy outcomes, but it is plausible to conclude that they are very likely to lead to improvements in line with Swedish policy.	
	12.There is insufficient evidence to draw strong conclusions on socio-economic development. 13.Political reform has perhaps been constrained by narrow municipal entry point.	Q3 – How have the programmes interacted with other factors to achieve socio-economic development and political reform? <u>Overall conclusion:</u> There is not enough evidence to be able to draw firm conclusions. Sida has provided intensive and professional support to project design, project management and institutional support at the municipal level. It is likely that these efforts (e.g. introducing demand management, promoting autonomy in the management of utilities, cost control and consumer involvement), as well as capacitating individuals, will also have a wider impact on the organisational and institutional performance within the concerned municipalities. The field confirmation noted that modern management approaches and tools were in place and there was a clear appreciation of the importance of a customer focus. All the utilities visited have made a shift from a Soviet management regime to a more modern approach. However, the utilities are not able to trace clearly or pinpoint the sources of influence for this shift to the external support provided.	
Effectiveness	14.The investments in wastewater projects in the Baltic region have contributed significantly to reducing the environmental impact on the Baltic Sea. 15.Although there have been many successes	Q1 – To what extent have the contributions of SES met their objectives, focusing on intended output, outcome and impact? <u>Overall conclusion:</u> Most of the projects that represent the new modalities of co-financing with IFIs are not yet com-	5. Client commitment should be more thoroughly tested but with recognition that commitment is a process – providing a greater proportion of grants is not the best approach for overcoming low client com-

Table Annex 8.1 Summary of findings, conclusions and recommendations related to the main evaluation questions

Findings	Conclusions to questions	Recommendations - implications
there are also some wastewater projects that have not been effective in achieving their objectives and outcomes. 16. District heating projects have shown a mixed picture of effectiveness.	plete. The focus on measuring effectiveness is thus on the earlier projects under HELCOM/NDEP. The interventions, which have been possible to assess, have been uneven in terms of their effectiveness. Some projects have a high level of success in terms of the achievement of objectives and outcomes, whereas a minority of others have not. . All of the projects visited during the field confirmation are achieving their environmental objectives. A thorough programmatic evaluation of EBRD operations, which constitute a large part of the Sida support, concludes that in general the projects have been effective.	mitment – long-term institutional and capacity support appears to be a better choice. 6. Continue to emphasise the need for high quality feasibility and institutional studies, based on detailed ToR. Feasibility studies are time and resource consuming – but are necessary. 7. Undertake a thorough baseline study and allow the formulation of explicit and realistic objectives based on risk assessment and explicit and clear assumptions. Assumptions should be tested and monitored.
17. There are numerous influential factors that affect how effective the projects were in achieving their objectives and outcomes. 18. In many cases, poor feasibility studies and the absence of institutional analyses are to blame for disappointing performance. 19. Sida flexibility has contributed to increased effectiveness. 20. It is plausible, based on the available evidence that projects that include institutional long-term support are much more effective. 21. Many cases of low effectiveness are due to unjustified assumptions. 22. Commitment and reform mindedness are important success factors.	Q2- What were the influential factors? <u>Overall conclusion:</u> Many factors affect whether a project achieves its objectives and whether they are reached effectively. Among the key factors identified through this evaluation are: high quality feasibility studies; client commitment and reform mindedness, and donor flexibility during the implementing phase.	8. Consider institutional support over the longer term – post project - either as part of loan monitoring or periodic visits or twinning or intra-country support (municipality to municipality or from central agency). 9. Be flexible in implementation – this requires competent IFI/Sida staff to assess the need for project changes. 10. Consultants' experience of the region is as important as their technical skills. Facing a difficult political situation, consultants with relevant institutional and regional experience may provide the best advice. 11. The criteria for entering into investment projects should be: i) the presence of a programmatic basis for prioritising the environmental impact of potential investments; ii) the level of demand from the municipalities and their reform mindedness; iii) the potential for contributing to transition objectives

Table Annex 8.1 Summary of findings, conclusions and recommendations related to the main evaluation questions			
	Findings	Conclusions to questions	Recommendations - implications
			through policy/reform dialogue; and iv) the technical, institutional, financial and social feasibility of the particular project.
Efficiency	23. Use of the prioritised pollution hotspots plan of HELCOM has led to efficient investment. 24. The modality of co-financing with IFIs is efficient, provided there is good coordination by the lead IFI. Technical cooperation has been efficient and has led to results that are far beyond its costs. 25. Unforeseen costs and expensive delays commonly lead to inefficient projects. 26. The IFI administration fee is efficient. 27. A lack of focus on demand management leads to over-sizing of public utility plants. 28. Overly optimistic assumptions on tariff increase impact the financial soundness of the projects. 29. In some cases alternative financing sources to IFIs may be preferable. 30. IFI Procurement procedures are complicated and sometimes lead to delays, loss of credibility and cost overruns.	Q1 – have the results been cost effective? Conclusion: The projects are implemented in complex technical and organisational circumstances. Unexpected incidents and delays are common and have increased costs and hampered time schedules. This has reduced the cost effectiveness of many otherwise successful projects. There is evidence of over-investment in some projects. Some, but not all, constraints and delays could be avoided or minimised through more thorough detailed planning and feasibility studies. Each project is unique and it is difficult, based on secondary data alone, to compare and document the cost effectiveness of the project. The strategy of focusing limited Sida grant funds on interventions to prevent imminent wastewater treatment breakdown was highly efficient especially where subsequent funding has been made available from other sources to complete the rehabilitation as has usually been the case in the Baltic states but less so in the other countries.	12. Pursue overall efficiency through prioritisation of the most cost effective approaches based on a programmatic ‘hot spots’ or similar approach 13. Initiate all projects with feasibility studies that include investigations of the options of consumption reduction. 14. To ensure efficiency, investment projects need phased design and construction in situations of highly uncertain future demand. In environments in rapid transition demand forecasts have to be thoroughly scrutinised and continuously updated based on actual development of demand. 15. The cooperation with IFIs should not exclude other financing mechanisms that are more beneficial to the client – for example national funds – IFIs should stimulate a local market not crowd it out. 16. Work with time schedules that allow for proper feasibility studies, planning and tendering – be patient.
	31. Based on the evidence available from projects, it is not possible to assess the cost efficiency of the projects 32. Financial leveraging has been high.	Q2 – Are there noticeable differences between projects? What is the leveraging? Conclusion: There are major differences between the projects in the quality of planning and feasibility studies. The project management skills of the client are especially influential on the cost effectiveness of the projects. Leverage has been considerable. By some accounts Sida funds have financially leveraged up to 12 times more funding from other sources. An “environmental leverage” is also present in that	

Table Annex 8.1 Summary of findings, conclusions and recommendations related to the main evaluation questions			
	Findings	Conclusions to questions	Recommendations - implications
		expenditure on environmental investment in Eastern Europe has been up to 7 times more efficient in reducing nutrients to the Baltic sea than the alternative of investing in nutrient reduction in Sweden.	
	33. There have been important reform impacts but it is difficult to attribute improvements to particular interventions. 34. Environmental investments have been successful in reducing energy use and the levels of pollution 35. The wastewater treatment plant projects, in particular, have contributed significantly to the reduced environmental impact on the Baltic Sea.	Q1 – Evidence of contribution to improved environments /socio-economic development and political reform? <u>Conclusion:</u> Desk-based data on the impact of the interventions is sparse, partly because of the long time span of these projects. There is some evidence from some of the older HELCOM to demonstrate that the projects have significantly contributed to reducing the pollution load to the Baltic Sea. This was verified by the field confirmation. Lower pollution will in turn have an impact on improving water quality, although the ultimate environmental impact depends on many other factors. Reform impacts are likely in the future, under tariff setting and commercialisation of the utilities, but they have not been sufficiently documented/ re-searched to draw firmer conclusions. The field confirmation did verify that the utilities have customer orientation (e.g. carry out surveys to measure customer satisfaction) and that the support has led to improved project and contract management.	17. Explicit policy dialogue action plans are needed – these relate to the attainable reform objectives and are coordinated with other donors/IFIs and between all three pillars of Swedish support to the environment. Good example in Ukraine of coordination with IMF on tariffs. Planned as part of the new EBRD strategy. 18. Strategic Financial Planning approach could be used as a policy dialogue tool – these tools have been developed by OECD and others. 19. Transition impact is probably better served by consolidating a number of project level successes and finding the means of influencing national processes. 20. The demonstration strategy is ad hoc and needs to be more systematic (recognised by IFIs) - If grants are needed (beyond a purely persuasive purpose), then reliance on a demonstration strategy is flawed, at least unless similar grant levels will be available. 21. Make the broader objectives more explicit - If impact on the wider political/socioeconomic

Table Annex 8.1 Summary of findings, conclusions and recommendations related to the main evaluation questions			
	Findings	Conclusions to questions	Recommendations - implications
			development is an objective, then this should be reflected in the rational, project design, indicators and reporting – the new EBRD format for project assessment is a strong step in this direction.
		Q2 – Have there been any positive or negative, intended or unintended effects? <u>Conclusion:</u> Negative effects have not been evident from the desk material available or through the field confirmation or through conducted interviews, other than the implications of over-investment in wastewater treatment plans on future operation and maintenance costs	
Sustainability	36.Although data is available at municipal level, IFIs do not report on the sustainability of the environmental impacts of their investments 37.The ultimate impact of the interventions in the Baltic Sea are dependent on many factors.	Q1 – What type of impact has been observed at different points of time after completion of the programmes? <u>Overall conclusion:</u> The impacts of the interventions are not well documented. Impact indicators are not systematically designed in the project, and there is little post-project follow up. The field confirmation verified that the municipalities undertake regular environmental monitoring even the data is not easily available. Municipalities do not undertake regular environmental monitoring. Sida has assembled a record of the cumulative impact of the earlier projects in the Baltic Sea area in terms of reductions in nutrients and pollution loading. These data show a dramatic reduction in loading, although the overall impact on the Baltic Sea is a highly complex topic and the ultimate impact is not yet known.	22.Place more emphasis on the regulatory function - Effective and independent regulation is a means of ensuring sustainability and adherence to reform and environment gains and de-politicising the sector. 23.Make more realistic/cautious assumptions on cost recovery – Ensure that agreements at the city level guarantee subsidies to make up tariff shortfall and set the ambition level of the project accordingly. 24.Undertake monitoring of environmental performance/results and link to country /municipal reporting obligations, e.g. state of environment or citizen reporting.
	38.It is too early to determine the sustainability of many interventions and in other cases there is a lack of post-project monitoring that makes it difficult to assess sustainability.	Q2 What is the likelihood that the results of the projects/programmes studied will be sustainable? <u>Overall conclusion:</u> For most of the recent interventions, it is too early to tell and there is no systematic post-project	

Table Annex 8.1 Summary of findings, conclusions and recommendations related to the main evaluation questions			
	Findings	Conclusions to questions	Recommendations - implications
	39.A detailed field evaluation from the EBRD, which accounts for a large proportion of Sida funding to the sector reports sustainability as high. 40.Short-term efforts to promote reforms cannot guarantee sustainability. 41.The choice of technology appears appropriate, but given the many threats to sustainability, there does not seem to be a focus on selecting the most robust and simple technology. 42.Lessons learned from the earlier projects are integrated into more recent approaches to Sida involvement.	monitoring that reveals the sustainability of the earlier projects. A field survey conducted by the EBRD concludes that the municipal environmental projects were being sustained, which is promising; however, the report is not specific enough to allow this conclusion to be externally verified. The technical and project management approaches being used are highly professional, and there is evidence that apart from a few cases (such as some of the wastewater treatment and district heating projects in the Baltics), they are resulting in well-conceived, designed and constructed projects. The main risk lies in the operation and maintenance phase. Support to reforms is well conceived, is professionally carried out and aims at enhancing sustainability. But there is concern that, as the support tends to stop immediately after project completion, it is too short-term to guarantee success. There is evidence, especially from the new project assessment forms of the EBRD, that lessons learnt from earlier projects are being integrated into the design and management of new projects, which should increase the sustainability of the more recently funded projects.	
	43.The current macro-economic situation and financial crisis reduces affordability and lowers priority on environment. 44.There is reliance on tariff increases which are overly optimistic. 45.Political changes (Russia, Belarus, Ukraine) threaten to reverse previous reform achievements in commercialisation/decentralisation.	Q3 What are the main observed risks to sustainability? Overall Conclusion: The main risk to sustainability is whether tariff increases will continue, and whether the utilities will be allowed sufficient managerial and financial autonomy. For some of the more remote areas, there is a risk that the supplier network for advanced Swedish equipment is not sufficiently developed and longer term maintenance problems will be compromised. There are also macro-economic risks, especially with the current financial crisis, that may lead to a low-cost recovery from a population that is unable to afford the services and municipalities	25.Identify where maintenance contracts are advantageous and that where relevant ensure that procurement specifications take account of a full life cycle cost basis.

Table Annex 8.1 Summary of findings, conclusions and recommendations related to the main evaluation questions			
	Findings	Conclusions to questions	Recommendations - implications
		that are unable to subsidise the shortfall. Some countries in the region are vulnerable to sudden political change that can undermine or reverse earlier advances in reforms.	

Table Annex 8.2 Summary of findings and recommendations related to the strategic factors outlined in the TOR and inception report		
Strategic Factor	Findings	Recommendations - implications
Context	46. Project level commitment and reform mindedness are the key contextual factors. 47. Progress is dependent on political factors which can and do change. 48. The external drivers are powerful and evident. 49. The internal drivers are present but less evident. 50. A wide range of barriers are evident 51. There are a variety of responses to the risks faced.	26. More explicit attention to coordinating/integrating support across the three environmental pillars – will in turn require closer coordination with other donors. 27. Explicitly isolate and test contextual assumptions (drivers and barriers). 28. Periodically evaluation the context and assumptions behind reforms /investments 29. Mitigate risks by: i) deepening the understanding of the drivers and barriers for adopting reforms and undertaking the environmental investments on a country by country and case by case basis; ii) selecting reforms wisely and where they are supported from within the municipality.; iii) providing support that is client centric and flexible; iv) using a range of entry points and partners for promoting reforms; v) making use of overarching programmatic platforms, such as the NDEP and E5P, where they exist and where the countries themselves are at the centre; vi) striving to develop a common policy dialogue plan and position among IFIs and donors as significant differences can undermine reforms; vii) making coordinated use of the three pillars of environmental support (institutional development, environmental investments, civil society), and, vii) ensuring high quality feasibility studies.
Balance of objec-	52. Sida's political objectives have been consistent.	30. Keep objectives as they are – Continue with Swedish focus on en-

Table Annex 8.2 Summary of findings and recommendations related to the strategic factors outlined in the TOR and inception report		
Strategic Factor	Findings	Recommendations - implications
tives	53.Sida's environmental objectives have been constant 54.Although objectives have been constant, major trends in Swedish support are evident over the last 15 years. 55.Although stakeholders share the same overall aims, they have a different focus. 56.EBRD transition goals are strong but appear to be under exploited. 57.A cumulative, catalytic and demonstration approach is not evident.	environment, institutions. 31.Consider a more systematic approach to achieving greater cumulative and demonstration value through a programmatic approach. 32.Continue close collaboration with EBRD with more focus on integrating its transition goals into environmental investments. 33.Keep objectives as they are – Continue with Swedish focus on environment, institutions. 34.Consider a more systematic approach to achieving greater cumulative and demonstration value through a programmatic approach. 35.Continue close collaboration with EBRD with more focus on integrating its transition goals into environmental investments.
Policy and reforms	58.The chosen reform areas are well selected but sometimes not realistic in the given time span. 59.The reform context needs greater in-depth understanding. 60.Interaction between the three pillars of Sida support to the environment is missing. 61.Reform does not sufficiently benefit from linkage to wider processes. 62.Policy dialogue action plan is necessary.	36.For large countries such as Ukraine a catalytic role needs to be devised. 37.Reforms more likely to work under a regional/political/technical umbrella. 38.More effort needed to identify realistic ambition level and understand the internal processes of change – policy dialogues should be structured, measurable and coordinated with other partners.
Choice of partners	63.Externally, the choice of partners has been appropriate. 64.There are internal partners who are important to success.	39.Current arrangements with IFIs are working well and should be continued. 40.More emphasis on finding partnerships with political and technical programmes that bridge the political and technical gap between sectors and projects. 41.In the long term a market-based relationship between the Swedish private sector and the partner countries (how to do that in an untied aid context?).
Funding arrangements	65.Sida's role in funding arrangements changed in the mid-2000s. 66.Increasing support, reducing staff levels and more stringent budget execution rules combined to favour co-financing. 67.The strategy of working with IFIs is well conceived; the advantages outweigh the disadvantages. 68.The multi-year budgeting facility of trust funds is useful.	42.Continue to work through IFIs and continue the trend of using larger, longer time span trust funds with programmatic aims (e.g. HELCOM/NDEP, E5P). 43.Continue improvements in results reporting, including at the impact level - post project. 44.Make greater use of innovations such as on lending, but keep it

Table Annex 8.2 Summary of findings and recommendations related to the strategic factors outlined in the TOR and inception report		
Strategic Factor	Findings	Recommendations - implications
	69.Tied aid is being reduced. 70.Trust fund size vary, small funds are heavy on legal administration but easier for accounting and reconciliation. 71.It can be useful to earmark funds and constraining the time frame for their disbursement in trust fund agreements. 72.Auditing costs can be reduced by reducing the number of trust funds, but single-purpose trust funds are easier to administer than multi-purpose trust funds. 73.Multi-project trust funds are more flexible and more suitable for a programmatic approach. 74.IFI reporting is improving but there is still room for improvement. 75.The blending of loans and grants does not seem to be guided by an explicit set of criteria or principles. 76.Programmatic/on-lending arrangements hold out promise of leveraging commercial funding and reaching smaller municipalities.	simple. 45.Sharpen the criteria for blending grants and loans to maximise leverage/impact.
Maximising value added by Sida	77.Sweden, during its EU chairmanship, had a crucial role in initiating strategic partnerships such as NDEP and E5P. 78.Sida has provided substantial grant funding and is the largest grant contributor to the sector. 79.Sida has provided monitoring consultants and seconded staff to the IFIs. 80.In the earlier period, Sida transferred skills and approaches to the IFIs. 81.Sida is considered a strong and active partner. 82.Sida is considered by all IFIs to be highly flexible and constructive. 83.Some support provided has apparently not been effective.	46.Beware of reducing staff below a level where there is little value added and effectiveness of Sida funds in reaching social, reform, environmental and sustainability goals reduces. 47.Coordinate on policy dialog agenda with IFIs 48.Continue the relationship management approach with IFIs to influence overall practice
Roles and institutional set up (in annex 11 and chapter 3.7))	84.Sweden first centralised then decentralised institutional roles. 85.There are a number of institutions involved in environmental investments each with distinct roles. 86.Internal roles are clear in theory but in practice there is overlap and a need for close coordination. 87.There are inadequacies in Sida's internal monitoring and evaluation system. 88.The role of Sida and external parties is clear but should be flexible	49. Continue with delegated authority wherever possible and strengthen relations with local IFIs. 50. Clarify HQ/FO roles for managing regional and global contributions. 51. The organisational set up should not be tailored to the environmental investment programme, but the environmental investment programme should be flexible enough to be able to work effectively with whatever the prevailing institutional setup is. The burden of

Table Annex 8.2 Summary of findings and recommendations related to the strategic factors outlined in the TOR and inception report		
Strategic Factor	Findings	Recommendations - implications
Skill set needed to manage the support to sustainable environmental investments	enough to make use of Sida's resources at country level.	proof should be on why an initiative should be anchored at a regional rather than a country level. (Where a single environmental programme serving a common aim is multi-country in nature e.g. protection of the Danube or Baltic Sea, then there is a good case for the support programme to have a regional character. Otherwise, the main reason for adopting a regional approach is when there are strong economies of scale or cross-boundary learning and reform opportunities.) 52. Continuously assess skills requirements in the strategy process to ensure that programmes are matched with the appropriate skills and not vice versa. 53. Continue improvements in the project appraisal process, but strengthen follow-up mechanisms and reporting requirements of IFIs. 54. Ensure that competencies are engaged to fulfil the following functions: i) periodically engage in initiating strategic programmes and deciding on priorities; ii) negotiating and designing trust fund arrangements; iii) providing technical and institutional comments at key points in the project cycle aimed at double checking the quality of the project and the incorporation of Sida priorities; iv) monitoring of agreement conditions and follow up during project implementation to respond to changes. 55. Strategic level functions related to the initiation of strategic programmes, deciding priorities and negotiating trust funds should not be outsourced to IFIs or others. 56. Project level functions related to making technical and institutional comments and follow up during project implementation could be further outsourced to IFIs or consultants.
	89.The core functions that fall under Sida's responsibility are well known.	
	90.Strategic level functions related to the initiation of strategic programmes, deciding priorities and negotiating trust funds cannot be outsourced to IFIs or others.	
	91.Project level functions related to making technical and institutional comments and follow up during project implementation could in theory be further outsourced to IFIs or consultants.	
	92.The burden of proof is on why an initiative should be anchored at a regional rather than a country level.	
	93.There is no right answer for the best institutional set up, all alternatives have their advantages and disadvantages.	

Annex 9 – Field confirmation report



Map 9.1 Location of utilities visited:

- Lviv, Ukraine
- Kaunas, Lithuania
- Panevezys, Lithuania
- Jurmala, Latvia
- Narva, Estonia

9.1 SUMMARISED FINDINGS FROM FIELD CONFIRMATION IN FIVE MUNICIPALITIES

Client viewpoints - The clients in all municipalities express high satisfaction with the projects that have been implemented and also with the Swedish support to those projects. The Swedish grant was considered instrumental and in most cases essential to putting together a financial package that also included loans. The value added over and above the grant funding was perceived as mainly in improved project management and exposure to new technologies rather than in institutional and managerial improvements or stimulating wider reforms. In the Baltic countries Swedish support was seen as having contributed to better preparing the municipalities to obtain and make good use of later EU Cohesion Fund grants. No significant drawbacks were noted. The clients felt that the international support provided was highly efficient and could not point to improvements. In general the clients were in agreement with the desk review findings and recommendations.

Project implementation - All the projects were successfully implemented. They achieved the physical and environmental goals set, usually within budget but over a longer time frame. In some cases the original works had to be scaled down when tenders came in higher than expected and in one case this has led to operational problems (Narva) as dual process lines to allow easy maintenance were not possible. Only in one case (Kaunas) was there evidence of significant over-design (this was corrected in a subsequent phase and the excess infrastructure put to good use). In some of the larger towns minimal interventions were made to avoid imminent failure as there were insufficient funds to undertake a full rehabilitation. This strategy was highly cost effective although it relies on follow up investment. In the Baltic states such partial interventions have been followed up by large grant support by the EU. But in Ukraine no follow up investment has been made.

Project impact and performance - The environmental performance of the project supported has reached and often exceeded the national, HELCOM and EU norms and this performance level is being sustained in all cases more than five years after completion. Environmental monitoring is comprehensive and independent laboratory verification is available for key results. All the Swedish equipment provided was found to be appropriate, of high quality and is still working with a few exceptions e.g. one control panel not functioning in Lviv and bio gas plant operating below capacity in Narva (but now undergoing maintenance). Systematic maintenance is being carried out although in some cases there is evidence of minor deferment when the budget is constrained. Skills are in place to operate and maintain the equipment – but because of the distance to specialist suppliers this is more constrained in Lviv than in the Baltic states. Significant energy savings are being made due to the more efficient equipment installed. Where biogas plants have been supplied these are also providing additional energy usually amounting to 30% of the total energy consumption of the wastewater treatment plant. An exception is Narva where the biogas produced is not used. Sludge management has been improved as part of most projects. However, long term solutions for sludge management have not been found in any of the municipalities.

Reform impact –For towns in the Baltics considerable support was provided in the form of twinning which was generally successful and appreciated. A highly systematic series of reforms and management interventions was most evident in Jurmala. Attempts at a systematic support to reforms in Lviv through World Bank support were not entirely successful. Reform expectations were generally ambitious and not entirely realistic given the political nature of the goals of financial and managerial autonomy. In general people found it difficult to trace reforms, tariff increases, managerial or governance improvements to the external support provided except in Jurmala where a clear link was established and the business and financial planning routines set up under the Swedish support were still being used and improved upon to good effect.

Financial sustainability is not yet achieved although for most towns there is an operational surplus meaning that current levels of maintenance can be sustained but not major rehabilitation or replacement. It is not current practice in the Baltics to allow for depreciation of investments that are grant financed. For those towns that have received large

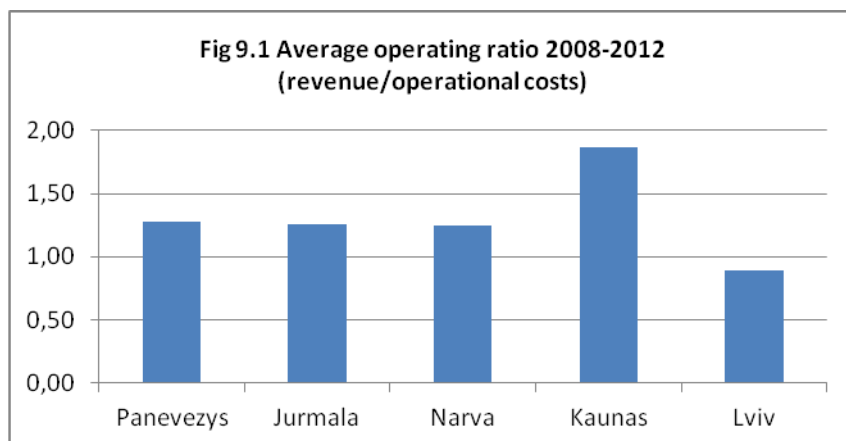
EU grants this will mean that large increases in tariff will be required in the future if the systems are not to fail. The utilities supported had a measure of managerial autonomy and all were staffed with competent technicians and managers. A number of staffing and investment decisions appear to be politically motivated or uneconomic but not to an extent that seriously affects current operations. In all utilities supported there was evidence of a customer focus. The longer term financial sustainability and management autonomy will depend on political factors. In one case in the Baltic states there was evidence of an independent regulator ensuring that tariff increases were made despite local political opposition (Kaunas). In the Baltic states, it seems likely that the future governance arrangements although not ideal at present are under a process that will be self-correcting in the longer term. This is less certain in the Ukraine.

Replication of reforms and approaches – In most cases, there have been a regular exchange of visits between different towns to learn from experience in the Swedish supported projects. Although the new equipment and approaches are admired in the Ukraine, there has been little replication because the other towns do not have funds. In the Baltics, the EU Cohesion Funds are the main source of new projects. And for these projects, lessons have clearly been learnt concerning the correct dimensioning of the plants and on the need for strict conditions on tariff increases.

9.2 SUMMARY OF FINANCIAL AND TECHNICAL PERFORMANCE

Financial

Figure 9.1 indicates that all the towns except Lviv have an operating ratio above 1. That



is they have an operational surplus. An operating ratio above 1.2, whilst not necessarily being enough to expand the system and undertake major rehabilitation, is considered a safe level for ensuring sufficient maintenance.

It is not a guarantee, however, because operation costs could have been kept artificially low by deferring maintenance. No direct evidence of deferment of maintenance was observed.

Figure 9.2 shows a comparison of the combined water and sewerage tariffs over the period 2008-2012. These values are based on a number of assumptions to make them comparable and only reflect the tariff for individual users. Figure 9.2 indicates significant increases in tariff since 2008 except for Lviv (the tariff has increased in local currency but not in Euros).

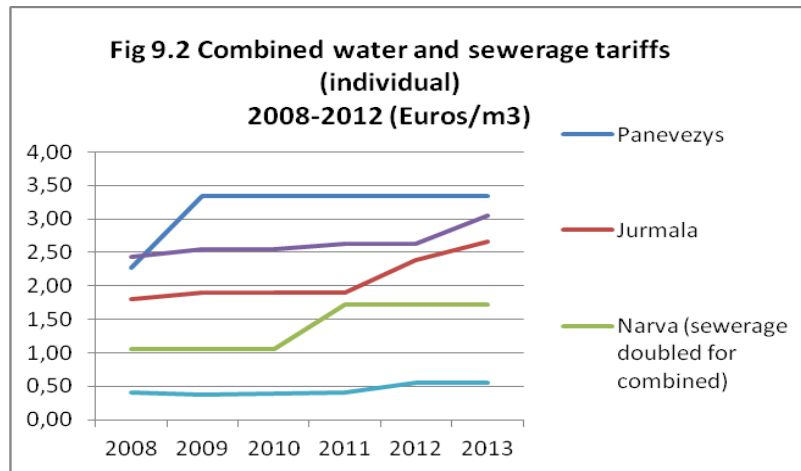
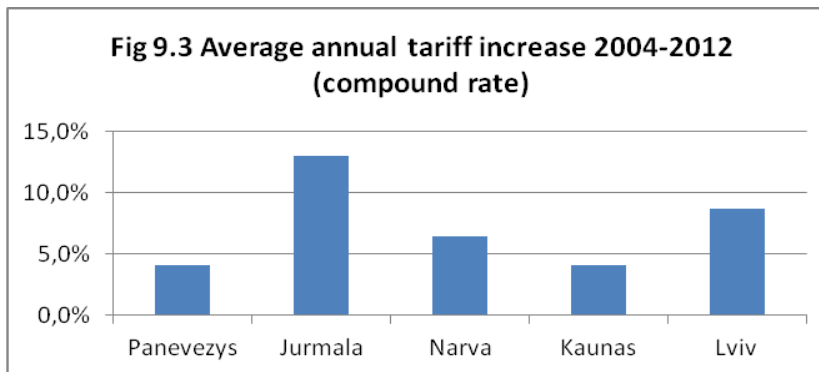


Figure 9.2 indicates significant increases in tariff since 2008 except for Lviv (the tariff has increased in local currency but not in Euros).

Figure 9.3 shows the average annual increase of tariffs in the period 2004-2012. This figure can be compared against an average Euro dominated inflation in the Euro zone of 2.3% over the same period. This indicates that the tariffs have been rising above inflation.



This figure can be compared against an average Euro dominated inflation in the Euro zone of 2.3% over the same period. This indicates that the tariffs have been rising above inflation.

The overall conclusion is that financial sustainability is currently on track but is not guaranteed.

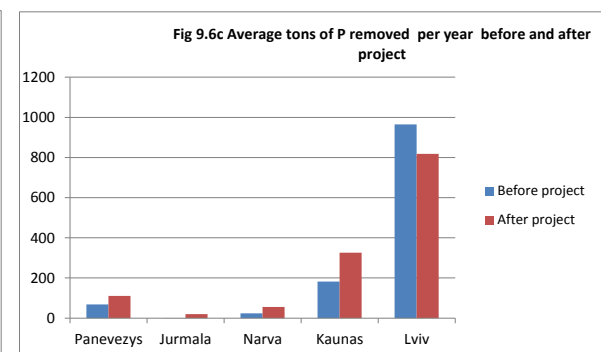
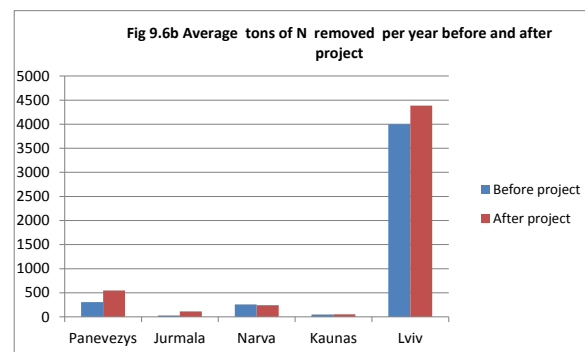
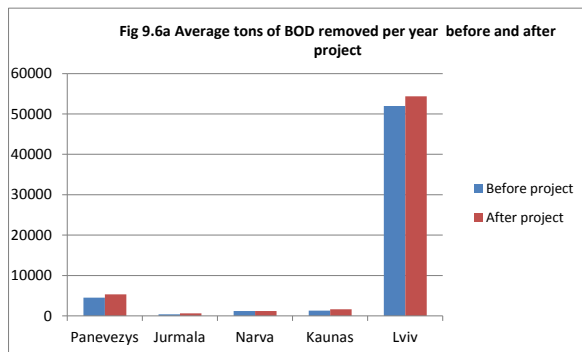
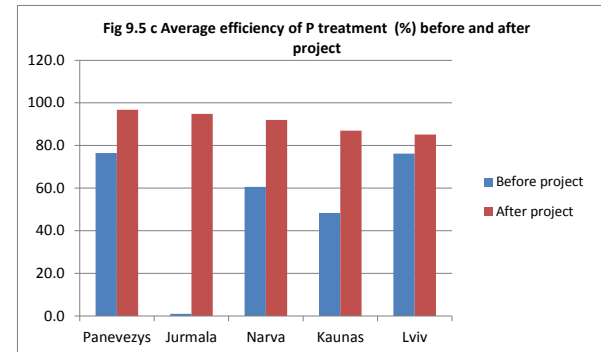
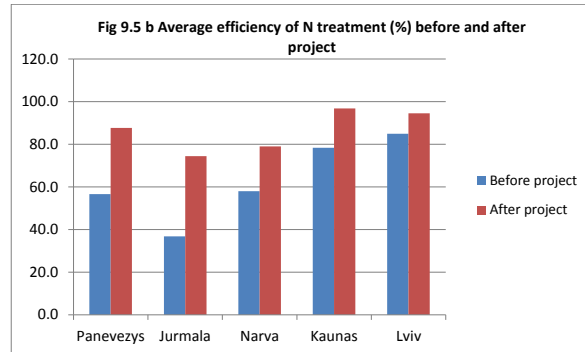
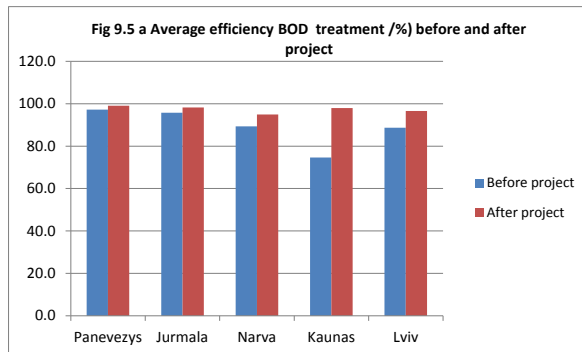
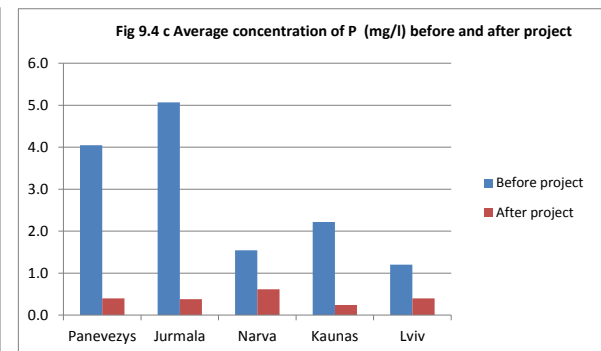
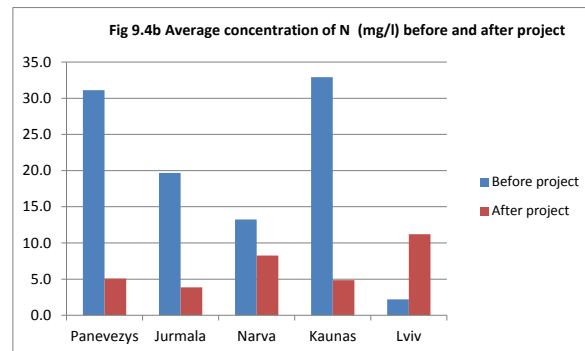
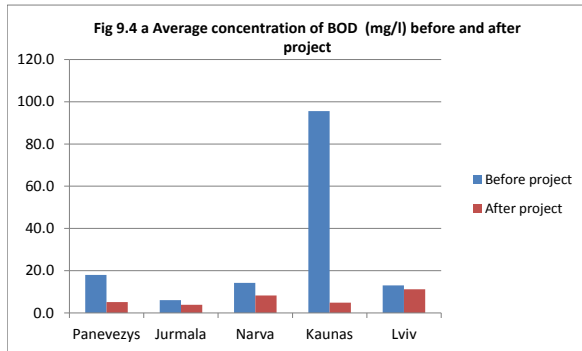
Technical performance

Figures 9.4 to 9.6 show the treatment statistics before and after the projects. In most cases figures at least three years before and three years after have been used to give averages. In most cases the projects were designed to avoid an imminent breakdown in which cases

Concentration - In almost all cases there is a reduction of the concentration of BoD, nitrogen (N) and phosphorus (P) in the effluent (figures 9.4a,b,c). Kaunas stands out for BoD because before the project there was no secondary waste water treatment at all. In Lviv the concentration of nitrogen has increased (fig 9.4b) even as the treatment efficiency has increased (fig 9.5b) indicating that the influent is much richer in nitrogen than before the project.

Treatment efficiency - the treatment efficiency in all cases has increased (see figures 9.5a,b,c)

Tons of BOD, N, P removed – the differences between the removal of pollution before and after the projects is shown in figures 9.6a,b,c. These figures show that in all cases more pollution has been removed except for phosphorus in Lviv even though the treatment efficiency itself has improved (figure 9.5c) because of a high value of phosphorus in the influent prior to the project.



9.3 DETAILED REPORTS

Summary page - Jurmala

Name	Jurmala water waste water project (Client: Jurmala water company)		
Dates	1999/2000 – Feasibility studies 2004/2009 – Implementation of the Sloka waste water treatment plant (Sida, Nefco, state, municipality and utility financing) 2007/2015 – Stage 2 project for extension of network and water treatment (EU cohesion fund) 2009 – Special project financed by EU to introduce phosphorus treatment		
Financing Total Euro 7.7 million	Jurmala, Latvia Euro 2.1	NEFECO loan Euro 2.1	Sida (grant) Euro 3.5
Description of project	Jurmala has a population of some 56,000, during the summer there is a large tourist population – the town joins a number of settlements along the coast and is rather extensive, thus making the network expensive to operate. Originally there were three separate sewerage treatment plants with sewerage from North-East parts of the city (about 30% of the total) being pumped to Riga as is still the case. During the Soviet period, there were a number of factories which are now mostly closed. The original sewerage plant was owned by the paper and pulp factory and was handed over to the utility after independence. The project as a whole involved: improvements in the water supply network including better water metering; improvements and extension to the sewerage network; rehabilitation of the Sloka treatment works and the closure of the smaller treatment works. Under EU cohesion funds a water treatment and extensions to both the water supply and sewerage networks are being undertaken.		
Sida contribution	The Swedish contribution was to grant finance consultants for the feasibility study, for project planning and preparation and for institutional development (Euro 1.4 million). Grants funds were also provided for equipment for the Sloka treatment works.		

Summary of key findings (justification in annexes)	• The business planning and financial management training and systems have proven very valuable. • The system is small and is vulnerable as there are few economies of scale. • The feasibility study hints that simply pumping all the sewerage to Riga may have been a more economic solution but this was not accepted locally. • Maintenance contracts with specialised suppliers have helped to compensate for the small scale of the treatment plant which reduced the need for highly specialised staff. • There are a large number of exchange visits that have been made which are helping to spread knowledge about technology and financial management systems.
Documents	• AF, Jurmala Completion report, PIU Part A, May 2007, pp22 • AF, Jurmala Completion report, Corporate Development Part B, August 2005, pp26 • AF, Jurmala progress quarterly report (PIU) May 2007, pp27 • YIt construction, Monthly progress report No. 31, March 2008 • NEFCO http://www.nefco.org/news/blue_flag_beaches_and_cleaner_rivers, May 2010, accessed 10 June 2013. • PURE, Research project on Jurmala WWTP, power point presentation, March 2011, pp23 • Pure, Technical Audit of Jurmala WWTP, November 2010, pp29 • Tariffs 2004-2021, pp1 • Flows and loads Sloka WWTP years 2010-2013, 4 files • Charts on total P and total N for 2010-2011, 2 files • Historical data on water and wastewater amounts 1995-2012, from water company, pp5
People met	Mr. Vladimirs Antonovs - Jurmala's water, general director, chairman of the board; Mr. Aivaras Kamaruts - Jurmala's water, team leader of project implementation group; Mr. Guntis Klive - Jurmala's water, project manager, project implementation group; Ms. Anda Zake - Jurmala's water, economist, project implementation group; Ms. Maruta Višņevska - SIA Jurmala's water, head of WWTP;

Detailed summary of findings (1 to 2 pages)

Core questions	Main findings
• Client view on effectiveness of international support a) What was the value added? b) Were there any drawbacks? c) How can international support can be most effectively provided in Eastern Europe?	Client and relevant authorities express high satisfaction with the project as a whole and with the Swedish support. a) The introduction of new business planning and financial modelling, which is still being used and updated. The introduction of project preparation and contract management skills especially effective constructive supervision. The use of automatic control systems. The focus on public relations and effective communication to customers. In the view of the management the external support triggered a number of important management changes and completely changed the management style from the Soviet supply driven approach to the western demand and consumer driven approach. The fact that the business planning is still used today is cited as evidence of the sustainability of these changes. b) No drawbacks are noted by the utility. After the start of the contract, Latvia joined the EU and, because of the scale of new construction in the country, prices rose, making it very difficult for the contractor to finish on time and within cost. c) Operationally, flexibility is the key to making complex projects financed from various sources work efficiently. This does not mean that adherence to principles such as cost recovery should necessarily be flexible.
2) Physical impact a) did the projects work ? b) Do the utilities work now?	a) The project worked as a whole. There were some delays especially considering the overheating of the construction market from 2004. However the project was completed close to cost estimates. The systems that were installed worked well and were able to meet HELCOM, Lithuanian and EU standards of effluent. b) The utility is performing well after some 4-5 years: • The utility is still performing technically and the physical impacts are being sustained. (See annex B). The treatment still meets HELCOM, Lithuania and EU standards. • Operation and maintenance is being scheduled and carried out in a prioritised order – finance is not reported as a

Core questions	Main findings
	constraint to maintenance. There has not been a major breakdown – minor break downs, when they have occurred, have been dealt with swiftly. Additional pumps and replacement parts have been purchased as required. • The staff are competent and well trained and for the most part have been with the utility for many years. Rare for such facilities, the director of the sewerage treatment plant is a woman. • The water company has access to specialist skills from supplier companies and, because of the relatively small size of the plant, there are maintenance contracts with suppliers of the more complex equipment e.g. air blowers, centrifuges etc. <u>Energy savings:</u> There is no biogas generation. The new equipment will save energy but this is not quantified.
3) Reform impact a) Were the reforms put in place? b) Are they in place now? c) Cost recovery – has the gap closed?	a) There was a highly structured programme of reforms which has had good results – especially impressive is the highly organised business and financial planning and the focus on affordability. b) i) <u>Managerial autonomy</u> and performance. The management reports to a board that is made up of appointees of the city council who own the majority of the shares. The management report that, for the most part, the board does not interfere in the day-to-day business of the company although this has occurred on occasion and is expected to continue to occur to a minor extent (despite the local motto of: “politics should not be mixed with sewerage”). When pressed it was estimated that politically motivated but economically inefficient decisions have perhaps led to the unnecessary expenditure of around Euro 100,000, which is small given the turnover and value of project There are some 212 staff for 4,800 connections – but since these are mostly for larger apartment buildings the equivalent number of connections could be closer to 15,000. This gives a ratio of about 14 staff per 1000 connections, which is on the high side even given the extensive nature of the city and ongoing construction and design

Core questions	Main findings
	work. ii) <u>Financial autonomy</u> has not yet been fully realised – for 6 of the last 10 years the utility has made a loss, although this is probably due to a prudent depreciation policy. The costs of maintaining the Swedish equipment have been relatively low. iv) <u>Involvement of consumers</u> – the utility has an active public relations and consumer department. It is reported that response to complaints and to interruptions of service is prompt. There is an internet service where customers can pay their bills, raise questions and make complaints. Customers have praised the extension of the network and also the introduction of the iron removal plant (“my nice white shirts are not longer stained red”). c) Tariff and cost recovery gap– as shown in Annex A the tariff has been sufficient to cover operational costs but has not been sufficient to prevent the water company from making substantial sustained losses – but as mentioned above this could be because of prudent depreciation.
4) Replication a) Have any of the approaches been replicated e.g. in other towns, incorporated into national strategies?	a) Jurmala has been active in attending and organising seminars and visits e.g. with Jelgava where technical mistakes on the waste water treatment plant were shared (e.g. on the need to design for easy emptying). Valmizar where strategic planning and internal communication were topics for experience exchange. Liepaja where business planning and financial modeling and how to work effectively with the council were topics for experience exchange.
5) Post support actions a) What has happened since the project? b) What more support has the client received over the years?	a) There have been a number of small changes and improvements that have been made to the systems. b) The main support has been the EU cohesion funds, the current phase 2007-14 is approximately Euro 14.5 million. In addition there was EU-financed research related project, which assisted in upgrading the performance of the treatment plant and putting a phosphorus removal facility in place.

Core questions	Main findings
6) Desk study a) What do the clients think of our findings and recommendations in the desk study – are they right? b) Any qualifications to the findings of the desk study?	1) There is general agreement on: the importance of a municipal focus and the high relevance of the project to the city and its inhabitants. The client believes that the project has reached its objectives and has been highly efficient and cost effective. The client agrees that the main risk to sustainability is the inadequate tariff – and possibly political interference. 2) The desk study findings were considered applicable to Jurmala.

Supportive annexes:

a) Financial analysis on tariff

Table A1 shows the profitability of Jurmala water company and the expenditure on operation and maintenance. It indicates that the operation and maintenance costs, to some extent, are managed to follow the available finance from sales (tariffs) – the evidence of this is that the total operational costs follow, to some extent, the total gross revenues. However the correlation between sales and expenditure is not strong and, according to management, essential maintenance is not deferred. Where it is necessary maintenance is carried out even if a loss is made, such as in the years 2010 to 2012.

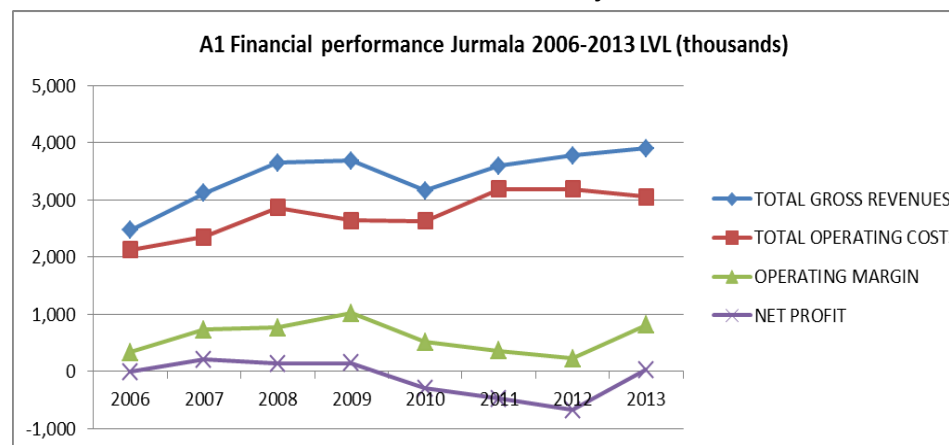


Table A2 shows the increase of tariff from 2004. There has been a steady increase and, especially since 2011, when the EU cohesion funds started to substantially increase the assets of the company. The average annual compound increase in tariff in Euros has been 13%, which far exceeds inflation.

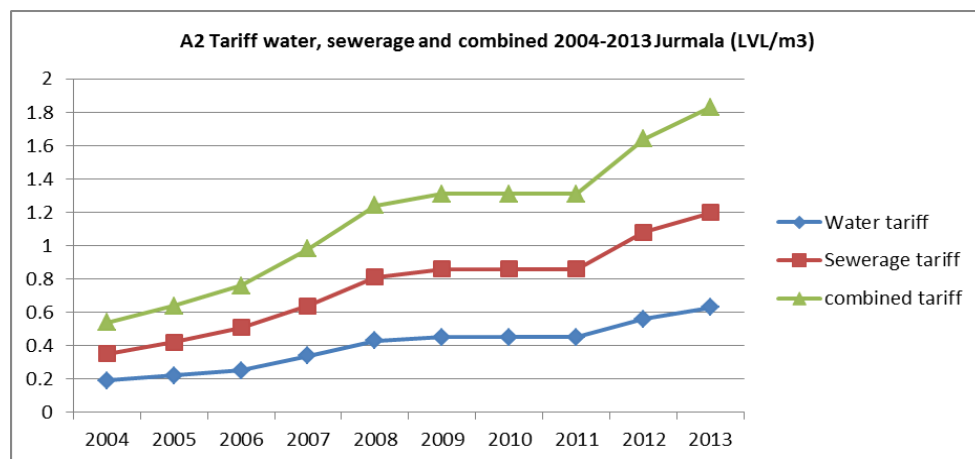
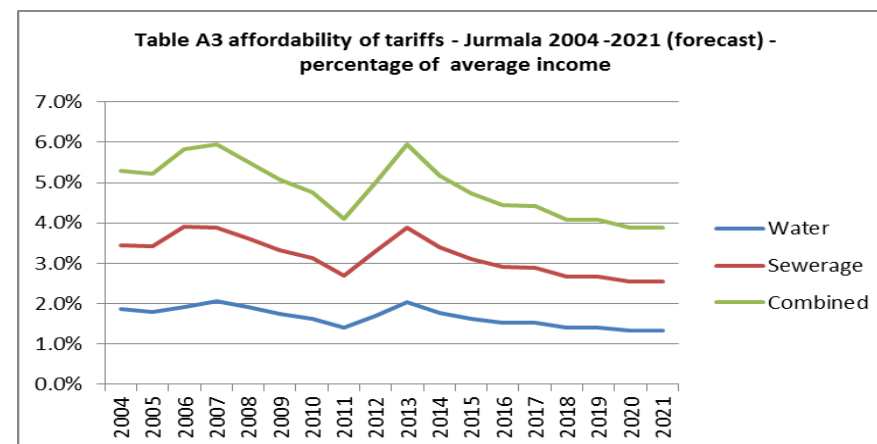
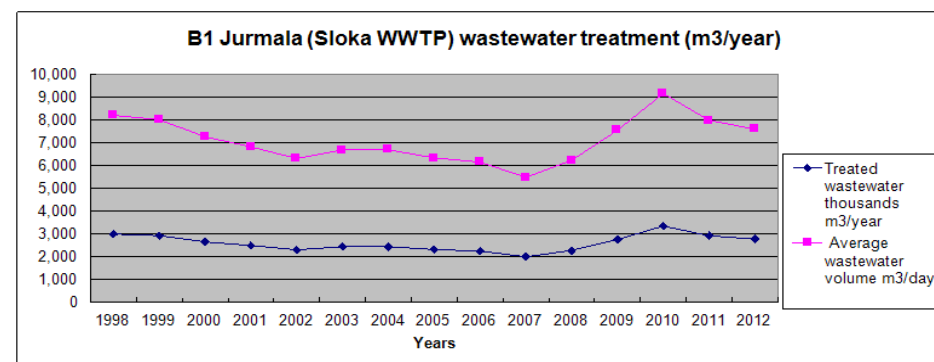


Table A3 shows the affordability of tariffs against average income. Although there is a peak in 2013 following the steep tariff increases the affordability is forecast to improve over the following 10 years. The commonly held assumption is that water and sanitation services should be below 5% of income. Whilst this might be the case in the future, for the average consumer, this will be the case less for the poorer segments of the population. It argues for a banded tariff with costs escalating with increasing usage in order to provide a cross subsidy from high water users to low water users. With the present system of metering only per apartment block the banded tariff system is not a practical option in the immediate future; but it could be relevant in the longer term.

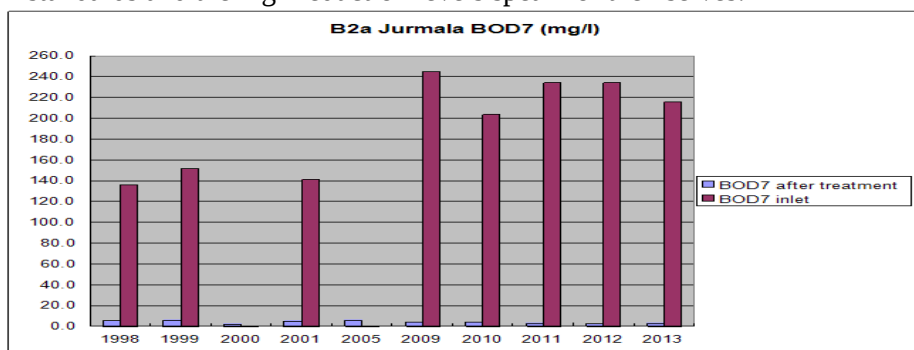


b) Analysis on technical performance

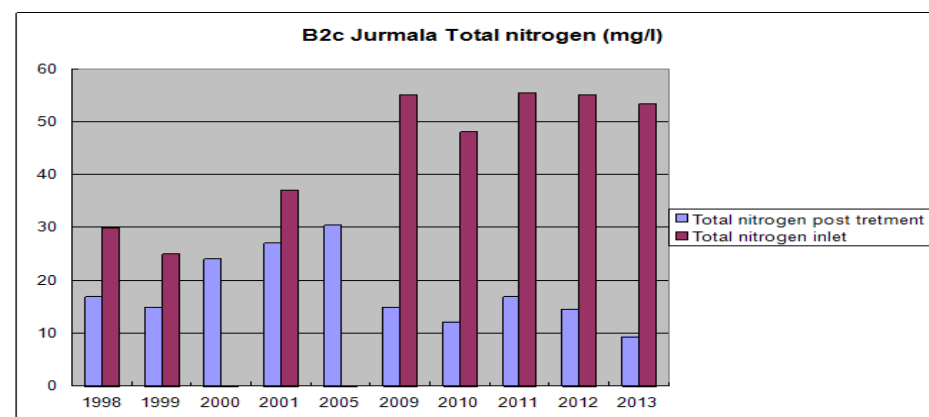
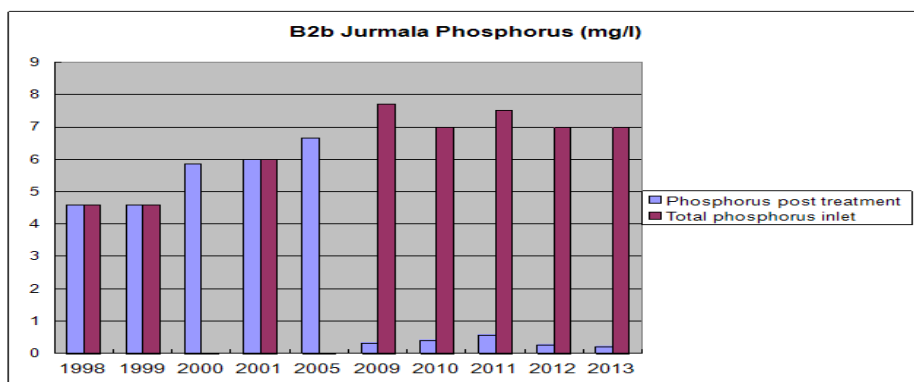
Figure B1 indicates the volume of treated waste water volume at Sloka WWTP from Jurmala water company. Waste water flows had been decreasing annually until the plant was constructed in the end of 2007. An increase in treated waste water volume during 2008-2010 years was due to the connection of a new area as well as due investments in the network extension. Design capacity of the WWTP has been set to 9.000 m3/day for daily average and 12.000 m3/day for day maximum. According to flow records at the plant, the daily maximum waste water volume reaches up to 14.000-15.000 m3/d due to groundwater infiltration and rainwater intake.



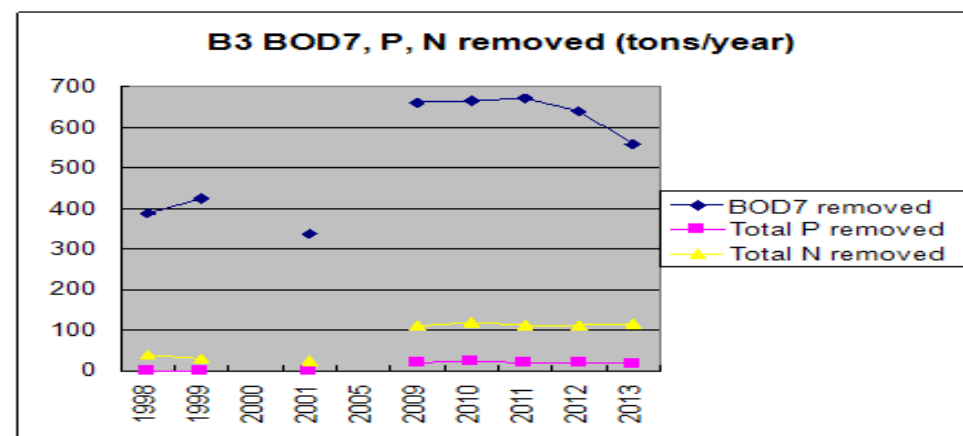
Figures B2a, b, c show the reduction of BOD7, P and N during the years 1998 to 2012. The 1998-2007 figures were taken as pre-project and indicate the situation with the old treatment plant. Since the new treatment plant was put in to operation in 2008, the plant has been producing high quality effluent. As shown in figures B2a,b,c: BOD7 after treatment was in average of 3.2-4.6 mg/l; total P was in average of 0.23- 0.59 mg/l and, total N was in average of 9.5-16.9 mg/l. Almost all of these values (except total N average concentration during 2011) more than satisfy HELCOM, Latvia and EU standards and the high reduction levels speak for themselves.



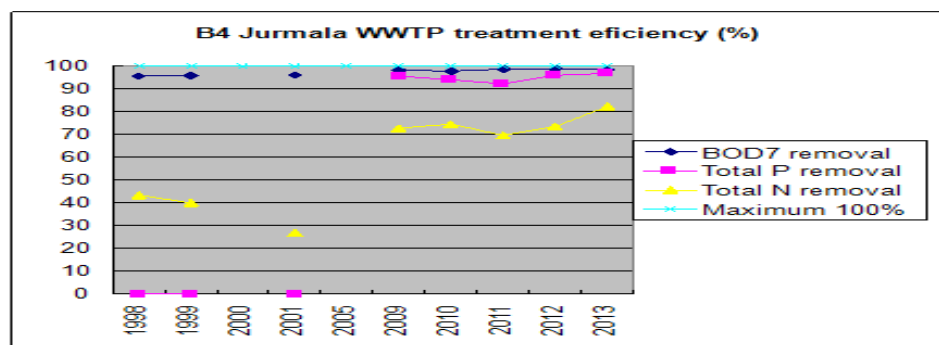
Note 1. BOD7 meanings were calculated from BOD5 values using factor 1.15. No data on incoming BOD loads from years 2000, 2002-2008 were available.



Note 3. No data on incoming total N loads from years 2000, 2002-2008 were available.



Note 4. No data on removed pollutions from years 2000, 2002-2008 were available.



Note 5. No data on treatment efficiency from years 2000, 2002-2008 were available.

Figure B3 indicates the total BOD7, P and N that have been removed at the old WWTP (1998, 1999, 2001) in comparison with the removal of these pollutants by the new WWTP in period of 2009-2013. The old plant did not remove nitrogen and phosphorus.

Figure B4 shows the treatment efficiency (BOD7, Total P and Total N) in percentage during the years 1999-2001 (old plant) and efficiency during the years 2009 to 2013 (new plant). After the project the plant has continued performing well with high and steady treatment efficiency.

a) Analysis of reform context

Governance and management autonomy – as commented above, the level of managerial autonomy is reasonable and for the most part uneconomic or politically based decisions have not been made.

Managerial efficiency – there are some 212 staff and approximately 4,800 connections (or perhaps 15,000 equivalent customers) giving a staff to connection ratio of about 14 staff per 1000 connections – this is high even given the small size of the company (especially considering that there is significant outsourcing). The administrative working environment and the filing and availability of data were found to be very good at both the Project Implementation Unit and the sewerage treatment plant.

b) Photos from the site visit in Jurmala WWTP dated 10 July 2013



The picture above shows the main building of the plant where pre-treatment, sludge dewatering, containers and operator rooms are located. Permanent information boards are installed near the entrance. In years 2010-2012 the project named “Pure” performed a technical audit and installed additional equipment in the plant.



The pictures above show the pre-treatment equipment located on the first floor. Most of the mechanical equipment is supplied from Sweden. All of equipment is used for the plant operation and is in good condition.



The picture above shows the activated sludge tank with final clarifier in centre. The condition of the concrete and mechanical equipment is good. Within the project named “Pure”, additional longitudinal division walls and additional mixers were installed to improve anaerobic conditions for phosphorus removal in 2012.



The pictures above shows sludge thickener and centrifuge equipment supplied from Sweden.



The pictures above show the online measurement equipments installed by Pure project in 2012. It is designed to improve P and N removal and reduce eutrophication.



The pictures above show the additional polymer preparation and dosing units which were installed to improve sludge thickening. These will allow the use of a different polymer than the centrifuges. Work was done in 2012.

Summary page - Narva

Name	Narva waste water project (Client: Narva water company – Narva Vesi)		
Dates	1995 - Project preparations 2000 - Feasibility study 2003/5 – Implementation of waste water and sludge project (Sida/EU), phase 1 2003/8 - Extension of sewerage network (EU cohesion fund) 2009/15-Water treatment, water and sewerage extension (EU cohesion fund)		
Financing (phase 1) Total Euro 10.6 million	Narva Vesi / city Approx. 10% (Euro 1 million)	EU grant Euro 8.9 m	Sida (grant) Euro 1.7m
Description of project	The waste water treatment plant of Narva was originally constructed in the 1960s and further extended in the 1980s. The plant was for both mechanical and biological treatment and sludge was disposed onsite in sludge ponds. At that time there was also considerable industry in the town and separate domestic and industry treatment lines were constructed. By the mid-1990s, although it continued to function, the condition of the plant was highly deteriorated and there was a risk of breakdown. The first phase (2003-2005) involved the rehabilitation of the treatment works and the addition of prosperous removal. In parallel with this first stage, Narva Vesi launched a larger (Euro 9.5 m) project, financed through EU cohesion funds, to extend the sewerage system to new areas (2003-8). A third project also financed by EU Cohesion funds (Euro 45.3 m), which focused on a new water treatment works and further network improvements. All of the projects together total more than Euro 75 million.		
Sida contribution	Sida contributed by financing the feasibility study and consultancy services for the preparation of tender documents (SEK 1.8 m) as well as providing grant finance for the equipment and construction of the sludge handling and bio-digester (SEK 15.4 m).		
Summary of key findings (justification in annexes)	1. The wastewater treatment plant and sludge handling are continuing to function well and meet all the effluent standards. 2. The works are maintained regularly and, generally, the equipment and wastewater treatment site are in good condition. Some minor operational improvements have been made over the years (e.g. in emptying tanks) 3. The bio-gas digester is apparently not able to work at greater than 20% capacity, so sludge is bypassed. Gas is flared rather than being used for energy generation as a plan for connecting to a generator was not implemented.		

	• There is only one gas digester making cleaning complicated – this was a result of savings that were needed as the grant was not sufficient to cover all requirements. . • A final disposal solution for the sludge is not yet place – the utility is working on potential solutions. • The water utility is able to maintain an operating profit and reports that maintenance is not deferred due to shortfalls in finance. • The authorities have entered into binding agreements with the EU on tariff increases to ensure financial sustainability – tariffs increase on a 3-year cycle and, over the last 13 years, give an average annual compound increase of 6%.
Documents	a) Estonia, City of Narva WWTP, July 1998, pp21; b) ISPA monitoring sheets dated 30 06 2003, 31 12 2003 , 30 06 2004, 31 12 2004, 30 06 2005, 31 12 2005, pp58 c) Declaration of winding up of measure Narva city WWTP rehabilitation 29 June , pp20 d) EU, Narva City Sewerage Treatment Plan Rehabilitation, Final Report, June 2008, pp27 e) Sida, Promemoria, 2001 f) WaterTime, Estonia National Context Report, 2004, pp42 g) SHER, Narva-Joesuu water and waste water improvement project feasibility study, October 2004, pp100 h) Strategic evaluation on environment and risk prevention under structural and cohesion funds for the period 2007-2013, November 2006, pp20 i) Ministry of Environment, Clean Water, 2005 j) National Audit Office, Waste water notes, 2010 k) Estonia Water company, Water pricing policy in Estonia, 2001, pp17 l) Narva WWTP data 2009-2012, pp3; m) Narva WWTP concentration 2003-2012, pp2 n) Sludge data from 2007-2012, pp1 o) Waste water tariffs 2001-2013, pp1 p) Financial information , annual profit and losses statements for 2002-2012, pp11
People met	Mr. Aleksei Voronov - Narva water, director, chairman of the board; Ms. Hilje Ounapuu - Narva water, project manager Mr. Seveli Tšernoussov - Narva water, head of WWTP Ms. Natalja Kurling - Narva water, process and laboratory specialist

Detailed summary of findings (1 to 2 pages)

Core questions	Main findings
1) Client view on effectiveness of international support - What was the value added? - Were there any drawbacks? - How can international support be most effectively provided in Eastern Europe?	Client and relevant authorities express high satisfaction with the project as a whole and with the Swedish support. - The main value added was in capacitating the company in project preparation and how to apply for funding. This has been instrumental in securing later large EU cohesion funds. Although the treatment technology was not new, the introduction of automation and specific advanced equipment is new and much appreciated and has led to cost reductions and increases in productivity, especially in staffing. - No major drawbacks were noted. The limited funding from Sida has led to some economies in providing dual production lines on the bio-gas and sludge handling facilities, which make it more difficult to operate. - It was felt that the adopted approach was very effective and that the consultants and others involved have been efficient.
2) Physical impact - Did the projects work? - Do the utilities work now?	- The project worked as a whole. There were some delays but not more than normal for a relatively complex project such as this one. A plan to use a natural gas generator for the bio-gas generated by the Swedish funded bio-gas generator was never implemented. The Narva Vesi did not purchase the bio-gas/natural gas mixing chamber that was necessary as a study that they made showed that the use of natural gas was uneconomic; in the meantime the gas generator was sold. The gas from the bio-gas generator is simply flared onsite with no energy benefits. The bio-gas digester serves to reduce smell to a nearby residential area and also approximately halves the volume of sludge. - The utility is performing well. - The utility is still performing technically and the physical impacts are being sustained. (See annex B). The treatment meets HELCOM, ESTONIA and EU standards – occasional lapses occur, which are avoided as much as possible because they attract heavy fines from the Ministry of Environment. - Operation and maintenance is being scheduled and carried out in a prioritised order – according to the technical managers there is enough funding to allow immediate attention to all ur-

	gent needs and there is no deferred maintenance. (See photo of maintenance of primary treatment chambers). - There have been a number of small improvements made in the system in the last few years (both the waste water treatment plant and the Swedish financed sludge handling facilities) to improve operational practice e.g. installation of curtain screens to reduce splatter of sludge disposal to containers; installation of ladders to allow mixing and instrumentation to be inspected; devices to allow easier emptying of tanks during maintenance. - There has not been a major breakdown – minor break downs when they occur have been dealt with swiftly. After some four years the bio-gas digester could only treat 25 m³/day of sludge against a design load of 140 m³/day. As a consequence a bypass was made. At the time of the visit the bio-gas digester was being cleaned for the first time. This was a cumbersome operation (see photo) and the company did not have manuals or process description for how it should be done. Neither had they contacted the manufacturer although some consultants had been contacted for opinions; this was without a clear outcome. It could be that after the cleaning that the bio-digester resumes its design capacity. One reason that the bio-digester has not been maintained so far is that there is only one. A plan for a second digester was taken out during contract negotiations when it became apparent that the Swedish grant was not big enough to provide a dual bio-digester. Other smaller economies of a similar nature were also made. - The staff are well trained and appear competent in running the facility – expect perhaps the new element of bio-digestion. The project management unit is particularly competent and demonstrates a high degree of strategic overview with detailed knowledge of all current and previous contracts. - The network is the main area for the current investments - Non Revenue water has reduced from 36% in the early 2000s to about 25%, but with all the construction has now increased to 35%. - Sludge management is receiving increasing attention – a final solution is not yet apparent. At the present time sludge is given to the city council for landscaping. There are plans to find a solution that is longer term and can generate an income for the
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	company – including, if possible, the use of a combined heat and power generator that will use the bio-gas. In the 1970s/90s sludge from industry was contaminated with heavy metals and a separate process line was built – this design feature was also maintained for the new waste water treatment plant. However, in the meantime, the industries (textile and leather) have closed down and this year only 100m³/day are being received by industry and tests on the sludge indicate that there is no more contamination in the industry waste water than the municipal waste water – with sludge from both sources meeting the required standards. <u>Energy savings:</u> As the gas from the bio-digester has never been used there are no energy inputs. There are savings as the equipment that is used is more efficient; automatic operation saves energy as well.
3) Reform impact a) Were the reforms put in place? b) Are they in place now? c) Cost recovery – has the gap closed?	a) There was not a highly structured programme of reforms and no twinning arrangements seem to have been made, unlike many of the other projects in the Baltic states. b) i) <u>Managerial autonomy</u> and performance: the company is run according to the official statutes. The management report that they operate autonomously and are not subject to undue political interference. c) ii) <u>Financial autonomy</u> is not yet fully realised – although for most of the years the company has been able to operate with a small surplus – without any major breakdowns occurring. The provision of EU grants of over Euro 70 million during the last eight years has as in other towns perhaps helped to mask larger rehabilitation needs. The fact that grant investments are not depreciated on the profit and loss account and therefore not taken into account in the tariff imposes a risk, in the future, that tariffs will have to suddenly rise when the EU-financed facilities need repair. iii) <u>Introduction of least cost planning</u> – the investment plans of the company have to some extent been distorted by the availability of EU grant funding. It is not clear if this has led to uneconomic investment planning. Each project has been additional and independent of previous projects and has been subject to rigorous feasibility assessment. It is judged

	on this basis that the investments are well conceived. iv) <u>Involvement of consumers</u> –The utility has an active public relations and consumer department. There are significantly fewer complaints about smell at the rehabilitated waste water treatment plant but complaints about disruption of service due to construction are increasing as a major network overhaul is taking place. d) Tariff and cost recovery gap – as shown in Annex A the tariff has been sufficient to prevent the water company from making a loss. The state of Estonia is obliged in covenants with the EU to increase tariffs according to the financial analysis of the feasibility studies. Recent large tariff increases in 2011 show that the authorities are politically capable of increasing tariffs.
4) Replication a) Have any of the approaches been replicated e.g. to other towns, incorporated into national strategies?	Some visits are undertaken to other similar utilities which serve to share experience. The EU cohesion funds have conditions that imply large tariff increases and there is some indication from the latest tariff increase that this is leading to greater financial sustainability. The national audit office has noted as early as 2007 that without tariff increases the large grant projects could quickly break down.
5) Post support actions a) What has happened since the project? b) What other support has the client received over the years?	b) Significant improvements in the network and also water treatment are being made, which are partly being financed through EU grants.
6) Desk study a) What do the clients think of our findings and recommendations in the desk study- are they right? b) Any qualifications to the findings of the desk study?	a) There is general agreement on: the importance of a municipal focus and the high relevance of the project to the city and its inhabitant. The client believes the project has reached its objectives and has been highly efficient and cost effective. The client agrees that the main risk to sustainability is the inadequate tariff. b) The desk study findings were found to be relevant.

Supportive annexes:

A) Financial analysis on tariff

Table A1 shows the profitability of Narva water company and the expenditure on operation and maintenance. It indicates that the operation and maintenance costs follow closely revenues except for 2012 which was an exception year due to extraordinary additional revenue for services outside of the normal sale of water and sanitation services. The indication is that expenditure on maintenance is deferred until there is sufficient revenue to justify expenditure.

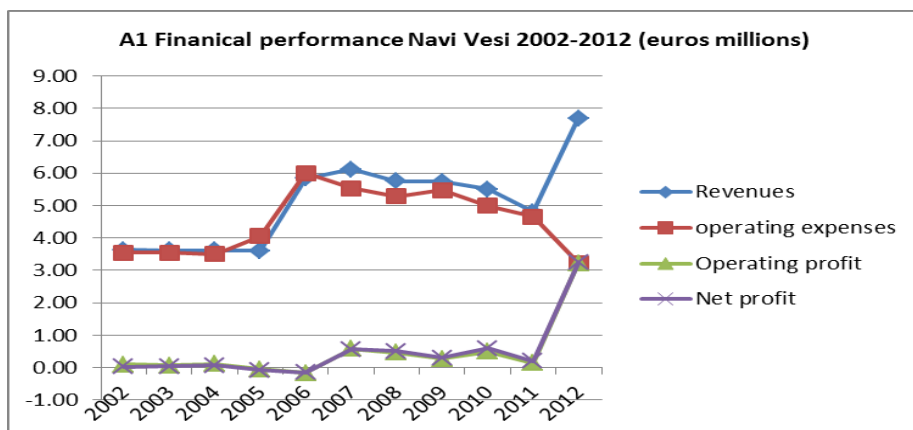
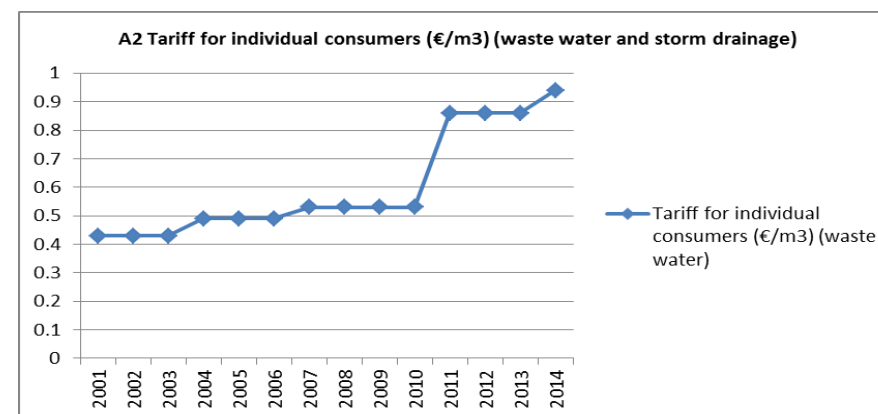


Table A2 shows the increase of tariff from 2002. The table indicates a number of 3-4 year periods where tariffs have been static with minor rises in tariff in 2004 and 2007 and a very significant rise in 2010. Another significant rise is due for approval for 2014. The tariffs are for waste water and storm water services for individual clients.



In common with the practice in other Baltic states, Estonia has not allowed utilities to take account of depreciation on the profit and loss account for investments financed by grants. This has meant that such investments could require sudden increases in future tariffs once they start to require major maintenance and repair. This issue was brought to the attention of relevant authorities as early as 2007 by the Estonian national audit office (“Estonia cannot guarantee sufficient waste water treatment in all built-up areas by 2010” Toomas Mattson | 6/11/2007). The management of the company states that there was a decision to reverse this practice in Estonia in 2011. It was not confirmed if this had been done in the financial accounts for the year 2012.

B) Analysis on technical performance

Figure B1 indicates the volume of treated waste water volume at WWTP from Narva water company. Waste water flows were decreasing annually until the plant was constructed in the end of 2005. An increase in treated waste water volume during 2007-2008 years was due investments in the network extension (more customers).

Design capacity of the WWTP has been set as follows: two treatment lines for municipal wastewater for daily average capacity of 38.500 m³/day and one line for industrial of 7.200 m³/day. Industrial flow has been reduced significantly e.g. up to 200-300 m³/day in the summer 2013. Maximum daily waste water is greater due to groundwater infiltration and rainwater.

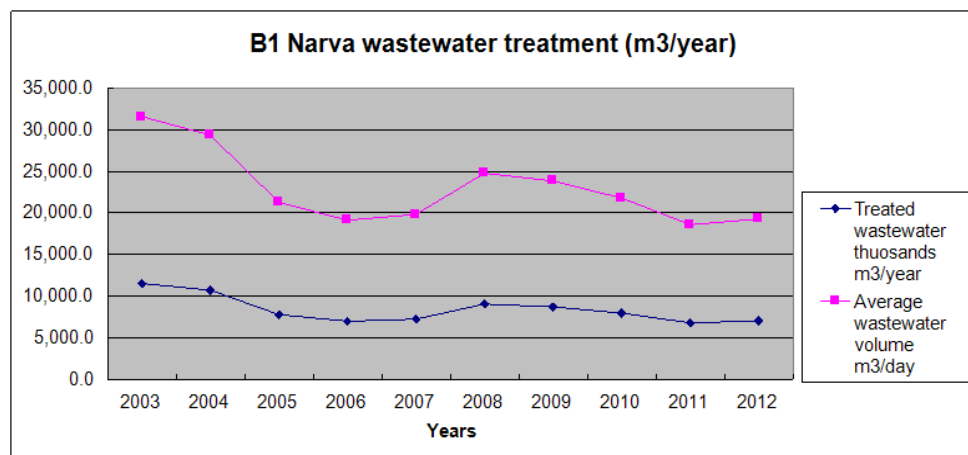
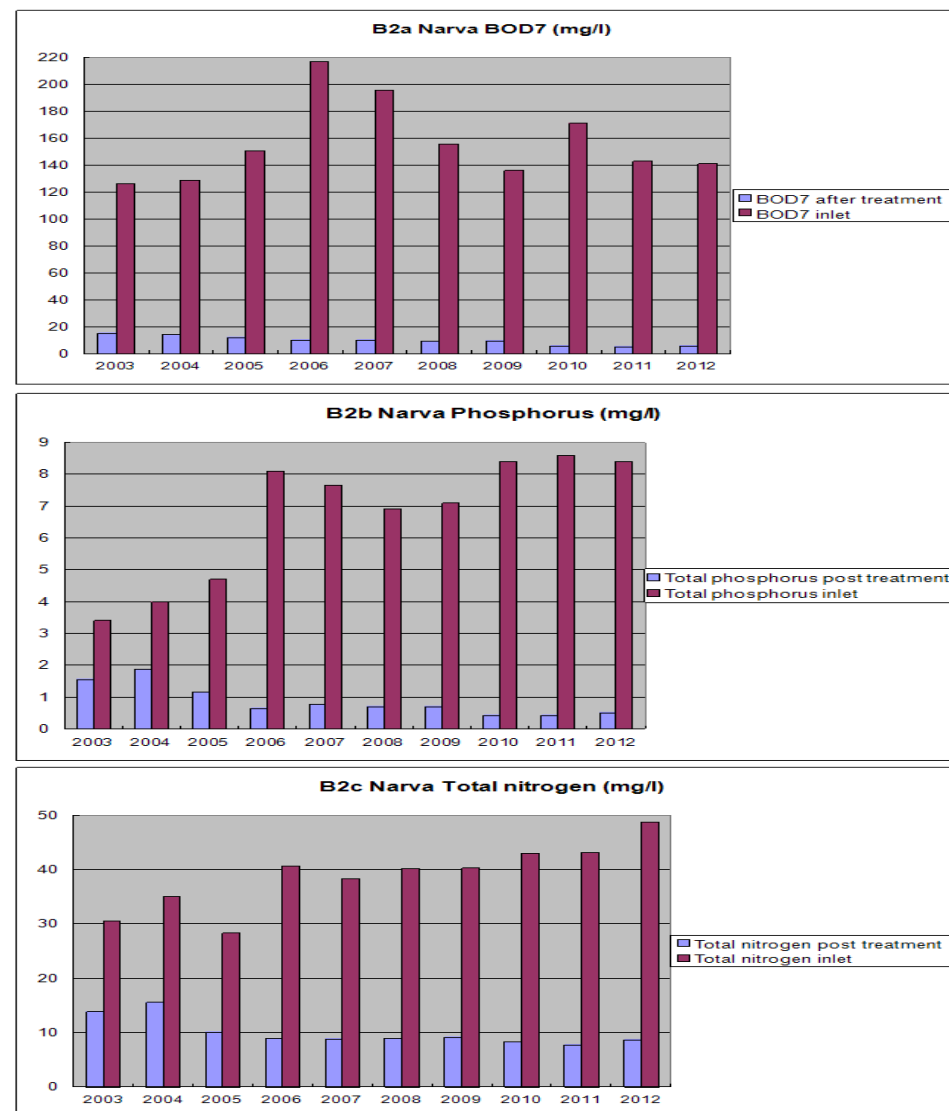


Figure B2a, b, c show the reduction of BOD₇, P and N during the years 2003 to 2012. The 2003-2004 figures are taken as pre-project and indicate a situation with the old treatment plant. After the new treatment plant was put in to operation at the end of year 2005 the plant produces high quality effluent. As shown in figures B2a,b,c after treatment the effluent values were: BOD₇ in average of 5.5-10.5 mg/l, total P in average of 0.45- 0.79 mg/l and total N in average of 7.9-9.2 mg/l. Almost all of these values more than satisfy HELCOM, Estonia and EU standards and the high reduction levels speak for themselves.



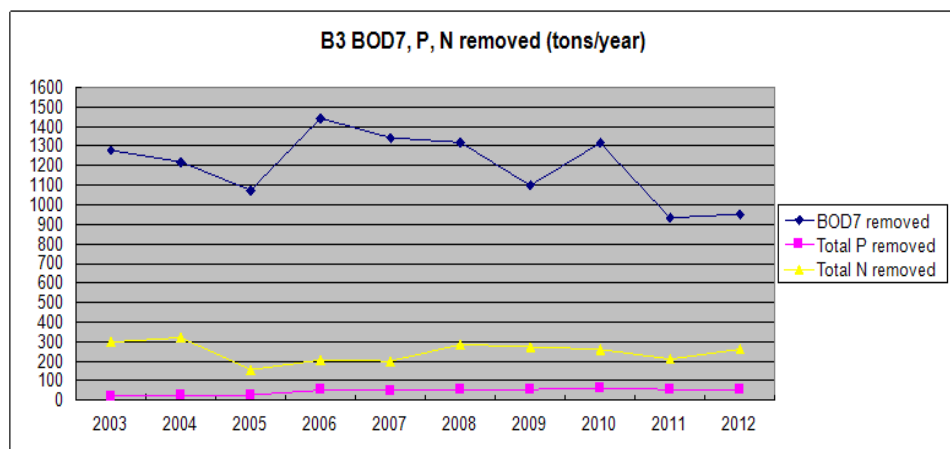


Figure B3 indicates the total BOD7, P and N that have been removed at the old WWTP 2003 - 2005 in comparison with the removal of these pollutants by the new WWTP in period of 2006-2012. With respect to the new plant, they also indicate that the performance has continued since the end of the project in 2005.

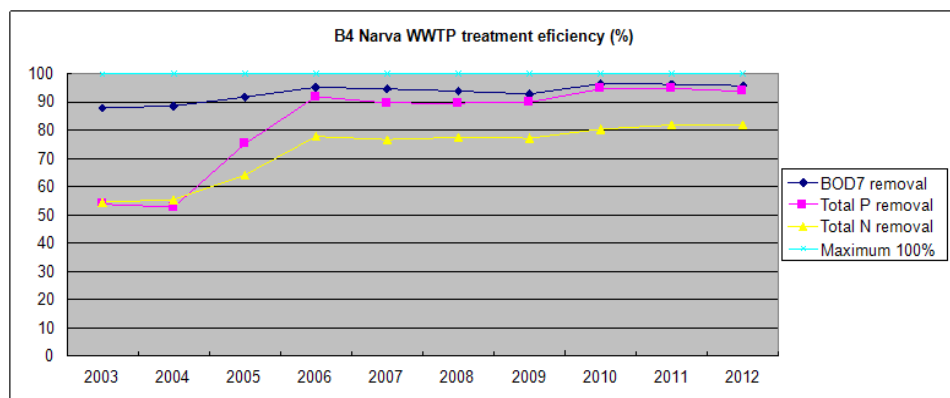


Figure B4 shows the treatment efficiency (BOD7, Total P and Total N) in percentage (%) during the years 2003-2005 (old plant) and during the years 2006 to 2012 (new plant). After the project the plant has continued performing well with high and steady treatment efficiency.

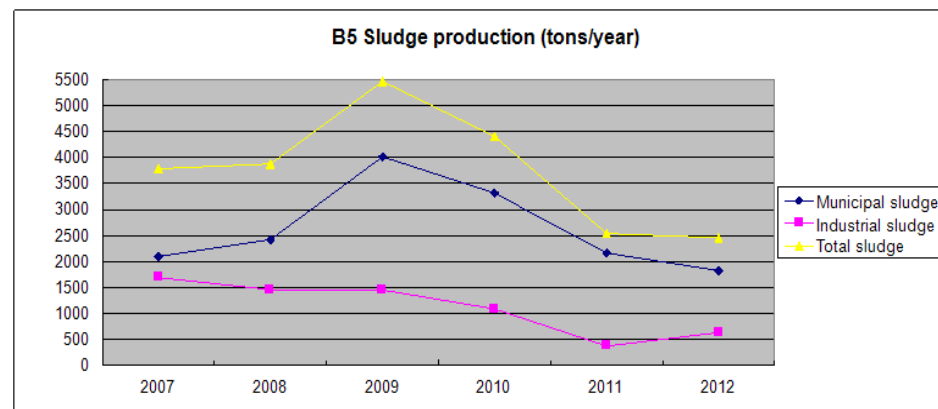


Figure B5 shows the sludge production in tons per year. During 2009-2012 sludge production from municipal wastewater were greatly higher comparing to previous years due bypassing the sludge digester.

C) Analysis of reform context

Governance and management autonomy – As is common in the public utilities of former soviet republics, the managing director is also the chair person of the management board, whose other members are appointed by the town council. The chairperson/managing director answers to the town council, who in effect carry out a more supervising role than that which would be normal for an annual general meeting of shareholders. The checks and bal-

ances are not as well established as they would be in a fully westernised system but with well-informed owners (town council) who operate in the public interest there is sufficient power and separation of interest to ensure efficient operation. According to the management there has not been undue political pressure on decision-making and no significant investment or other decisions have been made that are judged uneconomic. The national audit office carried out an audit on behalf of the EU following the first phase of EU funding and did not find any cause for concern. The management informed that no staff are imposed on the company by the town council and that the management of the company has full autonomy over hiring, firing and promoting staff and is free to do this according to merit and in order to enhance effective operation. There is relatively low staff turnover with key staff having worked in the company for more than 10 years.

Managerial and operational efficiency – there are some 100 staff and approximately 70,000 inhabitants and some 500 connections. The equivalent number of individual connections would perhaps be 15,000 giving an equivalent of some giving a staff to connection ratio of about 6 staff per 1000 connections – this is within reasonable benchmarking internationally for the size of company. The administrative working environment and the filing and availability of data were found to be good. The project management of large projects, financed by the EU cohesion funds and earlier by Sida, was found to be very good with very precise record keeping, project preparation and administration.

D) Photos from the site visit in Narva WWTP dated 11 July 2013



The picture above shows the sludge dewatering building, digester and gas holder. Dewatering intended for municipal and industrial sludge. This part of the plant was financed by Sida.



The pictures above show the sludge storage tank and bypass pipe done by water company. This is due to the reduced capacity of sludge digester (for reasons we don't know). Concrete tank is in good condition.



The pictures above show the polymer unit and sludge pumps in dewatering building. Most of mechanical equipment supplied from Sweden. Condition of the equipment is still good.



The picture above shows the plant layout from the top of digester. The plant includes separate municipal and industrial treatment lines.



The picture above shows repair of the sludge centrifuge. The equipment supplied from Sweden. This is the first replacement of the rotor after installation.



The pictures above show P removal tank and activated sludge tank. Condition of process units is good.

Summary page – Kaunas

Name	Kaunas water and waste water project (Client: Kaunas water company)			
Dates	1989 - Project preparation starts 1995 -1999 Phase 1 (mechanical treatment) EBRD loan /Sida grant 2001 – Feasibility study finalised for phase 2 Sida grant 2005-2008 – Phase 2 (Biological treatment) EU grant / minor Sida grant			
Financing	Lithuanian part	EU grant	Loan	Grants
Phase 1 Total Euro 87,6 million	Kaunas Self-finance Euro 19,6 million, Government Euro 39,4 million. Kaunas Municipality Euro 3,9 million	EU Phare Euro 7.9 million	EBRD, Nefco Euro 13 million	Sida grant Euro 2,6 million or SEK 31.5 million (mostly phase 1) of which TA SEK 8.1 Finland Euro 1,2 million
Phase 2 Total Euro 22,4 million	Government Euro 6,5 million including Kaunas water company Euro 0,966 million		- EU grant - Euro 15.88 million	
Description of project	Kaunas city, prior to 1999, did not have any wastewater treatment although there was a sewer network and a functioning water supply. In the first phase a mechanical (primary) treatment and biogas facility were built (1995-1999); in a second phase a biological treatment was added (2005-2008) – network extensions were also made in phase 2.			
Sida contribution	In the early 1990s Sida supported twinning between Kaunas and Swedish water companies. From 1995-1999 Sida supported through grants the mechanical waste water treatment plant, loans were provided by EBRD. Sida supported a feasibility report for the biological treatment as well as designs and tender documents for the biological treatment under phase 2 where the majority of the works were financed through EU cohesion grant funds with co-financing from Kaunas city council and water company.			
Summary of key findings (justification in annexes)	1) Twinning support was successful. 2) The first phase was grossly over dimensioned due to incorrect assumptions concerning water use and population increase – the excess infrastructure was made use of for the second phase. 3) The waste water treatment plant co-financed by Sida is working well and complying with the objectives and attaining the EU and HELCOM standards. 4) Maintenance is being carried but supported by the fact that EU grants continue and are used for some rehabilitation work. 5) The staff are knowledgeable and competent, some O&M is outsourced for complex operations. 6) Management autonomy is not yet reached – after elections the city council has become more involved and staff have been replaced. Although possibly reducing efficiency greater involvement of the council has led to easier approval of new tariffs. 7) Full cost recovery is not yet reached in part due to ongoing EU grants. The company has an operational surplus. Overall the financial data reveals that the investments are secure but not guaranteed and highly dependent on political will to raise tariffs.			

Documents	• Sida Evaluation, Twinning cooperation between Riga Water company and Stockholm water company, May 2000 • Feasibility study . Kaunas water company. Extension of plant and networks feasibility study , final report June 2001, pp365 • Kaunas, Phase 2 Quarterly progress report, 1st quarter of 2005, pp56, May 2005 • Kaunas, Phase 2 Quarterly progress report, 2nd quarter of 2005, pp23, July 2005 • Water Time, case study – Kaunas, Lithuania, January 2005, pp16 • Final report for the ISPA financed project, phase 2, pp51 • Technical indicators for year 2011-2012, pp6 • Income statements for year 2009-2012, pp6
People met	Mr. Inesis Kiskis - Ministry of Environment of Lithuania Republic, director of department for administration of EU assistance ; Mr. Dainius Gudavičius - Kaunas water, head of technical division; Ms. Giedre Kulvietytė - Kaunas water , head of financial division; Mr. Petras Maruniakas - Kaunas water, head of WWTP; Mr. Bronius Strumskis - Kaunas water, chief process engineer; Mr. Saulius Vytas Piksrys - public community NGO Atgaja, chairman

Detailed summary of findings

Core questions	Main findings
1) Client view on effectiveness of international support a) What was the value added? b) Were there any drawbacks? c) How can international support be most effectively provided in Eastern Europe?	The client and relevant authorities express high satisfaction with the project as a whole and with the Swedish support. a) The longer term twinning support was found invaluable by the Kaunas water company. The twinning exposed the management of the company to new management techniques and approaches and also to new technology. The Sida grant funding was instrumental in mobilising the initial loan from the EBRD. b) The first phase was based on water use data of 1993 as well as a number of assumptions on population increase that turned out to be inaccurate. As a result the phase 1 plant was heavily over dimensioned (232,000 m3/day as opposed to a required 82,000 m3/day) which has led to some over expenditure on operation and maintenance and also on loan repayments which are made by the water company themselves. The excess civil works were made use of by the second phase to reduce costs i.e. they used the excess facilities for the biological treatment. c) The time it took to invest could be shortened – although many of the delays originated with the Lithuanian side. The job of the Project Implementation Units was to manage the different sources of funding and different procurement regulations associated with parallel-financing. With co-financing through a single IFI, this process becomes easier but

Core questions	Main findings
	the complications of the parallel financing were not judged critical in the view of senior officials of the Ministry of Environment.
2) Physical impact a) Did the projects work ? b) Do the utilities work now?	a) The project worked as a whole. The gross over design of phase 1, as mentioned above, was mitigated by making use of the facilities for phase 2. The project in both phases was completed close to budget and timescale. b) The utility is performing well - evidence: - The utility is still performing technically and the physical impacts are being sustained. (See annex B). The treatment meets Helcom, Lithuania and EU standards – although the main reduction is from phase 1 investments (at least for BoD). - Operation and maintenance is being scheduled and carried out in a prioritised order even if funding does not allow immediate attention to all needs. - Although some maintenance is deferred this has not led to major breakdown and evidence was not found of such deferment leading to later disproportionately high rehabilitation costs. - The staff are well trained and competent in running a very complex facility. - The water company has access to specialist skills from supplier companies (mainly German) through local agents – some of the more complex operation and maintenance is outsourced. - EU project grants which continue have assisted in the rehabilitation and replacement of equipment – it is not clear what the situation would have been without this support. - The network is the main area where there is an operation and maintenance gap caused, in the main part, by a lack of finance. <u>Energy savings:</u> Heat from the bio-gas plant is used in the treatment process (heating incoming sludge) and power is sold to the grid and amounts to a gross income of about Litas 1 million, with operation and maintenance costing about Litas 0.2 million. The generators have a capacity of 620 KW/hr. It is estimated that the produced energy is about 30% of the total consumption of the waste water treatment plant.
3) Reform impact a) Were the reforms put in place? b) Are they in place	a) There does not appear to be a highly visible programme of reforms (but this could also be because key documents are missing). However a well-conceived technical and managerial twinning project was put in place before the physical project started and this seems to have had a good effect based on the testimony of those involved and an overall evaluation of a similar scheme (see Evaluation of Riga /Stockholm Water Company 2000).

Core questions	Main findings
now? c) Cost recovery – has the gap closed?	b) i) <u>Managerial autonomy</u> and performance: the company was run according to the official statutes and with a highly competent and independent technical/managerial staff. However with new elections in Kaunas last year, this has changed. A new politically appointed director is in charge and half of the senior technical staff have left. Company management is not as autonomous as before. As a side benefit it has become easier to get tariff increases approved and a large tariff increase, in 2013, has recently been passed. ii) <u>Financial autonomy</u> is not yet fully realised although, for most of the years, the company (being one of the biggest and benefitting from an economy of scale and generous grant funding) has been able to operate with a small surplus. This has been partially managed by deferring investment and perhaps operation and maintenance. The experience where the council, some years ago, was forced to raise tariffs by the regulator indicates the potential for future financial autonomy. iii) <u>Introduction of least cost planning</u> – the investment plans of the company have, to some extent, been distorted by the availability of EU grant funding. As mentioned in Annex C, this has led to “uneconomic” decisions on extending supply to more remote customers who would have been more economically served by local water supplies. iv) <u>Involvement of consumers</u> – has an active public relations and consumer department. It is reported that response to complaints and to interruptions of service is prompt. c) Tariff and cost recovery gap – as shown in Annex A the tariff has been sufficient to prevent the water company from making a loss although there are indications that this has been achieved by deferring maintenance and new investment. EU grants have also helped in that they have rehabilitated major works when needed.
4) Replication a) Have any of the approaches been replicated e.g. to other towns, incorporated into national strategies?	a) Kaunas has shared its experience in developing projects and managing complex new technology through the PRESTO initiative which has had benefits for other water companies in Lithuania, Latvia and Belarus. The approaches advanced through the original twinning project supported by Sida have supported the later adoption of EU urban waste water directive.
5) Post support	a) A number of study visits have been made as well as informal contacts

Core questions	Main findings
actions a) What has happened since the project? b) What more support has the client received over the years?	with previous twinning partners. b) Significant improvements (e.g. in sludge handling) which are partly being finance through EU grants – a series of continuing improvements.
6) Desk study a) What do the clients think of our findings and recommendations in the desk study? Are they right? b) Any qualifications to the findings of the desk study?	- There is general agreement on: the importance of a municipal focus; the high relevance of the project to the city and its inhabitants and; the difficulty of ensuring replication and a spill-over effect. The client believes the project has reached its objectives and has been highly efficient and cost-effective. The client agrees that the main risk to sustainability is the inadequate tariff and adds the concern over politicalisation, although this does seem have a favourable impact on making tariff increases. - The desk study findings can be qualified/added as follows: - More evidence of grants that can be destructive to obtaining financial autonomy , - Some advance in financial autonomy with the regulator role (forced increase in tariff), - Effective environmental monitoring takes place (desk report put doubts on this), - Political risks of managerial autonomy for EU member states are probably manageable from within the country itself.

Supportive annexes:

A) Financial analysis on tariff

Table A1 shows the profitability of Kaunas Water Company and the expenditure on operation and maintenance. It indicates that the operation and maintenance costs managed to follow the available finance from sales (tariffs) with a very small operating profit that is, generally speaking, kept just above zero. This means that operation and maintenance is in practice deferred until there are sufficient funds.

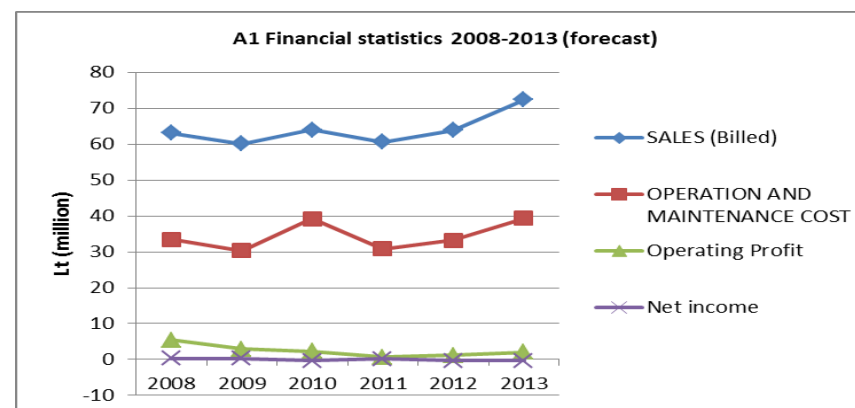
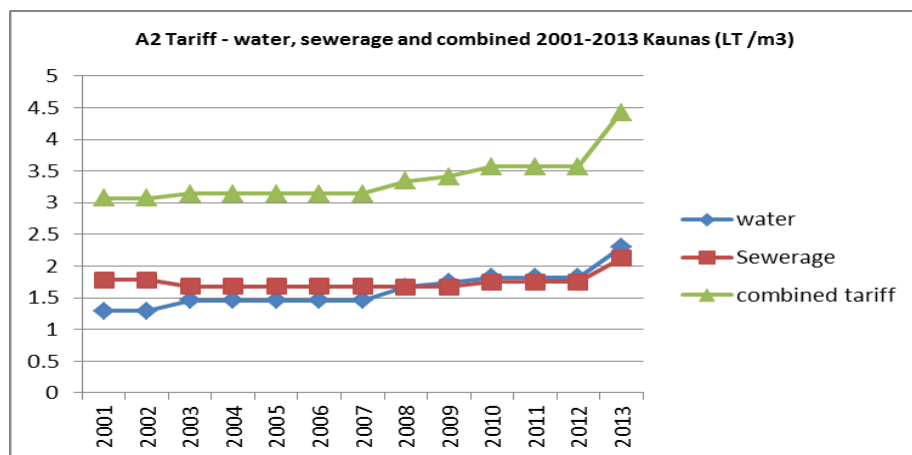


Table A2 shows the increase of tariff from 2001. During this time the Lt has been stable against the Euro. The table indicates that tariffs have been static from 2001 to around 2007/8 when a slight rise is recorded. This rise occurred because the municipality was forced (by the regulator) to agree to a tariff increase that had been proposed by the water company. A steep rise at the end of 2012 was associated with new management imposed by the municipality (which meant the municipality was more open to accepting tariff increases). Table A2a, shows the combined tariff in Euro.



Overall the financial data reveals that the investments are secure but not guaranteed, and highly dependent on political will to raise tariffs.

B) Analysis on technical performance

Figure B1 indicates the volume of treated waste water from Kaunas water company. Waste water flows were comparative steady within last 12 years as sewer network extension increased the number of consumers and compensated the decrease of consumption. Design capacity of the biological part of the WWTP has been set up 81.890 m3/day, which allows for all but an average of six days of bypassing during heavy rains (both as designed and found in practice since operation began). The daily maximum waste water volume is much greater than average due to groundwater infiltration and rainwater, as part of the system near the city centre is combined sewerage and stormwater.

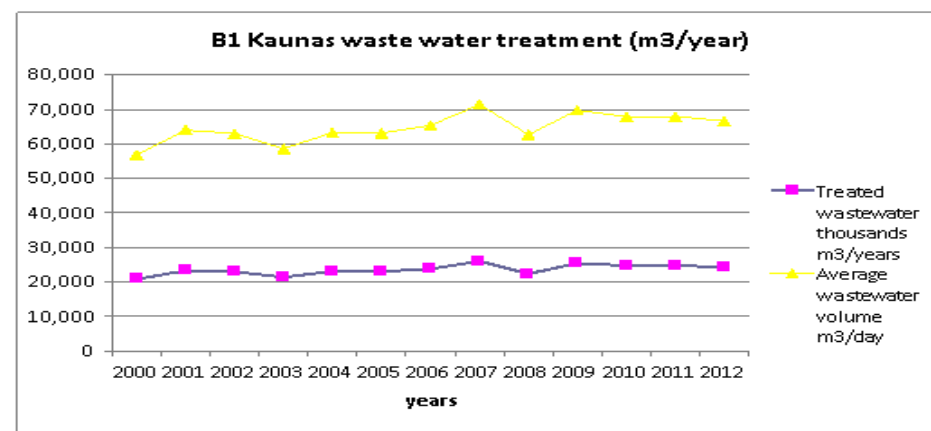


Figure B2a, b, c show the reduction of BOD7, P and N during the years 1999 to 2012. The 1999 figures are taken as pre-phase 1 and indicate a situation with no treatment at all (where 1999 influent figures are available, year 2000 influent figures are used).

After biological treatment was commissioned in September 2008 the plant has produced high quality effluent. As shown in figures B2a,b,c BOD7 after treatment was in average of 4.2-6.2 mg/l, total P was in average of 0.16 - 0.32 mg/l and total N was in average of 6.2-8.1 mg/l. All these values more than satisfy Helcom, Lithuania and EU standards and the high reduction levels speak for themselves.

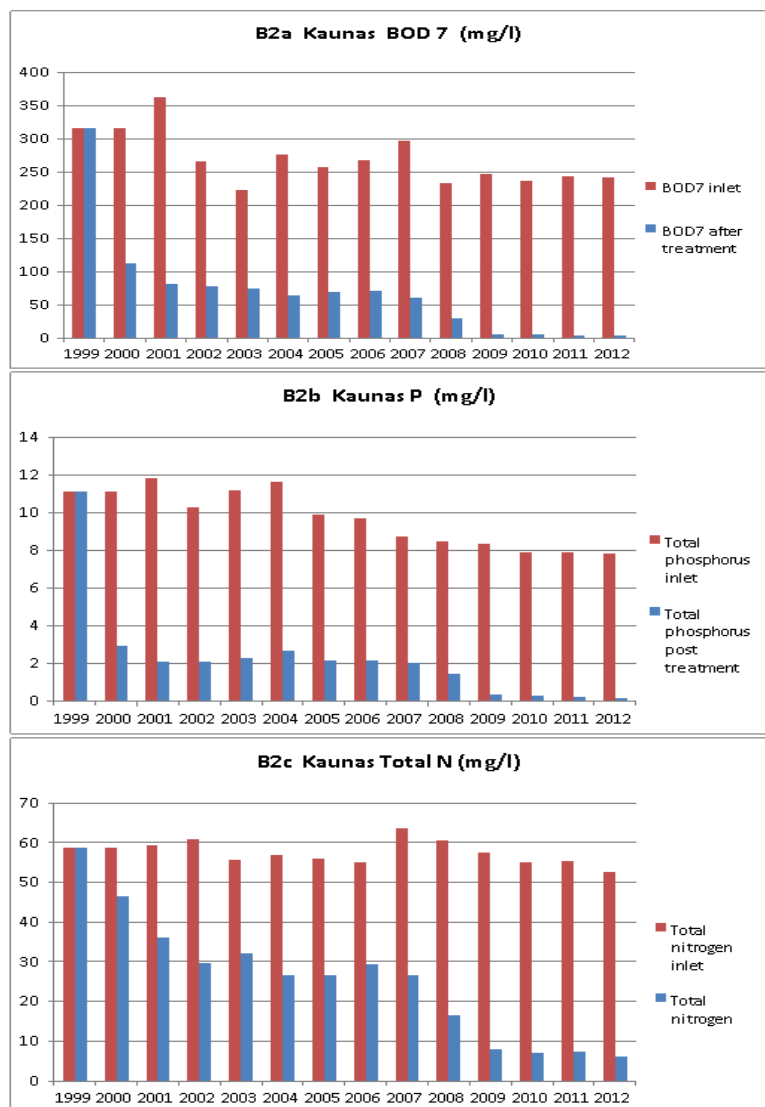


Figure B3 indicates the total BOD7, P and N that have been removed at the end of phase 1 (mechanical treatment) and phase 2 (biological treatment). They also indicate that the performance has continued since the end of the project in 2008.

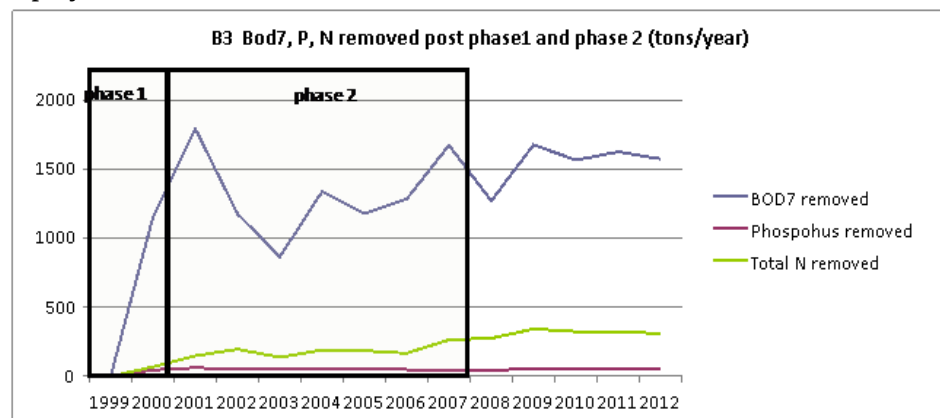
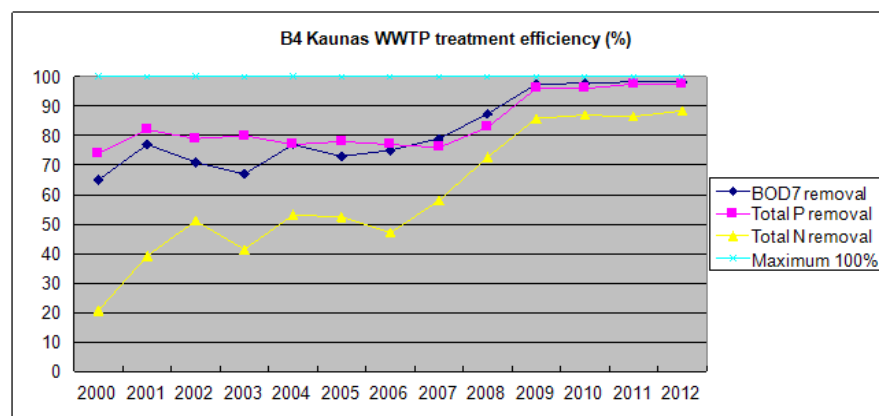


Figure B4 shows the treatment efficiency (BOD7, Total P and Total N) in percentage (%) during the years 2000 to 2012. After the end of the project phase 2 (biological treatment) the plant has continued to perform well with a high and steady treatment efficiency.



C) Analysis of reform context

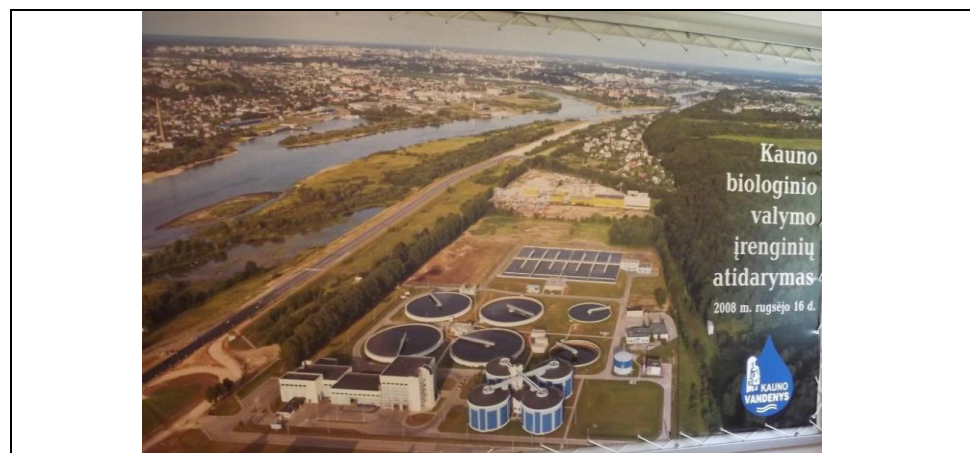
Amalgamation – amalgamation will be necessary for the smaller companies as they do not have enough economies of scale to stay solvent. However it is very difficult to get municipalities to agree on merging utilities, as each municipality wants control over their own system.

Tariff setting – contradictions in tariff settings as EU says full cost recovery is necessary. The national regulations require the water companies to submit a proposal to the National regulator (energy and prices commission). This proposal is then submitted to the municipality that, in many cases, has rejected higher tariffs. The municipal veto is a stumbling block towards cost recovery.

Over investment of grants – the Ministry of Environment expresses a view that EU grants have tended to reduce the emphasis on cost-effective investment planning and the containment of costs e.g. people living far from the town are “uneconomically” connected to the central system, which would not be the case if the grant funds were not available.

Management autonomy – the practice of a general director also being the chairperson of the board of the company is common. During donor support periods this was changed, but since the donors left there has been a tendency for the directors general to again become chairperson, which introduces a conflict of interest “how can directors general fire themselves?” This, and political interference in general, is a constant concern – however it is judged by the Ministry of Environment that, with EU membership, the problems that occur from time to time can be solved (and have to be solved) locally.

D) Photos from the site visit in Kaunas WWTP dated 08 July 2013



The picture above shows the plant layout after the second stage was completed in 2008.



The pictures above show the mechanical treatment equipment supplied through Sida support: screens and sand containers, which have been operating from 1999.



The picture above shows digesters, sludge dewatering building and one of four primary settling tanks from 1st phase. The tanks were modified to the secondary clarifiers during 2nd phase.



The picture above shows the activated sludge tank constructed in the 2nd phase.



The pictures above shows yearly maintenance and cleaning of one of the secondary clarifier during summer season. The clarifiers were constructed at 1st phase, concrete quality still very good. Later, at 2nd phase the new sludge scrapers were installed in all of 4 tanks.



The picture above shows the online measurement used for the plant process control to secure high efficiency of the treatment. Installed at the 2nd phase

Summary page – Panevezys

Name	Panevezys water and waste water project (Client: Panevezys water company)			
Dates	1998 – Initial project preparations 2002 – Engagement of consultants to prepared detailed design 2004 – Tendering and procurement of construction services 2005/7 – Implementation and commissioning of phase 1 2005/7 – Concurrently with phase 1, implementation of a phase 2 is initiated 2008 – June, end of defects period (phase 1 and 2) 2008-13 – further works funded by EU grant on network rehabilitation, expansion of laboratory facilities, sludge drying and other works. The works are 85% finished by July 2013)			
Financing WWTP Phase 1 Total Euro 11,85 million	Aukštaitijos water Self-finance Euro 0,74 million, National budget funds 2,13 million	EU Phare Euro 3,15 million	Loan from EIB Euro 6,0 million	Sida grant Euro 2,98 mil- lion or SEK 25 million (phase 1)
WWTP Phase 2 Total Euro 12,8 million	Aukštaitijos water Self-finance Euro 0,14 million National budget funds 2,47 million	- EU grant Euro 9.9million		Other grants Euro 0,24 million
Description of project	Panevezys city is home to a number of industries including food sector industries. In response to the heavy pollution load, a mechanical waste water treatment plant was first constructed in the 1970s and then upgraded in the late 1980s with a capacity of 70,000 m ³ per day. In the late 1990s, a project was put into place to upgrade and modernise the waste water treatment plant (using EIB and Sida funding in phase 1). As a result of reduced water use (domestic water use reduced from 50,000 m ³ per year to 15,000 m ³ /year), diminished industry use and leakage repairs the new works were downsized to 36,000 m ³ per day. During phase 1, a phase 2 was started using EU grant funds to further extend the modernisation of the treatment plant, including sludge drying and also making extensions and repairs to the network.			
Sida contribution	In the 1990s Sida supported twinning between Panevezys and Kalmar water company as Panevezys was already twinned with Kalmar. Over a period of about two years some 3-5 exchange events were facilitated. Sida financed technical assistance and consultancy for the preparation and design of both phase 1 and phase 2 as well as the preparation of tender documents and construction supervision. Sida's major financial contribution was to fund waste water treatment equipment as well as provide control instruments and laboratory equipment. Construction work was financed by the EIB loan and Panevezys itself.			

Summary of key findings (justification in annexes)	1) Environmental governance is impressive, with substantial fines being imposed on industries that do not comply with effluent standards to the sewer and on the water company if they do not attain the effluent standards to river disposal. 2) The system is working as intended and effluent standards are within HELCOM and EU standards. 3) Maintenance is carried out in a systematic manner and there is access to specialist skills through local agents of equipment suppliers. The low non-revenue water (16%) is evidence of a well-run system. 4) Sludge is being managed and supported under an EU grant but a final long-term solution is not in place. 5) Training by equipment suppliers and the presence of local agents, combined with a low turnover and a highly skilled staff force means that the system is highly sustainable. 6) Financial sustainability is masked by the presence of large EU grants. Once these are over, the tariff will have to increase significantly, especially as grant funds are not subject to depreciation and thus do not influence the tariff calculations. 7) Transfer of contract management skills was the valuable institutional intervention.
Documents	• Björn Rosén VA-Teknik, Final Project Evaluation for SIDA Panevezys WWTP, Lithuania, March 2008, pp7 • Carl Bro, Progress report 19-22, May –August 2004, pp24 • Carl Bro, Upgrading of the Panevezys City Waste Water Treatment Plant Implementation of Phase I, Final Report December 2008, pp23 • Twinning visit report, pp29 • AVP, Upgrading of the Panevezys WWTP phase 1, May 2007; • AVP, Panevezys WWTP phase 1 completion report June 2007, 7pp • National Audit office, Lithuania , Assessing the Effectiveness of PHARE and ISPA-funded Environmental Projects in the Context of Lithuania's Preparation for the Accession to EU December 2001, p41 • Helcom PROPOSAL TO DELETE HOT SPOT NO. 55 PANEVĖŽYS WWTP, may 2009, pp 7 • Technical data on performance of Panevezys WWTP, pp5 • Income statements for year 2009-2012, pp3 • Tariffs for Panevezys water company 1998- 2013, pp1 • Bill of quantity for equipments and works, pp9
People met	Mr. Saulius Venskus - Panevezys water, general director; Mr. Kestutis Parescius - Panevezys water, head of WWTP; Mr. Raimondas Vogulis - engineer of WWTP.

Detailed summary of findings

Core questions	Main findings
1) Client view on effectiveness of international support a) What was the value added? b) Were there any drawbacks? c) How can international support be most effectively provided in Eastern Europe?	Client and relevant authorities express high satisfaction with the project as a whole and with the Swedish support. - The twinning support was found valuable by the Panevežys water company – this is evidenced in the reports on the twinning and was confirmed by the director general. It is noted by the company that the twinning was compulsory for Sida support. Technical training was more effective when provided by the equipment suppliers. One of the tangible benefits of the twinning was that the water company put in place heat exchangers (in the case of Panevežys it is used to heat buildings using heat exchange with groundwater). - No major drawbacks were noted. The complexity of the project might have added to delays but the main problem was getting political consensus on taking out a loan. The company feels that consultants were more expensive than Lithuanian standards but understands the reasons for this. - It was felt that the adopted approach was very effective and this is also mentioned in an independent completion report (BVRA, 2008) where the contract engineer role of the consultancy company was praised. What works is a combination of twinning, grants with loans and good project management support.
2) Physical impact a) Did the projects work? b) Do the utilities work now?	a) The project worked as a whole. There were some delays but not more than normal for a relatively complex project such as this one. An effective use of existing infrastructure was achieved, bearing in mind the need to reduce the size of plant from 70,000 m³/day to 36,000 m³/day. The construction works are of high quality (minor problems with steps to the waste water treatment headquarters). b) The utility is performing well. - The utility is still performing technically and the physical impacts are being sustained. (See Annex B). The treatment meets HELCOM, Lithuania and EU standards – occasional lapses occur when there is overloading by industry, especially the starch factory (Malsena). When this happens the utility imposes fines on the factory and the utility itself has to pay fines if it is not able to treat the effluent sufficiently well. - Operation and maintenance is being scheduled and carried out in a prioritised order – according to the technical managers there is

	enough funding to allow immediate attention to all urgent needs and there is no deferred maintenance. (See photo of maintenance of primary treatment chambers). - There has not been a major breakdown – minor breakdowns, when they occur, have been dealt with swiftly. - The staff are well trained and competent in running a very complex facility. There is low turnover and senior staff have served 10-30 years with the company. - The water company has access to specialist skills from supplier companies through local agents – only site security and operation and maintenance of the gas generator are outsourced (as the supplier will not provide spare parts unless under a maintenance contract). - EU project grants, which continue, have assisted in the rehabilitation and replacement of equipment – it is not clear what the situation would have been without this support. - The network is the main area where there is an operation and maintenance gap caused by the age of the infrastructure. Non Revenue water has reduced from 36% in the early 2000s to about 20% (gross) with 16% post internal technical use. - Sludge management is receiving increasing attention – a final solution is not yet apparent. In the 1970s/80s sludge was contaminated with heavy metals and was dumped near the river. In the 1990s it was put into sludge beds, which are now full. In the last 15 years, the sludge has been free of heavy metals and is being dewatered before being disposed of in deep landfills on site. Once the EU sludge drying facility is complete, the sludge volume will be reduced and it may be viable to incinerate the sludge and/or use it for cement ash. This will require considerable transport. <u>Energy savings:</u> The bio-gas plant provides about 30% of the energy use of the treatment plant (335 KWhr for 18 hours). With the new EU funds, greater storage will be obtained and the production of energy could double. A standby generator will be provided that will allow for the burning of natural gas as well as bio-gas.
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3) Reform impact a) Were the reforms put in place? b) Are they in place now? c) Cost recovery – has the gap closed?	a) There was not a highly structured programme of reforms. A technical and managerial twinning project was put in place before the physical project started and this seems to have had a good effect based on the testimony of those involved and an internal assessment by Kalmar. In the view of the current management, the technical assistance and twinning did not directly help with management. New governance arrangements were instituted by the Lithuanian government and the senior staff of the company and its board were responsible for a change over from a Soviet style of management to the more modern approach that is now in place (e.g. culture of consumer orientation, accessibility of top management, reduction in support staff such as secretaries and drivers, accountability and transparency). The external assistance is credited with introducing new ideas and new technical approaches. They are also credited with introducing new approaches to procurement, contract management and contract supervision, which have proved useful and cost effective. b) i) <u>Managerial autonomy</u> and performance: the company is run according to the official statutes and with a highly competent and independent technical/managerial staff. However there are some politically appointed staff, often at a senior level, who are not always the best individuals for the job. Company management is not fully autonomous. ii) <u>Financial autonomy</u> is not yet fully realised although, for most of the years, the company (benefitting from generous grant funding) has been able to operate with a small surplus and deficits– without it seems with deferring maintenance. The provision of EU grants of over Euro 60 million during the last eight years has helped to mask larger rehabilitation needs. The fact that grant investments are not depreciated on the profit and loss account, and therefore not taken into account in the tariff, imposes a risk in the future that tariffs will have to rise suddenly when the EU financed facilities need repair. iii) <u>Introduction of least cost planning</u> – the investment plans of the company have, to some extent, been distorted by the availability of EU grant funding. It is not clear if this has led to uneconomic investment planning. iv) <u>Involvement of consumers</u> – has an active public relations and consumer department. It is reported that response to complaints and to interruptions of service is prompt. At the company headquarters there is a customer reception facility which is well manned and appears efficient. Regular surveys are done and the senior staff are familiar with
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	the results of the survey, which point to continuing satisfaction with the service but with a persistent misunderstanding of why it is necessary to pay for both water and sewerage. c) Tariff and cost recovery gap – as shown in Annex A the tariff has been sufficient to prevent the water company from making substantial and sustained losses. EU grants have also helped in that they have rehabilitated major works when needed.
4) Replication a) Have any of the approaches been replicated, e.g. to other towns, incorporated into national strategies?	a) Like Kaunas, Panevezys has shared its experience in developing projects and managing complex new technology – some four different Latvian water utilities have visited the plant as has Kalingrad water utility.
5) Post support actions a) What has happened since the project? b) What more support has the client received over the years?	a) Study visits have been made and informal contacts with previous twinning partners. b) Significant improvements (e.g. in sludge handling) which are partly being financed through EU grants.
6) Desk study a) What do the clients think of our findings and recommendations in the desk study- are they right? b) Any qualifications to the findings of the desk study?	a) There is general agreement on: the importance of a municipal focus and the high relevance of the project to the city and its inhabitants. The client believes the project has reached its objectives and has been highly efficient and cost effective. The client agrees that the main risk to sustainability is the inadequate tariff and adds their concern of overloading by industry. b) The desk study finding • Long-term solutions to sludge management are not in place. • Improved project and contract management is the main “institutional” benefit claimed by the clients • Depreciation policy for grant assets is an important factor in securing financial sustainability

Supportive annexes:**A) Financial analysis on tariff**

Table A1 shows the profitability of Panevezys water company and the expenditure on operation and maintenance (separated for water and sewerage). It indicates that the operation and maintenance costs to some extent are managed to follow the available finance from sales (tariffs) – the evidence of this is that there was more spent on water costs when the sales increased in 2010 and less spent on sewerage when the sales fell slightly in 2012. However the evidence on the correlation between sales and expenditure is not strong and, according to management, essential maintenance is not deferred. Where it is necessary, maintenance is carried out even if a loss is made, such as in 2009 and to a lesser extent in 2012.

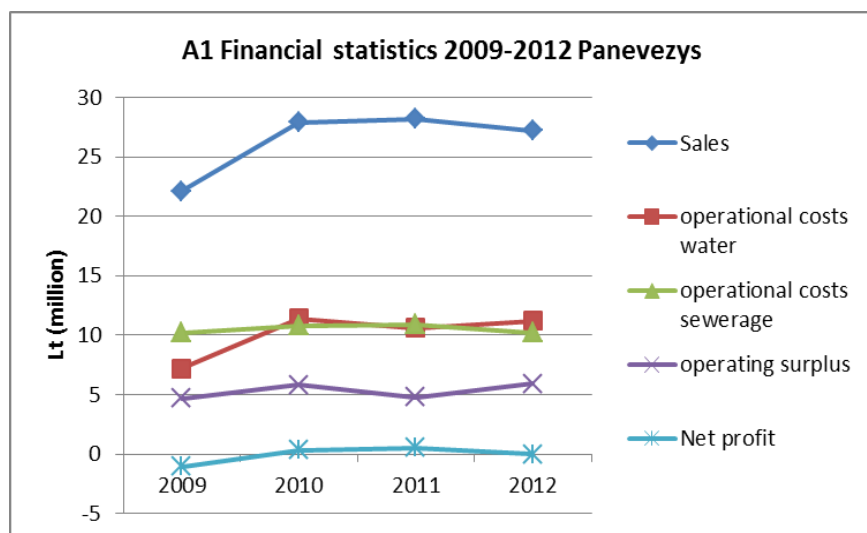
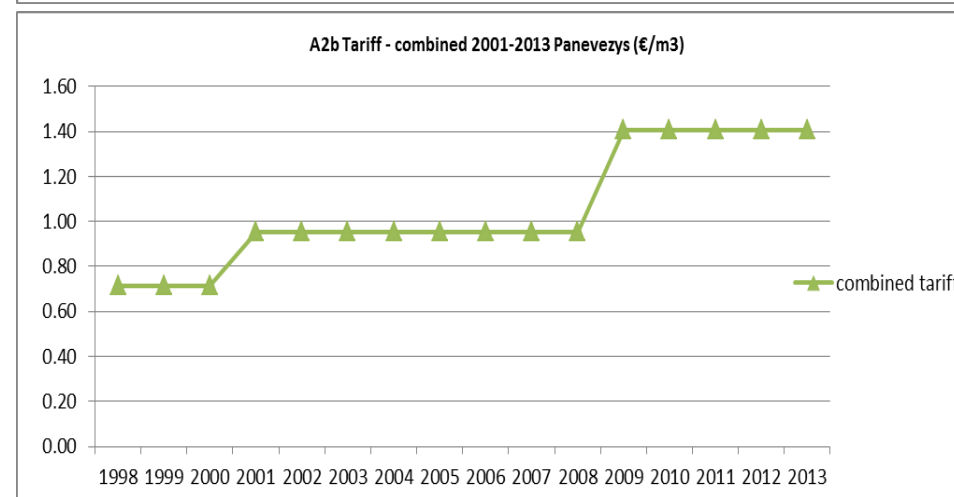
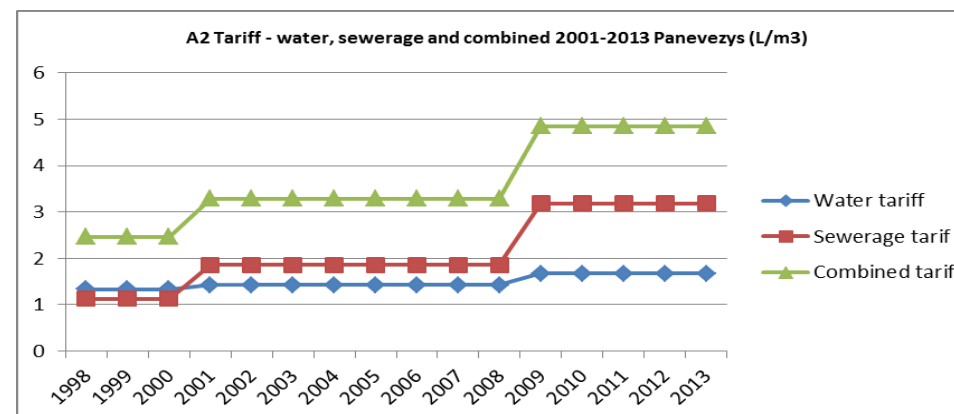
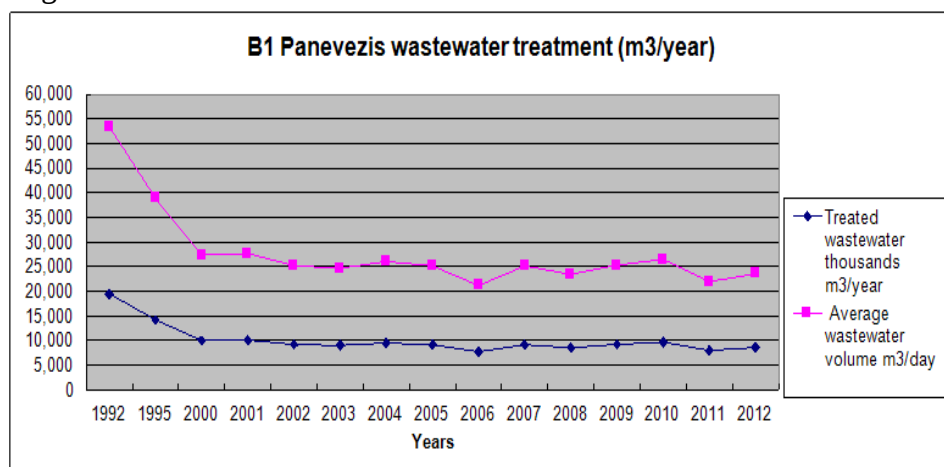


Table A2 shows the increase of tariff from 1998. During this time the Lt has been stable against the Euro. The table indicates that tariffs have been static from 2001 to around 2007/8 when a very significant rise is recorded (also comparing to Kaunas) – mainly for sewerage and timed in response to the need to pay back the EIB loan. Table A2a, shows the combined tariff in Euro.



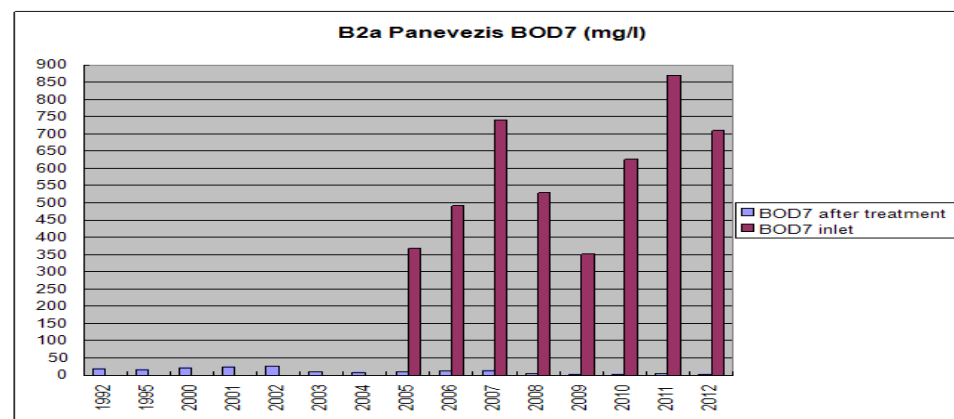
B) Analysis on technical performance

Figure B1 indicates the volume of treated waste water at Panevėžis WWTP from Aukštaitijos water company. Waste water flows were comparative steady within the last 12 years as sewer network extension compensates reduced flows from industry. Design capacity of the WWTP has been reduced from over 70,000 m³/day to 36,000 m³/day, which conforms to the existing average daily wastewater volume. Maximum daily waste water is greater due to groundwater infiltration and rainwater.

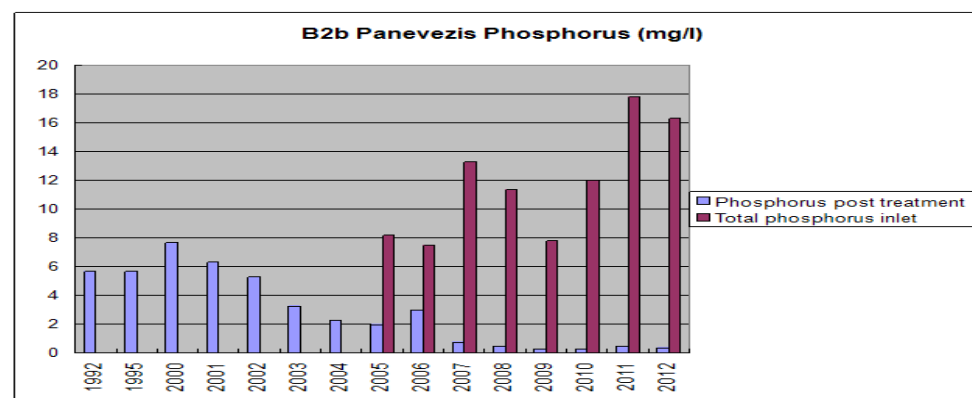


Figures B2a, b, c show the reduction of BOD₇, P and N during the years 1992, 1995 and the period 2000 to 2012. The 1992 and 1995 figures are taken as pre-project data and indicate the situation with the old treatment plant without P and N removal. After biological treatment modernisation was completed and new technologies for N and P removal were introduced at the end of 2007, the plant now produces a high quality effluent. As shown in figures B2a,b,c BOD₇

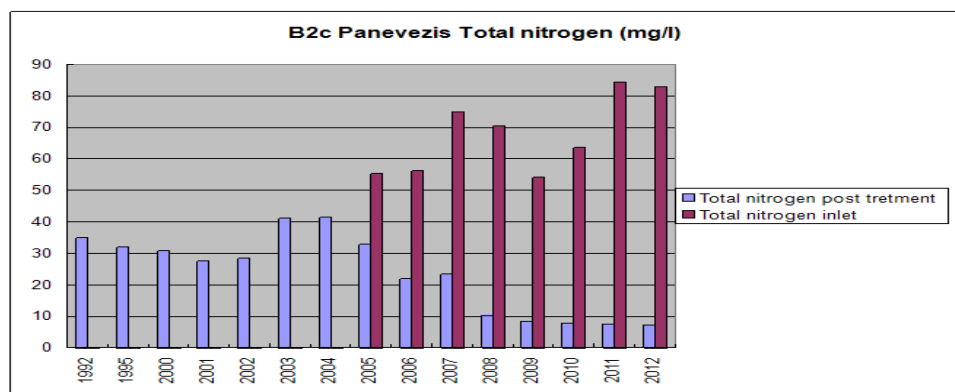
after treatment was in average of 4.5-5.8 mg/l, total P was in average of 0.3 - 0.8 mg/l and total N was in average of 7.5-8.6 mg/l. All these values satisfy Helcom, Lithuania and EU standards.



Note 1. No data on incoming BOD₇ loads from 1992 - 2004 were available



Note 2. No data on incoming total P loads from 1992 - 2004 were available



Note 3. No data on incoming total N loads from 1992 - 2004 were available

Figure B3 indicates the total BOD7, P and N that have been removed at the end of phase 1 (modernisation of mechanical treatment and sludge dewatering) in 2005 and phase 2 (modernisation of biological treatment including P and N removal). They also indicate that the performance has continued since the end of the project in 2008.

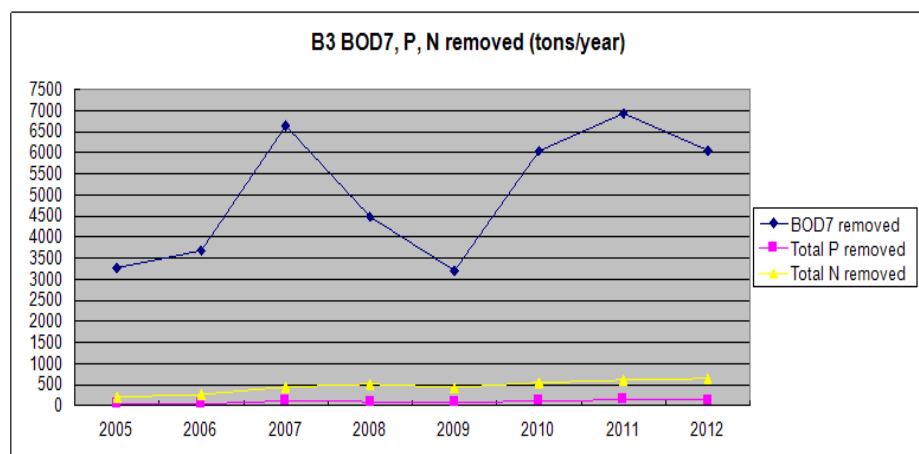
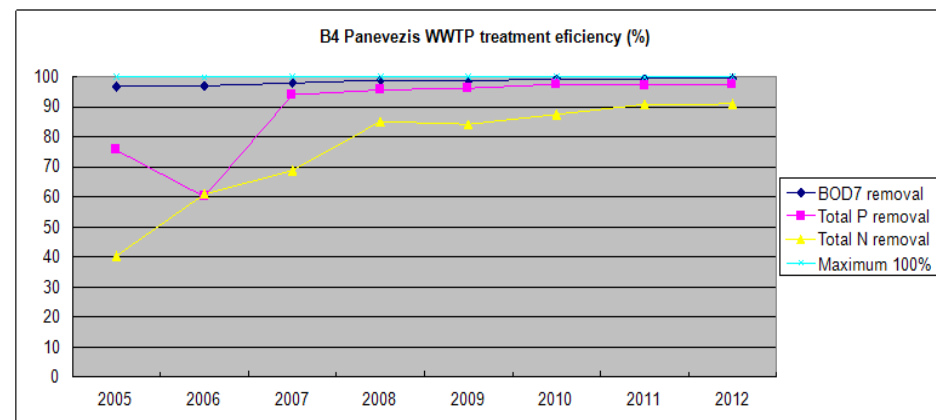


Figure B4 shows the treatment efficiency (BOD7, Total P and Total N) in percentage (%) during the years 2005 to 2012. Since the end of the project (biological treatment with P and N removal) at 2008 the plant has continued to provide high and steady treatment efficiency.



Note: An atomic spectrometer refused funding by Sida was funded under the EU grants.

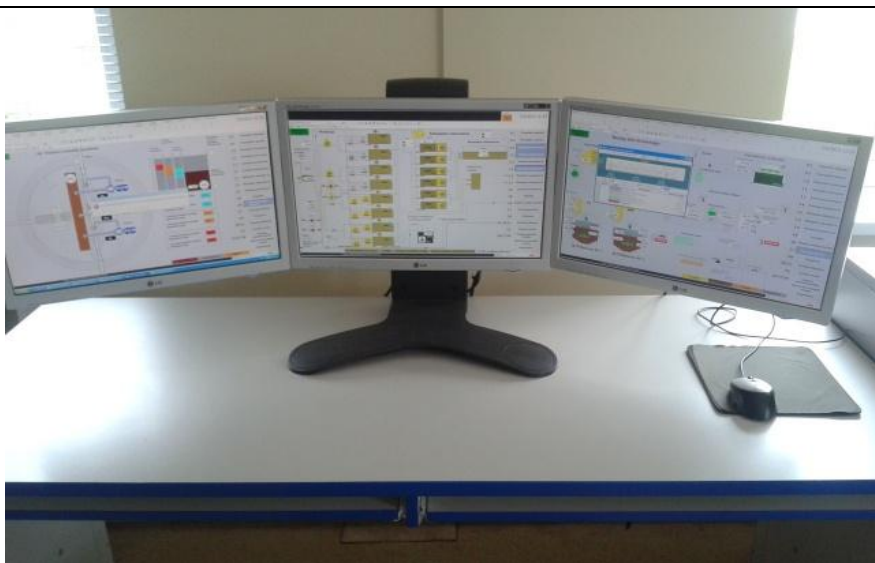
C) Analysis of reform context

Governance and management autonomy – In April 2013 company's board appointed a new managing director. The director becomes Mr. S.Venkus, who had worked as production director. The company's board was reelected by the owners for the four-year term. This potentially indicates a sound governance of the utility. According to public information, the former director was suspended with irregularities that are fraud related. The case is evaluated by Lithuanian law authorities. The Ministry of Environment provides independent as-

assessments of the technical performance of the utility (making independent sampling of influent and effluent).

Managerial efficiency – there are some 260 staff and approximately 50,000 connections giving a staff to connection ratio of about 5 staff per 1000 connections – this is within good benchmarking internationally for the size of company (considering there is no significant outsourcing). The administrative working environment and the filing and availability of data were found to be very good.

D) Photos from the site visit in Panevežys WWTP dated 09 July 2013



The picture above shows the plant Scada system developed during the 1st and 2nd phases of the plant reconstruction.



The pictures above show the laboratory installed during the 1st phase. The laboratory equipments were financed by Sida. The equipment is still used.



The picture above shows the activated sludge tank reconstructed in the 2nd phase. In this case, green algae indicates that there are no toxic emissions from industry.



The pictures above shows yearly maintenance and cleaning of the primary settling tanks, during summer season. The clarifiers were built in 1978. In 2005, during the 1st phase of reconstruction, the concrete part was repaired; new sludge scrapers and effluent channels were installed through Sida support.



The pictures above show the effluent overflow from secondary clarifiers and effluent measurement channel. Measuring and control equipment supplied by Sida in good condition.

Summary page – Lviv

Name	Lviv water and waste water project (Client: Lviv Vodokanal Utility – LVK)		
Dates	1995 - Project preparation starts 1997 - Initial appraisal (World Bank) 2001 - Loan project approved, loan effective February 2003 2007 - Project closure (December) 2008/9 - Completion reports (World Bank July 2008; Sida Nov/Dec 2009)		
Financing Total USD 37.12 million	LVIV USD 7.05 million	World Bank (loan) USD 23.6 million	Sida (grant) USD 6.47 million
Description of project	Improvement of the water supply and waste water management of Lviv, a town of 800,000 people. The primary objective was “to improve accessibility and quality of water supply at an affordable level in Lviv and to restore public confidence in the sector”. The project had six components: water supply investments; waste water investments; operating fund for additional investments and institutional actions; institutional strengthening; engineering and construction supervision; auditor fees.		
Sida contribution	Sida contributed to grant financing some of the investments for rehabilitation of two wastewater treatment plants. One of the aims with this component of the project was to reduce the pollution leading to the Baltic sea through the river Bug.		
Summary of key findings (justification in annexes)	1) There is considerable physical impact and performance is being maintained. 2) The rationale for only making critical interventions was sound but the envisaged additional investment has not been forthcoming. 3) Performance on reduction of unaccounted for water is disappointing. 4) Financial sustainability is seriously threatened. 5) Governance oversight is robust and sanctions are applied for infringements. 6) Environmental monitoring is in place. 7) The utility does not have adequate access to supplier support. 8) The replicability and demonstration impact is low due mainly to constrained availability of finance in Ukraine since 2008.		

Documents	• SWECO, Completion report for the rehabilitation of LVIV WWTP technical services, 2009, pp25 • LVIV Vodokanal, Completion report, November 2009, 3pp • Colling water management, PROJECT COMPLETION REPORT, 2009, 17p • World Bank, Project Appraisal Document, Lviv Water and WasteWater project, 2001, 115pp • World Bank, Implementation and Completion Results Report, July 2008, pp42 • LVK financial data (2008-2012) • Dreberis, Transboundary Water Resources Management in Ukrainian-Polish border region pool • River Western Bug and San, Final Report, January, 2008 • Foundation Agency for Regional Development, Assessment of the Western Bug River Basin within the Lviv region using data from studies of the chemical laboratory of the Lviv City Council, 2012
People met	Ms. Elyzaveta Alekseyeva, Senior lawyer, Head of Information and analytical department, Environmental NGO “Environment.People.Law”; Ms. Iryna Bilan, Microbiologist at the laboratory, Lvivvodokanal (LVK); Mr. Roman Gamalyga, Head, Mechanical sludge dewatering section, LVK Mr. Orest Dytyuk, Head, Waste water treatment department, LVK; Mr. Yaroslav Fris, Chief energy officer, LVK; Mr. Andriy Halushko, Acting Head, Department of environment, Lviv City Administration; Ms. Marta Pankevych, Lawyer, Environmental NGO “Environment.People.Law” Mr. Oleh Pih, Deputy Head, Department of infrastructure, Lviv City Administration; Mr. Mykola Odukha, Chief Technologist, LVK; Mr. Ihor Tsytulskyy, Chief accountant, LVK; Mr. Volodymyr Vasilchenko, Deputy of chief engineer, LVK; Mr. Valentin Volskyy, Director, LVK Mr. Andriy Yavorskyy, Member of Lviv city council, Member of the permanent commission for housing policy

Detailed summary of findings

Core questions	Main findings
1) Client view on effectiveness of international support a) What was the value added? b) Were there any drawbacks? c) How can international support be most effectively provided in Eastern Europe?	Client and relevant authorities express high satisfaction with the project as a whole and with the Swedish support in particular. a) The value added was i) provision of proven technology that was more advanced and effective than the LVK had had before and ii) the expertise to ensure that the right decisions were made concerning choices on the relatively unfamiliar technology. b) The loan project is proving difficult to repay, in part, due to national currency devaluation and the remaining gap between prices and costs (which is not adequately compensated by the government/regulator). No drawbacks were found on the grant elements except that the Sida-provided equipment, by necessity, requires external supplier support which is not easily available in Ukraine (nor is it for any alternative equipment able to do the task needed). c) The client cannot see how the project could have been more effective.
2) Physical impact a) Did the projects work? b) Do the utilities work now?	a) The project worked as a whole. The World Bank completion report notes the final outcome as satisfactory. The main factors influencing the performance of the project were delays and overruns in the construction. At the end of the project the Swedish supported sewerage interventions performed satisfactorily as recorded in the SEWCO and Collings completion reports (2009). Due to the scale of the needs and the limited funds available, the project rationale was to focus on urgent and emergency works, especially within the sewerage treatment plant. There are thus many longer-term investment needs which are not covered by the project but which will be needed in the future. The rationale of selective investment was well conceived and ensured that highly cost effective improvements were made and potential collapse of the system including the sewerage treatment systems was avoided. b) The utility is still performing technically and the physical impacts are being sustained with even with minor improvements. Examples of improvement include the purchase of additional transport for sludge management and the continued use of high quality polymers (both issues were in doubt at the completion

Core questions	Main findings
	phase of the project). The Water metering programme has continued and the city has continued to rehabilitate further pipelines. <u>Water</u>: The most significant indication of continued performance of water supply is that there is still a 24-hr supply per day some six years after the project whereas prior to the project it was only six hours. According to LVK, prior to the project there were up to 150 leaks reported per day, it is now down to 10 leaks per day due to improvements brought about by the project. Leakage statistics record an increase in losses (from 36% prior to the project to 58% in 2012), but this is mostly explained by the fact that as more connections are metered the earlier hidden losses are only now becoming apparent. The very high losses contribute to the poor financial sustainability. Apparently many of the losses arise from unauthorised connections and losses within large apartment blocks. Both these causes have been difficult to tackle as they are the responsibility of the housing associations rather than LVK. It is also difficult to control the losses as the water network is not properly served with master meters. Nevertheless, reducing losses is still possible and a key priority of LVK for the future. <u>Sewerage</u> (Sida support): The equipment provided under the Sida grant is continuing to contribute to a good technical performance of the sewerage treatment. Prior to the project the entire waste water treatment system was under imminent threat of collapse. Now some six years after the project was completed, there is no longer any bypass (where reportedly an average of 50,000 m³ was directed to the river without treatment) and significant reductions of BOD₅, Nitrogen and Phosphorus are being maintained. A review of technical data indicates that some 140 tons of BOD₅ per day are being removed from the river that eventually leads to the Baltic (Annex B). Sludge is being better managed through dewatering and is being transported to an onsite dumping ground of 13 ha. Although sludge is being better handled than before, a final solution for the sludge is not yet in place. A proposal to build a bio-digester has not yet been implemented although plans and designs have been advanced.

Core questions	Main findings
	Equipment is being maintained, although it has proven difficult for LVK to access spare parts for the more advanced equipment. One of the telemetry screens is out of order and some of the circuit breakers and electrical control equipment are sensitive and require regular replacement. LVK is not able to contact the Swedish equipment suppliers and get support in the same way that a utility in Sweden would be able to. <u>Energy savings</u> (Sida support): The equipment provided by Sida is significantly more energy efficient. Whilst records for individual components were not inspected a review of the overall energy use does demonstrate that the significant energy savings after the project was commissioned are continuing whilst also ensuring greater volumes and a higher quality of treatment and dewatering of sludge. The energy use records indicate that at least 3 GWhr are being saved compared to pre-project periods. The total of 7GWhr claimed by the completion report (Sweco, 2009) could be correct if an assessment was made unit by unit and an allowance made for the difference in the quality of the treatment provided.
3) Reform impact a) Were the reforms put in place? b) Are they in place now? c) Cost recovery – has the gap closed?	a) The reforms aimed at in the project design (Project Appraisal Report, World Bank, 2001) were not fully implemented during the project. The four main elements of reform were: i) managerial autonomy; ii) financial self-sufficiency; iii) introduction of least cost investment planning; iv) involvement of consumers in decision making. The institutional reform consultants were financed under the World Bank loan and LVK did not allow them to complete their assignment (this in part supports the common assertion that grants such as those provided by Sida are needed for the technical assistance and reform interventions). The World Bank completion report states “Although the projects have generally achieved their physical objectives they were not able to meet institutional, financial and operational improvement objectives”. b) i) <u>Managerial autonomy</u> – management does not complain about undue interference in operational decisions and other evidence of such interference was not found. The Lviv city

Core questions	Main findings
	administration and city council are active in their oversight of LVK and have a detailed knowledge of the technical performance of the utility. The oversight of the municipal enterprises in Lviv has increased recently as opposition members of the city council make steps to hold the city administration accountable. Otherwise, the management of Lviv-vodokanal is not much different from other municipal companies in Ukraine. Independent checks are made on the environmental performance of the utility and fines have been imposed in the case of failure of the LVK to comply. The city administration has supported LVK in ensuring that discharge infringements by industries are stopped and sanctions applied (in some cases amounting to tens of thousands of Euros). The director of LVK was recently replaced due to dissatisfaction by the city council over performance. ii) <u>Financial autonomy</u> is not yet realised. The state guarantee to make up the shortfall between the tariff approved by the state (at national level) and the actual costs of running the system and ensuring adequate capital expenditure should, in theory, ensure financial sustainability. But in practice the state does not fully cover the costs and in many years an operational loss is made (see Annex A). LVK estimate that the state owes in the region of Euro 10 million accumulated over the last 10 years. The result is that extension and major rehabilitation works cannot be made. The original rationale of the project was that the urgent repairs and improvements would be followed by more general upgrading; this is unlikely to happen in the near future. The city council complains that LVK is not good at making credible tariff proposals or providing compelling evidence of the need for tariff increases. The national programme “Drinking Water of Ukraine” is being underfunded and, according to LVK, the last significant transfer of public funds made to LVK was in 2009 (the sum being about USD 10 million). iii) <u>Introduction of least cost planning</u> – the investment plans drawn up by LVK indicate that a least cost approach is being adopted – although even more attention to reducing unaccounted for water is needed and ought to be self-paying.

Core questions	Main findings
	iv) <u>Involvement of consumers</u> – LVK has an active public relations and consumer department. According to environmental NGOs in the city, the 2011 freedom of information act has led to much greater openness and (with some effort on behalf of those requesting it) data on technical performance is now available. Consumers are highly satisfied with the water supply improvements and note that leaks that used to continue for days are now promptly repaired. Mid-summer outbreaks of sewerage smells, especially following low rainfall winters, have been actively responded to by LVK following public complaints. The press and media are active in following the performance of the LVK and a number of articles, focussing on the smell events and uncontrolled discharge by factors, have been published in the last few years. The yeast factory, which was among the industries responsible for overloading the treatment works, has recently put in place a pre-treatment unit which once it is fully commissioned will lower the costs of treatment by LVK and reduce the likelihood of system failure. c) Tariff and cost recovery gap – as shown in Annex A, although the tariff has increased by 70% over 2008-2012 in local currency, it has increased only by 25% in real terms. However, the recent tariff increase of 2012 has improved the situation and ensured that there at least was not a tariff decline.
4) Replication	
a) Have any of the approaches been replicated e.g. to other towns, incorporated into national strategies?	The World Bank has continued to finance water and waste water projects in Ukraine following the Lviv project, which was one of the first of its kind in Ukraine. The World Bank runs the Urban Infrastructure Project (P095337), launched in 2008, which covers about 14 municipalities in various regions of Ukraine. As of now about USD 62 million (out of total USD 140 million) of loans have been disbursed. The overall objective of all projects is to improve the quality of water and wastewater services and increase energy efficiency of select water and sanitation utilities. There is also a parallel grant financed by the Sida, which contributes to institutional capacity building for water and sanitation

Core questions	Main findings
	utilities and supports municipal sector policy work. The World Bank plans to launch the second phase of the project. EBRD is another IFI active in the water and sanitation sector. According to the EBRD spokesman, the World bank/Sida project in Lviv has been taken into consideration by the Bank. The Bank acknowledges the usefulness of grants (like that of Sida), which make IFI-financed projects more beneficial for the local authorities. One such example is the case of the loan to Yalta, where there is a grant of about EUR 5million (for institutional development) made available by Sida. However, the EBRD approach to providing infrastructure loans is different from that of the World Bank. According to the EBRD spokesman, the bank prefers to have municipal rather than government guaranteed loans, which is a major difference from the World Bank/Sida project in Lviv. EBRD states that the government guaranteed loans (like in the case of Lviv) make the local authorities more complacent and less willing to run an adequate pricing policy. EBRD has had water projects with three cities in Ukraine – Zaporizhzhia (1998-2008) – the first ever project in the water sector implemented by IFIs in Ukraine, Dnipropetrovsk (2004- current), Yalta (2012-current). Project size ranges from USD 10million to 50million. All three projects have similar objectives – finance priority capital investments to improve the municipal water and wastewater infrastructure and services and contribute to decreasing the level of polluting discharges. Though there were certain delays with project launch and implementation, all of them are considered to be successful by the Bank. EBRD is currently negotiating infrastructure loans with about 16 municipalities, including those in water and sanitation. However, according to the EBRD spokesman, water and sanitation is usually the number three priority for the local authorities, coming after district heating modernisation and local transportation. Therefore, it is expected there would be more projects in the district heating sector. There have been some visits by different cities in Ukraine to Lviv, and the technology has been admired but has not been replicated, largely because of the cost and poor availability of finance which has been very restricted since the financial crisis of

Core questions	Main findings
	2008 with it being virtually impossible for public utilities to raise commercial loans. In one case, specialised welding carried out in Lviv as part of the project has been sought out by other projects including Kaliningrad and the sub-contractors used have been contacted for similar work.
5) Post support actions a) What has happened since the project? b) What more support has the client received over the years?	a) A study visit shortly after project completion by senior management to utilities in Sweden was appreciated and found to be worthwhile. Insight into Swedish management systems and links to suppliers were made that have proved useful later e.g. in getting off site advice on maintenance of equipment. Three post projects visits made by SWECO up to the end of 2009 were very useful and were able to correct and adjust a number of operational settings for the equipment provided and verify technical performance. A transboundary river basin organisation for the Western Bug river has been established between Poland, Belarus and Ukraine and became operational in 2006 (towards the end of the project) – it has some 42 members of which half are national government agencies and the other half evenly distributed between local authorities and research institutions/civil society. The river basin organisation works in close collaboration with the coalition of clean Baltic and is also supported by the EU as part of the Neighborhood program (http://www.bugriverbasin.eu/eng_index.html). The river basin organisation has been instrumental in ensuring environmental monitoring. b) Since 2009, no formal involvement or support has been provided by Sida or other international partners. SWECO is in discussion with LVK and NIB/NEFCO and others on the plan to construct a bio-disgester. Lviv continues to be a hotspot of Helcom as of December 2012: http://www.helcom.fi/stc/files/Projects/JCP/ActiveHSDec2012.pdf
6) Desk study a) What do the clients think of our findings and recommendations	a) There is general agreement on: the importance of a municipal focus; the high relevance of the project to the city and its inhabitants and; the difficulty of ensuring replication and a spill-over effect. The clients are not able to trace particular

Core questions	Main findings
in the desk study? Are they right? b) Any qualifications to the findings of the desk study?	reform improvements (e.g. in environmental monitoring) to external support although there is a general acceptance that much was learned during the project and the approach of the World Bank and Sida to investment planning was highly appreciated. The client believes that the project has reached its objectives and has been highly efficient and cost effective. They compare the cost effectiveness of the Swedish equipment favourably with the outdated and inefficient Russian equipment that would otherwise be available to them. The client agrees that the main risk to sustainability is the inadequate tariff. b) • The desk study finding on inadequate environmental monitoring subsequent to the projects is not supported by the Lviv case as there has been substantial monitoring by LVK, the city administration, the regional environmental authorities as well as by independent research institutions. As mentioned earlier this has probably been stimulated by the river basin approach adopted in the Western Bug. In that sense it supports the desk review finding that a river basin approach has significant advantages. A new concern raised by the field trip is the access to suppliers for non-routine maintenance – especially where the suppliers are not based in the region. • Sludge management is receiving attention but a long-term solution is not in place (Sida has focused on sludge management). • Avoiding imminent collapse of a sewerage systems is one of the objectives of Sida support – it depends on subsequent finance being available (valid for EU accession countries). • Access to equipment suppliers and/or their agents is a concern for more isolated places.

Supportive annexes:

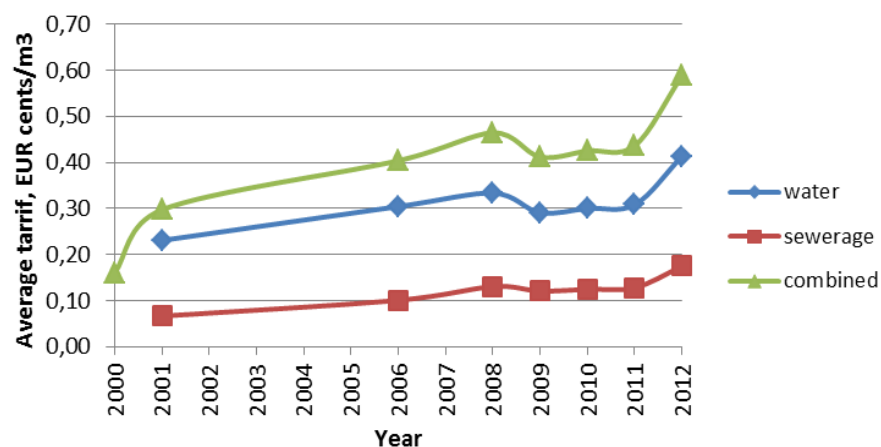
A) Financial analysis on tariff

Tariff development

Nominal growth of tariffs in national currency was quite fast. The combined price for water and sewerage increased by more than 70% over 2008-2012. However, in real terms the growth rates were more modest: prices went up from 45 to 60 eurocents during the period (in 2000 the water price was about 15 eurocents). Prices for households have been increasing the most: their level has traditionally been the lowest and still is below the cost recovery level. Over 2009-2012 there were about four price revisions to compensate for the sharp devaluation of the national currency (over 50%) as a result of the 2008 economic and financial crisis.

Lvivvodokanal (LVK) has one of the highest water supply prices in Ukraine as it has a relatively large share of deep wells and large distances are required to transport water to the city. On the other hand, sewerage rates are among the lowest.

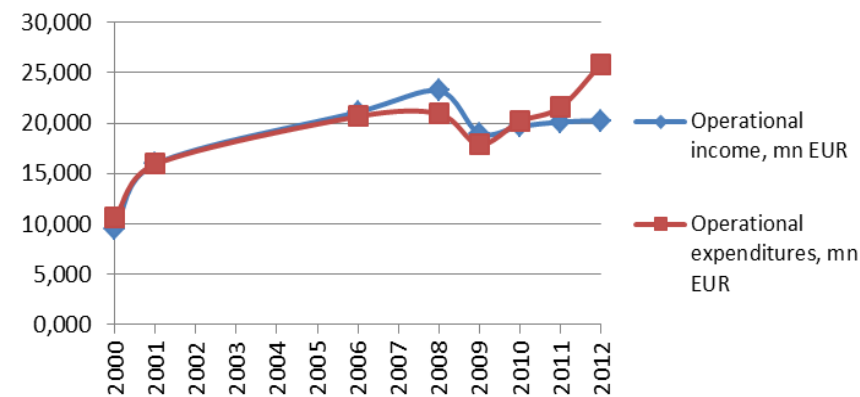
Since 2010, water prices have been set by the national regulatory authority and not local authorities – a move made to ensure greater impartiality of price setting. However, utility pricing policy remains to be politically sensitive and the regulator usually fails to adequately set the price level.

Chart 1. Tariff development, Lviv

Source: LVK

Incomes and cost recovery

According to the data from LVK annual financial statements, the utility was making some profits until 2008 and significant losses since then. The developments of the revenues from water sales net of VAT and operational expenditures as presented in the Chart below (both in thou EUR) show broadly the same picture: the utility has been operating at a loss starting 2010. The absence of cost recovery prices and poor metering are two of the main reasons behind poor financial performance of the water utility. The government usually delays the compensation of the LVK financial gap resulting from the low prices.

Chart 2. Income and operational expenses, Lviv

Source: LVK, own calculations

The structure of the LVK operational costs over 2000-2012 has been relatively stable. For example, the number of people has somewhat increased to 1 721 in 2012 from 1 634 in 2000, which is reflected by the higher share of wage costs in 2012. However, the company claims the average wage in the company is very low, and some of the employees are even not getting the minimum wage level, which was one of the reasons behind the resignation of the former director.

Table 1. LVK operations costs structure, thou UAH, in current prices

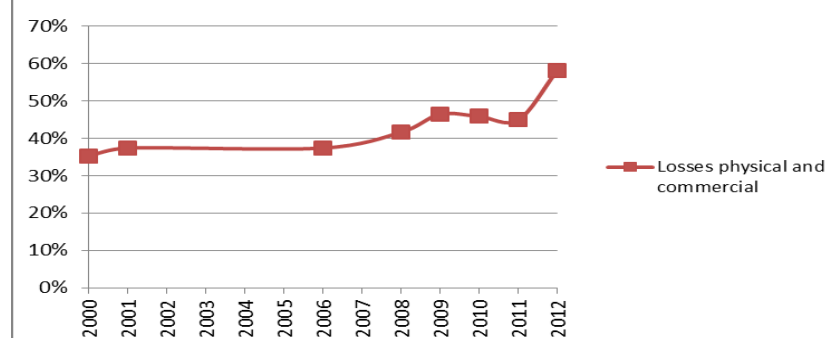
Year	2012	Share, %	2000	Share, %
Material expenditures	150 672	57	31 555	59
Wages	40 006	15	6 084	11
Social expenditures	15 205	6	2 190	4
Depreciation	37 639	14	7 016	13
Other operational expenditures	21 570	8	6 803	13
Total	265 092	100	53 648	100

Source: LVK, own calculations

Water losses

Water losses have been on the rise going up from 35% to almost 60% of all water produced over 2000-2012. Arguably, the actual water losses have not changed as much, as higher reported losses indicate higher share of water consumption metering. Yet, the share of unmetered consumptions still remains high at about 40%. Most of the water losses are inside homes and apartments, therefore, according to LVK, a large share of it are commercial losses. However, technical losses of water on its way to the city are high as well (up to 40% of all losses).

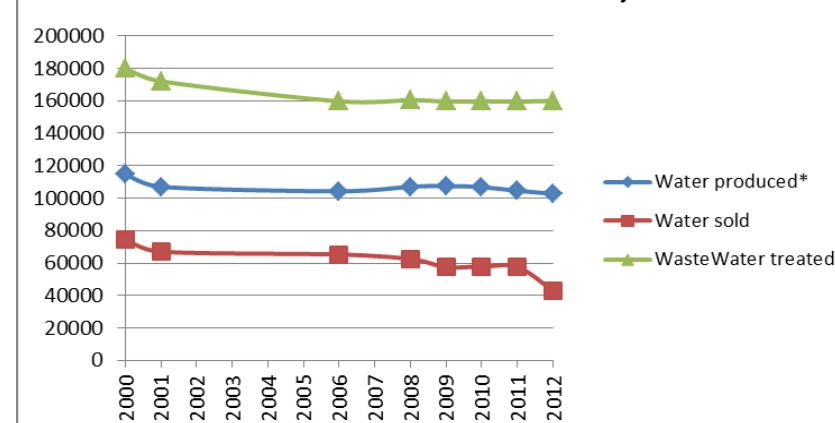
LVK has little control over supply (billing) of water. From 2008 the residential service companies (ZHEKs) were made in charge of the water billing, so LVK does not enforce the contracts with the final consumers. This was one of the reasons behind rising water losses (and falling volume of water billed) in 2012 after the water prices were increased and the payment discipline deteriorated.

Chart 3. Losses, Lviv

Source: LVK, own calculations

Water supply and sewerage trends

Overall volume of water produced and sewerage treated goes down as was predicted in the initial report by the World Bank. Higher coverage by meters provides major incentives for less water consumption. The per capita water consumption is however still high by the EU standards.

Chart 4. Production and sales, thou m

The utility has three major consumer categories: households, public organizations and other consumers. Households and non-residential consumers (mostly companies) account for most of the water consumption in the proportion of approximately 75:25 (see the Table below). Public organizations (hospitals, schools etc) have highest levels of per unit consumption.

Table 2. LVK consumers by category in 2012

	Number of connections/consumers	Volume sold/, thou cu m	Consumption per connection, cu m
Total water supply	277 496	43 048	155
households*	267 816	32 969	123
public organizations	504	2 275	4 514
other consumers	9 176	7 804	850
Total sewerage**	265 920	159 945	601
households	256 151	27 086	106
public organizations	504	4 327	8 585
other consumers	9 265	13 822	1 492

*About 200 000 of household connections are consumers residing in multi-storeyed buildings. Of total household water consumption about 4 700 thou cu m are consumed by households from the depressive villages. These villages are located at the sites from where LVK pumps the water to supply Lviv. Consumers in those villages do not have to pay for the water consumption.

** Total sewerage volume is higher than the sum of individual components because of the rainwater going through the waste water treatment facilities.

Source: LVK data, own calculations

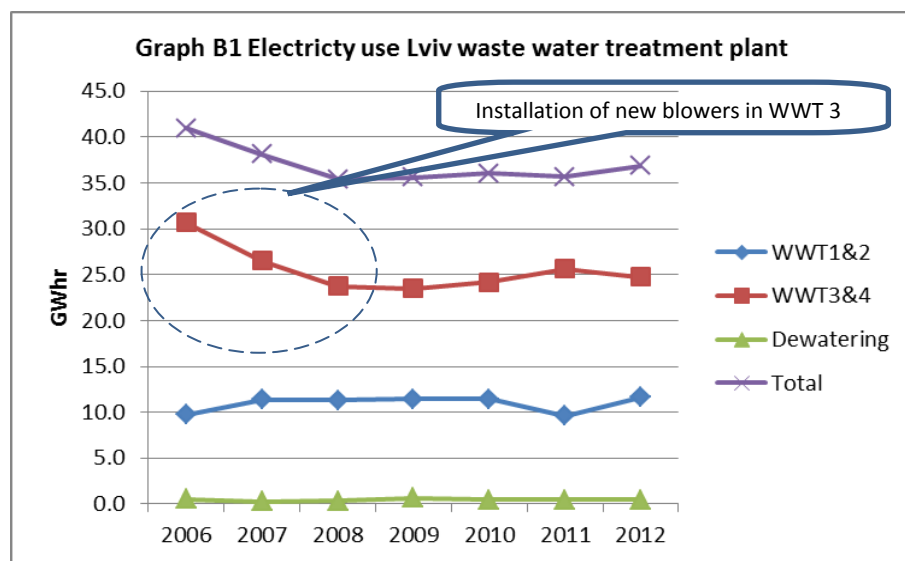
B) Analysis on technical performance

Energy performance

Electricity use in the sewerage treatment plant from 2006 to 2012 is shown in table B1 and graph B1. These records indicate a significant reduction in energy use particularly in wastewater treatment plant 3 and 4 where the Swedish blower units were installed. The volume of water treated over this period has remained steady (at around 150 million m³ per year) varying mainly with rainfall (since 70% of the sewer system is combined sewer and storm drainage). Post 2006, there was an increase of the volume of water treated as the bypassing of waste water was stopped (around 10to 15% of the waste water was previous bypassed). At an aggregate level least 3GWhr per year have been saved, although it could be more and could reach the 7Gwhr claimed in completion reports (Sweco 2009) (given a more exact component by component analysis and allowing for the improved volume and quality of treatment).

Table B1

Electricity consumption, GWh	2006	2007	2008	2009	2010	2011	2012
WWT1&2	9,8	11,4	11,3	11,5	11,4	9,6	11,6
WWT3&4	30,7	26,5	23,7	23,5	24,1	25,6	24,7
Dewatering	0,5	0,3	0,3	0,7	0,5	0,4	0,5
Total	41,0	38,2	35,4	35,6	36,0	35,7	36,8



Sewerage treatment performance

Detailed records of BOD₅ measurements taken by the LVK laboratory were examined and are summarised below in table B1. These measurements were in broad agreement with independent data obtained from research reports (Dreberis, 2008) as well as data from regional laboratories. Table B2 indicates that:

- The treatment performance is satisfactory; is being sustained some six years after the completion of the project and most of the year is able to comply with Ukrainian and international norms.
- The high concentrations in wastewater treatment plants 1 and 2 are handled by reducing the capacity of the plant (from a design capacity to 140,000 m³/day to 100,000 m³/day).
- Some 147 tons of BOD₅ are being removed from the river per day by a system that previously was threatened with imminent collapse.

Table B2 - BOD5 measurements						
Month: June 2013			Measurements		Volume m3/day	Tons of Bod5 removed/ day
Plant	Sampling point	Bod5 mg/l		100 000	77	
Wastewater r treatment plant 1 & 2	inlet	788				
	Sedimentation	777				
	Primary treatment (parallel streams)	298	302			
	activated sludge treatment	16,2				
Wastewater r treatment plant 3&4	inlet	233		317 000	69	
	Sedimentation	226,6				
	Primary treatment	150,6				
	activated sludge treatment	14				
	Total			417 000	147	
River measurements	3km Upstream on Bug river	12				
	0.5 km downstream on Bug river	16				

Waste water treatment

The wastewater treatment results from June 2012 seem to be in line with the results from 2009.

Table 3. Treatment performance, WWTP 3-4

Mg/litre	Influent		After primary settling tanks		Effluent	
	June 2009	June 2012	June 2009	June 2012	June 2009	June 2012
BOD5	256.0	232.0	146.0	150.6	11.2	14.0
COD	500.0	550.0	300.0	320.0	50.0	50.0
TSS	337.0	269.0	144.0	137.3	18.0	14.0
NH4-N	29.6	23.6	27.3	14.8	1.0	1.7
PO4-P	5.5	4.0	3.0	2.1	0.4	1.0

Sources: LVK, SWECO (2009), own calculations

Table 4. Treatment performance, WWTP 1-2

	Influent		After primary settling tanks		Effluent	
Mg/litre	June 2009	June 2012	June 2009	June 2012	June 2009	June 2012
BOD5	610.0	788.0	285.0	304.3	14.8	16.2
COD	1100.0	1100.0	480.0	640.0	50.0	80.0
TSS	385.0	394.0	189.0	199.3	14.0	16.3
NH4-N	26.6	28.9	27.7	26.8	2.0	2.3
PO4-P	6.7	6.6	3.4	4.4	1.5	1.4

Sources: LVK, SWECO (2009), own calculations

Table 5. River measurements

	BOD5	COD	TSS	NH4-N	PO4-P
	mg/litre	mg/litre	mg/litre	mg/litre	mg/litre
Western Bug, 3km up-stream	12.0	40.0	14.0	2.28	0.7
Poltva, Busk city	18.4	60.0	20.0	2.76	1.1
Western Bug, 0.5 km downstream	16.0	50.0	16.0	2.40	0.58
Poltva, 0.5 km downstream to WWT effluent point*	26.5	88.0	214.0	8.4	7.32
Maximum allowed concentrations of harmful substances in water by Ukrainian legislation	15	0.5/30.0	15	2.0	3.5

*City Administration laboratory

Sources: LVK laboratory (June 2013), City Administration laboratory (June 2012)

See the electronic database of quarterly monitoring results over 1994-2013 at various points of the Western Bug river on the territory of Ukraine at <http://zbbuvr.lutsk.ua/Monitoring/Results.html>.

Sludge management

The sludge dewatering system is working as intended. The concerns raised on sludge management have been on: i) adequate polymer use; ii) transport of the dewatered sludge; iii) final disposal.

- i) There was a concern that high quality polymer expressed in the completion reports (colling 2009) would not be re-ordered once the initial stocks were depleted. It was confirmed that the polymer has been ordered and is being used (see photo 1) after an initial experiment with cheaper polymer failed.
- ii) From the completion of the project and during the post project support period (2009) it was observed that there was insufficient transport to take the dewatered sludge to an onsite dumping ground. Additional transport has now been secured and is in use, meaning that all sludge is transported to the dumping site rather than part of it being returned to the lagoons. (see photo 2)
- iii) Final disposal. The dewatered and partially stabilised sludge is dumped on a 13hectare site near the dewatering station (see photo 3). This site was originally used as a drying bed in the years before the project when the sludge was hardly dewatered at all. The site still operates as a final drying station for the dewatered sludge. LVK report that there are low concentrations of heavy metals or toxic industrial elements in the sludge as most of the factories contributing to sewerage are food related. If this is true, then although not a sanitary landfill, the dumping of sludge onsite probably does not constitute a grave

environmental threat. Environmentally it might be more damaging and it would certainly be more expensive to transport the sludge to the city landfill site. The LVK site is large and could cope with many more years of sludge disposal before it was full and alternatives would need to be found. Studies to measure pollution of ground water and surface water could be made to determine if the sludge is environmentally damaging.

As mentioned earlier, LVK have drawn up proposals to establish a bio-gas plant and according to the feasibility study the plant would generate 30% of the total LVK electricity needs including water supply. The total cost is Euro 22 million and the payback period is 11 years. This proposal is under appraisal by various funders including Sida who are being asked to make a Euro 2 million grant to support the project. The plant would have significant climate change mitigation impacts and in the long term if finance becomes easier to obtain could have a demonstration impact for other towns.

In the past, during the days of collectivised farming, the sludge was used for agricultural purposes. Various attempts have been made to again make use of the sludge as fertiliser. However, partly because its safety cannot be 100% guaranteed, there is no demand and none of the schemes to market the sludge have so far succeeded.

Operation and maintenance

None of the equipment supplied under the Sida grant was out of order except for one of the telemetry panels. The screens, pumps and blowers at both treatment stations are working. One of the units of the dewatering plants was undergoing repair (bearing failure) at the time of the vis-

it. Normal levels of repair and replacement of quickly wearing parts are made.

It was not possible from the accounting information available to determine the expenditure on maintenance and thus confirm that it is adequate. However, from physical observation and according to the LVK management the equipment is still in working order and unusual repairs have not had to be made.

One concern raised by LVK is that they do not have access to the equipment suppliers. They have to deal with agents in Ukraine, which they claim adds greatly to the cost of spares. More worrying is the fact that they cannot benefit from the onsite advice of the suppliers in case of non-routine repair. It might be worth considering building in a longer term support contract as part of the equipment supply contract.

Annex 10 – Selection of Evidence of Added Value by Sida

The value added by Sida has been categorised into five groups:

1. Political support
2. Targeting the use of scarce grant funds to where they can have the greatest impact
3. Comments on documents and insistence on unpopular conditions
4. Introduction of systematic assessment and progress reporting on transition and institutional issues
5. Provision of in-kind support services

1) Political support

Significant political support for the initiation of partnerships, such NDEP and E5P, has been provided using Sweden's status as a sovereign nation and their chair at the time of the EU to enhance collaboration between other states. It is unlikely that the NDEP, and certainly the E5P, would have been established if it was not for Sweden.

Sweden has also provided crucial political support during challenging phases of large projects. An example of this is the massive Kaliningrad Wastewater project, which accounts for a very significant inflow of pollution to the Baltic Sea. This complex project has run into many difficulties and delays. Interviewed IFIs say that Sida's presence and their knowledgeable engagement at key project meetings have helped to reduce delays. Sida also triggered a process where a letter on progress on the Kaliningrad project was sent from the then Prime Minister of Sweden to the President of Russia. No other donor has been able to bring this level of political support to bear on an individual project.

As the IFIs develop in experience and expertise, there will be less need to add value at the project level and more opportunity to focus value added at a strategic and political level, as shown in the examples above.

2) Targeting the use of scarce grant funds to where they can have the greatest impact

Sida grant funds are usually used to improve the project preparation (feasibility and design) and finance transition related activities. Examples of where systematic value has been added by appropriate targeting include:

- Feasibility studies. These studies often need to be done in advance of loans because neither the IFI nor the municipality is able to provide funds in advance of an agreement – the IFI, because it needs an agreement to release significant funds, and the municipality because they don't have funds. This means that without a grant financier many projects would either not go ahead or would be agreed upon without a thorough investigation. The relatively small funding re-

quired to obtain an early and high quality feasibility study has a very large influence on the final impact and cost effectiveness of the project. Many projects have failed due to poor feasibility and design (even in some cases where they have been financed by a grant donor such as Sida), which emphasises the value of targeting funds on project preparation.

- Support to project management, institutional changes, training and the introduction of new billing and other systems. Before they are fully convinced or aware of the need for such interventions, clients are reluctant to borrow funds for software. Without such software, the project will normally fail. Reluctance to use funds on such activities signals a strong need for them as it indicates municipal inexperience in operating complex facilities. The provision of grant funds overcomes the temporary blindness and should, if it is well managed, lead to a situation where the municipality eventually recognises the value of these types of investment.

3) Comments on documents and insistence on unpopular conditions

All interviewed IFIs remarked that Sida, of all the donors, was the most demanding, especially when insisting on unpopular conditions, but was also remarkably the most flexible when the project situation changed; and it was the donor that provided the most timely response, by rarely if ever delaying the process.¹⁰¹ Examples of this are:

- Dubuko waste management , Serbia contribution 53050037 – Sida was highly flexible in its response to a landslide which enabled the project to continue, the alternative of attempting to increase the loan through the municipality would have taken a long time and may not have been successful and would have led to costly delays and perhaps even abandonment of the project.
- Poti and Kutaisi Contribution 76003748– Sida asked EBRD to revise the feasibility reports in order to ensure a more sound assessment of the social impact of the investments (this was reportedly done). Records on annual meetings between Sida and EBRD show that Sida and EBRD do not always have the same views on issues such as viability of tariff reforms and the subsequent discussion is one of the few opportunities where powerful institutions such as the EBRD are confronted with voices that are equally powerful.
- ETC contribution 76003728 – Sida noted in their assessment memo of 2006 in the risk assessment section that there was a tendency to overlook the difficulty of raising tariffs. This observation was very pertinent as the case of Poti and Kutaisi later confirmed. Although the observation was not enough to trigger mitigation action to ensure tariff increases it at least ensured that Sida and other deci-

¹⁰¹ Source: NIB; EBRD, NEFCO.

sion makers were making decisions based on a well-informed assessment of the risks and were not taken fully by surprise.

- Dubuko waste management, Serbia contribution 53050037 – Very extensive ToR for organisational and institutional support, which follows the Serbia-Sida 2009-2012 Strategy on focussing on sustainability issues.
- Daugavpils wastewater treatment, Latvia contribution 76002430 – Sida insisted on adherence by the WWTP to the HELCOM standards rather than using lower standards, as preferred by the municipality and IFI. This ensured that the environmental impact was enhanced and a precedent for following HELCOM standards was reinforced.
- EBRD ETC fund, Central Asia contribution 76003728 – The Sida assessment memo (April 2006) records that discussions with EBRD have led to an agreement with EBRD that they will “conduct an assessment of activities in the ETC countries to examine gender equality as an issue and factor that can contribute to the efficient use of Bank and donor resources. The output of this study will assist Bank personnel in using gender equality principles and tools to produce better products. The study is also expected to contribute to the Bank’s environmental policy evaluation in 2006”. This is a worthwhile effort, especially in the countries covered by the ETC. The Bank’s view on the relevance of gender has shifted as shown by the 2010 EBRD evaluation; to it is impossible to say what extent this particular study was instrumental. But it would be plausible and not unreasonable to suggest that Sida, as the largest donor for the MEI area and with its consistent emphasis on this issue, will have had a strong influence.
- Belarus Grodno wastewater, contribution 53070091 – In 2011, Sida adopted a new and aggressive stance on conditions by stating that release of grant funds would be conditional on: i) Agreement reached between NIB/EBRD and central and local authorities to introduce full cost recovery principles for tariff setting; ii) that the local water utilities will be fully responsible for the Project implementation; iii) that HELCOM recommendations for Phosphorus and Nitrogen in effluent will be fulfilled; iv) Project monitoring to be coordinated with EBRD and World Bank where relevant. The fulfillment of these conditions is necessary and would tend to improve the cost effectiveness and sustainability of the project. It is also very likely that they would have a beneficial impact much beyond the volume of the Sida grant.
- Belarus Grodno wastewater, contribution 53070091 – A peer evaluation in December 2010 noted that: i) more information was needed on how high the risk is that tariff increases will not take place; ii) the local financing availability could be killing factor; iii) the need to document progress on reforms; iv) Sida conditions for effectiveness of the agreement with NIB were not included in the draft Agreement put forward. This peer evaluation shows a strong vigilance within Sida, a strong concern for the viability of reform efforts and follow up that conditions are actually followed.

- EBRD trust fund for MEI and climate change Contribution 71300213 - Sida accepts the use of the EBRD environment and social policy as the basis for the trust fund operations – but has added in its approval of a particular application of the trust that: *“The Company shall further no later than 31 December 2009 have developed and adopted a financial and operational performance improvement plan based on internal consultation and recommendation from the corporate development consultant to be hired by the Borrower using donor funds arranged by the Bank, which plan shall include, inter alla, a gender strategy for the Company and be satisfactory to the Bank. The Borrower shall implement such plan in a timely and satisfactory manner as provided therein.”* This addition will add value and is likely to be necessary given the reluctance by many utilities to spend time and money on gender issues. In the long run this type of action will contribute to a transition aim of increasing awareness and appreciation of the role of women in society even in areas traditionally reserved for men (utility management). This will lead to socio-economic progress and greater equity and bring the relevant countries closer to the value systems of Western Europe.
- EBRD trust fund for MEI and climate change Contribution 71300213 – Sida raises the issue of keeping limits of combined EBRD financing/Sida grant to less than 50 to make sure that the projects selected are viable within realistic levels of cost recovery. There is also systematic insistence on the client country procuring their goods and services under loan, even if this leads to delays, because it will test and strengthen rather than bypass the internal systems, which must anyway be used to later operate the facilities.
- EBRD trust fund for MEI and climate change Contribution 71300213- Rusavti solid waste – Sida raises very pertinent questions on collection systems and environmental need for sealing the landfill.
- EBRD trust fund for MEI and climate change Contribution 71300213- Bijeljina – Highly relevant questions from Sida on possible delays in localising the WWTP and land acquisition.

4) Introduction of systematic assessment and progress reporting on transition and institutional issues

The new regional Municipal Environment investment and climate trust fund with EBRD for SEK 200 million (Contribution 71300213) was one of the first very large trust funds, that went well beyond individual projects and looked at a programmatic approach. Associated with this trust fund has been a completely new set of standardised project level assessment reporting not seen in any earlier EBRD projects funded by Sida or co-funded by others. The assessment and reporting is very systematic. Firstly there are three primary eligibility criteria:

- Additionality of Sida support
- Reduced emissions
- Sustainable use of natural resources

Then there are five other eligibility criteria:

- EU integration
- Institutional reform impact
- Gender perspective
- Affordability and social support
- Transparency on procurement

And finally, there are detailed sector-specific criteria, depending on the particular sector. For each of these criteria the expected results and the baseline are documented. These criteria and the clear documentation are likely to result in much better-considered projects than has been the case in the past. EBRD is now adopting a standard of assessment that is very similar to and follows Sida policies and concerns on environmental impact, social impact and gender very closely. Other IFIs are now following suit. NBI reports that it is willing using a very similar format.

One could argue that EBRD and others would have done this without Sida, especially as the system of assessment reflects universal values that are not the monopoly of Sida. However, the first expression and systematic use of these criteria arose from the Sida trust fund. It is therefore reasonable to argue, without claiming a full and unique attribution, that Sida was instrumental in the adoption of these improvements.

5) Provision of in-kind support services

Sida provides two types of in-kind support services: contracting of monitoring consultants and secondment of individuals to the IFI. Examples of how these have added value over and above their immediate cost include:

Georgia Contribution 76003748 – Sida hired a monitoring consultant to ensure that Sida policies and guidelines were followed. The monitoring consultant pointed out that health and safety precautions at the construction site were not being taken. The consultant also evaluated the designs and made interventions to secure that energy was more efficiently used.

NiB trust fund for Belarus, Russia and Ukraine, contribution 50370034 – The reports written by the Sida seconded professional are very informative. They are systematic and provide a very good overview of the status of different projects financed by Sida under various NIB trust funds and also a convincing analysis of the reasons for delays.

Annex 11 – Roles and Institutional Setup

Sweden first centralised then decentralised institutional roles – Thus there have been two significant shifts. The first shift took place in the mid-1990s, when Sweden centralised its development cooperation functions and Sida became the primary actor. The Baltic billion fund was then transferred to Sida from MoE and MoE's role was changed to implementer under authorisation from Sida. The second took place in the mid- to late-2000s when Sida re-organised itself and decentralised and de-concentrated staff and authority. This period saw a large reduction in staff at headquarters level. Field offices that fulfilled the criteria were delegated full authority to decide on projects up to SEK 50 million just like at headquarters level. Projects over 50 MSEK require authorisation from MFA. Specifically for the environmental infrastructure, limited human resources have been transferred to the field for environmental infrastructure while at the same time staff in Stockholm working in this area has decreased following the closure of the INEC unit. For this reason the situation is as follows in some of the largest programme countries:

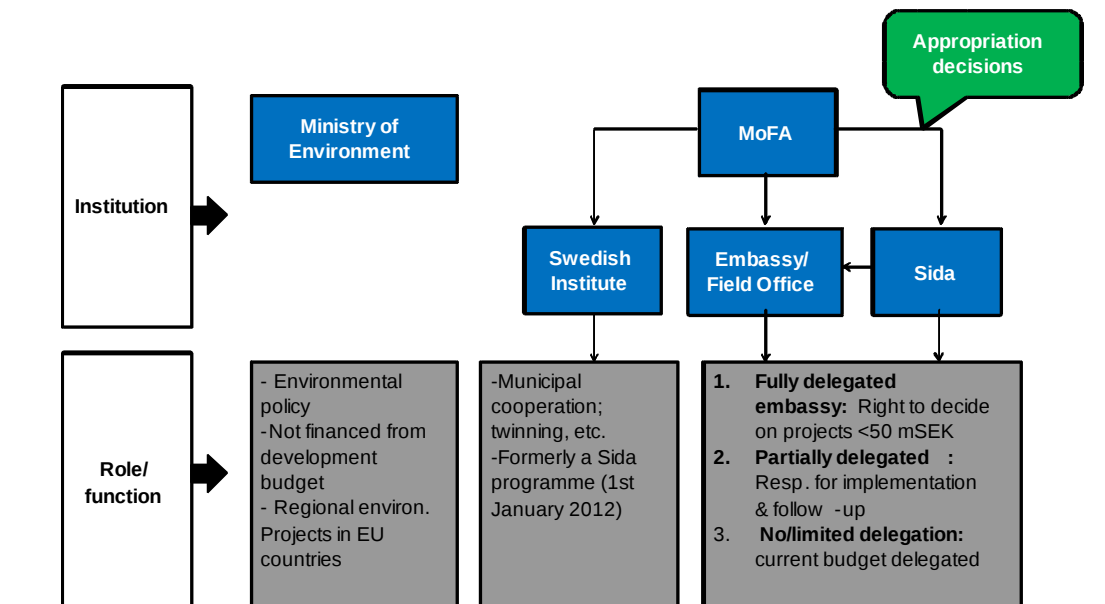
- In Ukraine the portfolio delegated but is managed at Sida Stockholm
- In Georgia there is partial delegation but is managed at Sida Stockholm
- In Moldova there is partial delegation but was managed at Sida Stockholm until 2009/2010
- In Belarus the office has no delegation and Sida Stockholm manages the programme
- In Russia the office has no delegation and Sida Stockholm manages it

There are a number of institutions involved in environmental investments each with distinct roles

- The Ministry of Environment deals with environmental policy and the implementation of international conventions. Prior to 1995, funds for environment within the development cooperation budget for Eastern Europe were channeled through the MoE. Following the centralisation reforms of the development cooperation agencies¹⁰² this programme was moved to Sida, although Sida continued to delegate the implementation of the programme to MoE.

¹⁰² BITS, SAREC and more were integrated into one development cooperation institution.

- All international cooperation is led by the Ministry for Foreign Affairs. MFA's main role in relation to sustainable environments is to engage at the national level (through the budget process and parliamentary committees for foreign affairs) and at the international political level (where it can exert political pressure if needed – e.g. in the Kaliningrad project delays). An important function of MFA is the political influence that it has, in that it can initiate the creation of new international programmes and institutions, as was the case for NDEP and also the E5P. Sida and the Swedish Institute fall under MFA's authority and budget.
- In January 2012, the Swedish Institute took over responsibility of the Baltic Sea cooperation programme – formerly under Sida. The institute's mandate is to promote Swedish interests abroad. It works with municipality cooperation and twinning operations for sustainable environmental development in the Baltic region. These operations are not financed from the budget for development cooperation/reform cooperation and the institute has never had a role in environment investment projects.
- Since the mid-1990's Sida has been the primary institution for Swedish international development cooperation. However, the deconcentration and decentralisation that followed Sida's reorganisation in 2005 has led to a number of structural changes that have influenced Sida's role at head quarters and in the field. Greater emphasis was placed on activities at field office level. Embassies and foreign missions were restructured as either: fully delegated, partially delegated or no delegation¹⁰³. No other like-minded donors have this level of delegation to the field offices¹⁰⁴.



¹⁰³ General rules for fully delegated missions are provided by Sida decision GD 87/04

¹⁰⁴ SOU 2011 report

There is no right answer for the best institutional setup; all alternatives have their advantages and disadvantages, which implies that the organisational setup should not be tailored to the environmental investment programme but that the environmental investment programme should be flexible enough to be able to work effectively with whatever the prevailing institutional setup is. In general, the burden of proof is on why an initiative should be anchored at a regional rather than a country level. Where a single environmental programme, serving a common aim is multi-country in nature, e.g. protection of the Danube or Baltic Sea, then there is a good case for the support programme to have a regional character. Otherwise, the main reason for adopting a regional approach is when there are strong economies of scale or cross-boundary learning and reform opportunities.

Annex 12 – Summary of how Specific Recommendation Areas of the ToR are Dealt with

Summary of how specific recommendation areas in the ToR are dealt with:

- a) What is Sweden's comparative advantage in support of environmental investment programmes? What can motivate Sweden's further engagement in this area in cooperation with international partners?

Findings and recommendations related to this topic are given in chapter 3.6 (under the strategic factor "Maximising value added by Sida") and in Annex 8 table 8.2, sub recommendations #45 to #47. The recommendations are:

- *Beware of reducing staff below a level where there is little value added and effectiveness of Sida funds in reaching social, reform, environmental and sustainability goals reduces.*
- *Coordinate on policy dialog agenda with IFIs*
- *Continue the relationship management approach with IFIs to influence overall practice*

- b) How shall Swedish financed municipal environmental infrastructure investments be designed in terms of selection of financing mechanisms and international and national partners to best contribute to reach objectives of improved environment, service delivery and institutional reforms, (taking contextual differences and political preferences into account)? What should be the key criteria for entering into investment support?

Based on the major finding that the current arrangements should be improved and continued (finding #1), the main recommendation (#1 to #5) provide the following design advice:

1. *continue and improve the current arrangements of working with IFIs;*
2. *respond to and help develop country and region led programmatic approaches;*
3. *continue the emphasis on high quality project preparation feasibility studies;*
4. *develop criteria and best practice for optimising the blend of loans and grants*
5. *develop country specific policy/reform dialogue agenda together with partners*

These 5 core recommendations together with the sub-recommendations (Annex 8) offer a comprehensive package of changes and improvements for the design and implementation of Swedish financed municipal environmental investments.

The key criteria for entering into investment support are outlined as sub-recommendations (Annex 8, Table 8.1, sub-recommendation #11) in relation to evaluation question #2 (What were the influential factors. The criteria recommended are:

- The presence of a programmatic basis for prioritising the environmental impact of potential investments;*
- The level of demand from the municipalities and their reform mindedness;*
- the potential for contributing to transition objectives through policy/reform dialogue; and*
- the technical, institutional, financial and social feasibility of the particular project.*

- c) *How should Sida/Sweden exercise management, monitoring and reporting in this area? How shall Sida/Sweden best organise the work in the regional context as a donor – MFA, Sida, UM – in this area?*

Findings and recommendations related to this topic are given in chapter 3. 7 and also Annex 8 (table 8.2, sub-recommendations #48 to #52) as well as Annex 11. The recommendations are that Sida/Sweden should:

- continue with delegated authority wherever possible and strengthen relations with local IFIs;*
- clarify HQ/FO roles for managing regional and global contributions;*
- continuously assess skills requirements in the strategy process to ensure that programmes are matched with the appropriate skills and not vice versa; and*
- continue improvements in the project appraisal process, and strengthen follow-up mechanisms and reporting requirements of IFIs – particularly in results reporting.*

There is no right answer for the best institutional set up, all alternatives have their advantages and disadvantages which implies that the organisational set up should not be tailored to the environmental investment program but that the environmental investment program should be flexible enough to be able to work effectively with whatever the prevailing institutional set up is. In general the burden of proof is on why an initiative should be anchored at a regional rather than country level. Where a single environmental program serving a common aim is multi-country in nature e.g. protection of the Danube or Baltic Sea, then there is a good case for the support programme to have a regional character. Otherwise, the main reason for adopting a regional approach is if there are strong economies of scale or cross boundary learning and reform opportunities.

- d) *What are the major risks in environmental investment programmes, and how can they be effectively mitigated?*

Findings and recommendations related to this topic are given in chapter 2.5.3 (under Q3 risks to sustainability) and chapter 3.1 (under the strategic factor #1 -context) . The recommendations are:

The recommendations for mitigating actions are:

- deepen the understanding of the drivers and barriers for adopting reforms and undertaking the environmental investments on a country by country and case by case basis. This will help to determine the level of genuine ownership and guide what reforms are attainable and under what pace.*

- *Select reforms wisely and where they are supported from within the municipality. Although internal support can grow and be nurtured during the project as the benefits and rational for the reforms become more evident, it is important not be too optimistic.*
 - *Provide support that is client centric and flexible;*
 - *Use a range of entry points and partners for promoting reforms; make use of overarching programmatic platforms such as the NDEP and E5P where they exist and where the countries themselves are at the centre;*
 - *Strive to develop a common policy dialogue plan and position among IFIs and donors as significant differences can undermine reforms ;*
 - *Make coordinated use of the 3 pillars of environmental support (institutional development, environmental investments, civil society) as this will allow Sida and the IFIs that they support to deepen their understanding of the context and risks faced and make better informed decisions about how best to support environmental investments;*
 - *Ensure high quality feasibility studies.*
- e) What competences must Sweden possess to exercise its role effectively as a donor in this area? How can these competences be secured (in-house/consultancies, outsourcing etc)?

Findings and recommendations related to this topic are given in chapter 3.8 and also summarised in Annex 8 (Table 8.2). The recommendations are that competence must match the core functions that fall under Sida's responsibility:

- *periodically engage in initiating strategic programmes and deciding on priorities;*
- *negotiating and designing trust fund arrangements;*
- *providing technical and institutional comments at key points in the project cycle aimed at double checking the quality of the project and the incorporation of Sida priorities;*
- *monitoring of agreement conditions and follow up during project implementation to respond to changes.*

Recommendations on sourcing are:

- *Strategic level functions related to the initiation of strategic programmes, deciding priorities and negotiating trust funds cannot be outsourced to IFIs or others.*
- *Project level functions related to making technical and institutional comments and follow up during project implementation could in theory be further outsourced to IFIs or consultants.*

- f) The consultant shall provide recommendations on the design on subsequent, in-depth evaluations.

Recommendations on the design on subsequent, in-depth evaluations will be provided in the form of draft ToR in a separate note.



Evaluation of Sida's Support to Environment Infrastructure and Reforms in Central and Eastern Europe and Western Balkans 1995-2010 - A Desk Study

This desk-based evaluation assessed the Swedish support to environmental investment projects in Central and Eastern Europe and the Western Balkans since the mid-1990s. The projects included physical infrastructure and institutional reforms including wastewater, waste management and energy efficiency. The main finding is that the environmental investments have led to significant environmental improvements. Supported by capacity building and institutional reforms, the investments will, for the most part, continue to deliver environmental benefits for the foreseeable future. Major findings are that programmatic approaches are more effective, scarce grant resources could have had an even greater effect through a more strategic blending of loans and grants, and that the monitoring and evaluation of the projects was inadequate.

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